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Hutchison 3G UK Limited

Response to

Wholesale mobile voice call termination

Preliminary consultation on future regulation

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Executive Summary

The regulatory approach to switched mobile termination rates is of central importance to all telecommunications services consumers and the industry which serves them. The way in which these wholesale charges are set has implications far beyond the revenue stream it ostensibly limits. 3UK supports the bottom-up reassessment of Ofcom's approach in this area being undertaken through this consultation process, initiating the market review for the regulation of such rates beyond 2011.

The time is ripe for such an open re-appraisal of the appropriate regulatory approach going forward and a need for regulatory certainty to be given on a sustainable way forward for such regulation. The mobile sector has evolved significantly since the current regulatory approach was put in place, as follows.

- The mobile voice subscriber market has become saturated.
- Data services (especially mobile broadband, but also other forms of internet based mobile communications services) are becoming established as mass market consumer products.
- New technologies and network approaches are increasing the potential for network efficiencies in delivering mobile services.
- There is real potential for increased competition between fixed and mobile networks (and the distinctions between the two technologies are becoming increasingly blurred): potential which is, in part, being hindered by different termination rates between the two sectors.
- There is a potential for further new entry into mobile markets, both through fixed mobile convergence type operators and through forthcoming spectrum auctions.

Given these changes, 3UK strongly believes that a new approach is required to regulating mobile termination rates which leads to substantially lower rates than a continuation of the current system. This would create greater benefits for consumers and promote competition. Substantially lower mobile termination rates will:

- lead to falling mobile call prices through removal of the artificial floor which termination rates currently place under such prices and increase efficiency through aligning charges more closely with relevant cost structures;
- reduce a significant proportion of the cost underlying retail fixed to mobile prices providing the opportunity for them to fall;
- increase telecommunications usage through these lower prices; and
- allow all operators to compete on a level playing field, regardless of size and regardless of their balance of traffic between incoming and outgoing.

For these reasons 3UK supports Ofcom taking a policy stance to reduce mobile termination rates as far and as fast as possible: and thinks there is compelling support for such a policy in terms of commercial reality, economic theory and, ultimately, in the benefits this will have for all UK consumers of communications services. This is the way to champion the short-run interests of consumers and it will also have long-run competition and investment benefits.

Efficient allocation of resources suggests that variable wholesale rates should be reduced to the level of marginal cost (where there are appropriate alternative ways of recovering common costs, such as through fixed retail charges). The latest economic theory analysing these issues further suggests that variable rates should be further reduced to take account of the calling externality which arises in a calling party pays regime as the receiver of a call benefits from a call. However, 3UK considers that a practical and pragmatic approach to take is to implement the EC Recommendation on termination rates. These are cross European issues and Ofcom is required to take the "utmost account" of that recommendation. The European approach involves setting rates at the incremental cost of call termination (excluding both network and non-network common costs). This represents a reasonable proxy for marginal cost and therefore the highest level at which economic theory suggests rates should now be set taking account of immediate consumer interests (as well as competition considerations).

Implementation of the EC Recommendation therefore has the benefit of promoting harmonisation across Europe, is a legal requirement on Ofcom (in the absence of compelling reasons to take a different approach) and will provide significant consumer benefits, in both the short-run and the long-run, over continuing the current approach or any other approach which continues to lead to relatively high mobile termination rates.

This response provides 3UK's views on each of the approaches considered in the current consultation process and sets out the specific reasons why 3UK considers that the right approach is to implement the EC Recommendation to lead to termination rates which do not include any recovery of common costs as soon as possible. Table 1 below summarises 3UK's views of each of the six approaches which Ofcom is considering. 3UK stands ready to provide further detail on all of these issues to assist Ofcom over the rest of this market review process to calculate the appropriate cost benchmarks and establish the significant benefits that are available from evolving the regulation of mobile termination rates.

The EC Recommendation approach is feasible to implement quickly, will provide significantly greater consumer and competitive benefits going forward, and provides an excellent platform for any future evolution in regulatory policy beyond the next market review period (which may, for example, lead to either voluntary or mandated Bill and Keep). 3UK believes that this market review provides an opportunity for Ofcom to provide certainty to operators which will promote investment and innovation in the sector and provide significant benefits to consumers. Implementing this approach will lead to substantial welfare benefits: potentially around a billion pounds a year.

On the basis of its initial costing analysis, 3UK considers that implementing the EC Recommendation should lead to average mobile termination rates falling to around 0.5 pence per minute. This can and should be implemented as fast as possible and rates should be at this level by April 2012 at the latest.

Table 1: 3UK's views on each of Ofcom's six options

	Pros	Cons	3UK's current view
De-regulation	Potentially removes any regulatory impediments to investment, innovation and competition.	May take significant time for ex post regulatory approach to provide sufficient certainty to deliver any such benefits.	3UK agrees with Ofcom's negative stance to this approach and expects it is not a suitable outcome from this market review.
Long run incremental cost plus ("the *status quo*")	Continuity and certainty from being based on a well established methodology.	Supports high retail mobile and fixed prices; increasingly distorts competition both between mobile operators and between fixed and mobile sectors; based on underlying assumptions which cannot be sustained (paragraph 6.108 of Consultation). Lack of EU Harmonisation creates uncertainty.	The benefits of continuing with the current approach are insignificant compared with the benefits of moving to significantly lower levels of termination rates.
Call Termination long run incremental cost (the EC Recommendation approach)	EU Harmonisation; legal requirement to take utmost account; leads to a more efficient pricing structure and lower prices; and promotes competition. Provides longer term regulatory certainty.	Involves development of new cost modelling approach, but this can use EC avoided cost methodology and re-use much of Ofcom's existing cost modelling infrastructure.	Should be the preferred approach, combining practical, theoretical and legal benefits.
Capacity Based Charges	Aligns charges with underlying cost structures.	Significant practical implementation issues and lack of EU harmonisation creates regulatory uncertainty.	Provides significant benefits over continuing the current system and may be worth considering in future, but is unlikely to be practical for this market review. Approach to common costs is unclear under this approach.
Mandated reciprocity	Leads to a significantly lower rate providing significant consumer and competition benefits and removes any barrier to fixed/mobile competition.	Contains risks of distortions if fixed and mobile costs do not continue to converge, does not have the benefit of EU Harmonisation (creating regulatory uncertainty) and could raise implementation complications.	Provides significant benefits over continuing the current system but faces some disadvantages which the EC Recommendation approach does not have.
Mandated Bill and Keep	Provides the benefits of a significantly lower rate (zero) for consumers and competition and is in line with long run trends in the industry. Conceptual simplicity.	Has some implementation issues (e.g. ensuring does not promote SPAM, inefficient arbitrage opportunities) and regulatory mandating such an approach may not be best way to achieve. Lack of EU harmonisation creates regulatory uncertainty.	Provides significant benefits over continuing with the current system and is the long term trend in the industry, and hence is 3UK's preferred alternative to EC Recommendation approach.

Contents

1. Introduction and background

The regulation of mobile termination rates ("MTRs") is a vital issue for the industry which has wide impacts on both consumers and competition in the mobile and fixed sector. This market review process represents a real and significant opportunity to re-evaluate the regulatory approach to MTRs in light of market and regulatory developments since the last market review was concluded in 2007. The time is right for a bottom-up re-appraisal of the most appropriate and proportionate form of regulation to impose on MTRs and address the market failures identified.

In this context, Hutchison 3G UK Limited ("3UK") welcomes Ofcom's open approach to this market review in its present consultation "Wholesale mobile voice call termination: preliminary consultation on future regulation" (the "Consultation")[1] and open-minded reassessment of potential regulatory approaches. 3UK strongly believes that the developments in the market, the developments at a European level and greater understanding of the benefits of a lower MTR regime all mean that it will be in consumers' interests for MTRs to be brought down as far and as fast as possible.

3UK's preferred option, for the reasons explained in this response, is the rapid implementation of the final European Commission ("EC") "Recommendation of 7 May 2009 on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU" (the "EC Recommendation").[2] Continuing with the current approach in the next market review period will not be in the best interests of consumers and competition or a viable solution going forward. As Ofcom is aware, 3UK's position on the benefits of a low MTR regime has been developed over the past couple of years and the time is right for changes to be implemented in the next market review. Changing the approach to be consistent with the EC Recommendation is practical and viable and will benefit UK consumers. This market review creates the opportunity for the UK to be at the forefront of the rolling out of this approach across Europe and implement ways to ensure this will benefit all consumers.

The coming years should see significant investment in mobile networks, exciting new developments in technology and services and the rolling out of ubiquitous mobile broadband which will provide very real social and economic benefits. Providing longer term certainty around the regulation of call termination rates on a sound basis which is consistent with the European approach is one important part of the regulatory jigsaw which is required to ensure that these future developments occur. A new approach to regulating MTRs will also ensure a level competitive playing field: and strong competition will mean that the benefits of these evolutions will flow through to consumers.

1.1. The importance of mobile termination rates

Although termination rates provide a significant revenue stream to operators under current arrangements, their impact on the structure of retail prices and competition is much greater than simply the proportion of revenue would suggest. By setting a wholesale charge which needs to be covered by all off-net calls, MTRs effectively set

[1] Published 20 May 2009

[2] C(2009) 3359 final. See also the associated documents, "Commission Staff Working Document accompanying the Commission Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU: Implications for Industry, Competition and Consumers" (the "EC Implications Document") and "Commission Staff Working Document accompanying the Commission Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU: Explanatory Note" (the "EC Explanatory Memorandum").

a floor under retail mobile per minute prices. The impact of this floor is greatest on smaller operators which have a greater proportion of off-net calls. MTRs also represent a significant proportion of the cost of calling from a fixed line and therefore increase fixed to mobile retail prices as well.

Further, as recognised in the Consultation, economic theory suggests that there will be a strategic impact from relatively high call termination rates[3] which results in retail price discrimination between on- and off-net calls (which again impacts adversely on competition: see more detailed discussion below at section 4.2 and in Annex 3). The net effect is that consumers in the mobile sector as a whole will get a worse deal.

This is an issue across Europe. Although termination rates are regulated across Europe, the level of these rates still diverges widely. Average mobile termination rates, for example, varied from around 2 euro cent/min in Cyprus to over 20 euro cent/min in Switzerland in Q4 of 2008[4]. Mobile termination rates in many countries are still around 10 times higher than fixed-line termination rates, this can range on average from 0.57 euro cent/min to 1.13 euro cent/min over the same time period.[5]

Over the years termination rates have been on a downward trend as a result of regulatory intervention, but they still remain too high. In addition, rates are set at disparate levels across different Member States. Such diverging levels cannot be solely explained by differences in the underlying costs or national specificities but are in large part driven by inconsistent approaches to the regulation of termination rates.

This inconsistent regulation:

- hampers the consolidation of a single borderless market in the European Union ("EU");
- hinders the evolution of cross-border competition and services;
- favours the larger, more established mobile operators to the detriment of later entrant mobile operators with large traffic outflows to other networks;
- disincentivises investment in next generation networks and hinders the development of fixed-mobile convergent services; and
- ultimately leads to higher priced mobile tariffs for all customers.

Providing a more consistent approach on these issues is the motivation behind the EC Recommendation providing clear principles for national regulators to set a fair cost in a manner which furthers the EU's free market and pro-competition objectives. 3UK agrees with the Commission that consistent regulation across the EU will provide legal certainty and a level playing field for mobile telecoms operators: hence promoting investment, innovation and competition in the telecoms sector. Other later entrant operators across the EU also tend to agree that this is a significant issue

[3] In this response, MTRs are considered to be relatively high where they are set at a level which recovers significant proportions of common costs (for example, the approach used in the current charge control period) and are considered to be relatively low when set at "pure" incremental or marginal cost levels.
[4] Sourced from the Global Wireless Matrix Q4 2008, June 2009.
[5] See http://www.eubusiness.com/Telecoms/termination-rates.01/

which must be addressed.[6] The position of the Mobile Challengers Group (a group of later entrant operators across the EU, including the 3Group) can be summarised as:[7]

- strong support for the EC Recommendation; and
- full endorsement of the objectives of lower and consistent termination rates and a belief that such rates will address market distortions, safeguard consumer interests and competition in the market.

As a group, the Challenger operators have stated that they will welcome customers to their networks, who suffer any increase in prices from the incumbent operators following a sharp reduction in MTRs, to fulfil the natural Challenger role as a safe haven for value and performance-minded consumers.

The level of MTRs impacts telecommunications markets in a far reaching way.

- Every off-net call to another mobile network from a mobile must cover the interconnect costs of MTRs, which means that MTRs create a price floor for retail mobile charges unrelated to the costs of the originating network.
- MTRs are a significant component of the costs of calls from fixed to mobile[8] and hence higher MTRs lead to higher fixed to mobile retail charges.
- Higher MTRs leading to higher retail pricing depresses usage of telecommunications networks (which means that broadly the same costs need to be recovered from lower volumes, creating a further feedback to higher retail prices).
- Where incumbent operators[9] receive a significant revenue stream from MTRs this creates an incentive for them to protect this revenue stream and block innovative services based on Internet Protocol ("IP") communications services which may cannibalise that revenue stream. Relatively high MTRs can therefore act as a hindrance to innovation.
- Substantial differences between the mobile and fixed termination rate levels create a regulatory distinction (which is increasingly not a distinction which can be justified on the basis of technology) between the two types of network which hinders the development of Fixed Mobile Convergence ("FMC").[10]
- Relatively high MTRs create a strategic incentive for incumbent operators to use retail price discrimination between on- and off-net

[6] Indeed this is an issue which is being raised by new entrants outside of Europe as well. For example, 3UK is aware that very similar arguments are being made by the new entrant operator 2Degrees in New Zealand and that estimates of the appropriate incremental cost being made there are also extremely low compared to current MTRs.
[7] Letter from Mobile Challengers Group to Commissioners Reding and Kroes, dated 12 September 2008 and press release "The Mobile Challengers call for MTR's to fall to the levels proposed by the Commission" dated 28 October 2008.
[8] BT has estimated that MTRs represent 80% of the retail price of calls from fixed to mobile. See http://www.terminatetherate.org/Pages/MTRs.aspx.
[9] 3UK uses the term "incumbent operators" to refer to the four combined 2G/3G mobile network operators: Vodafone, O2, Orange and T-Mobile.
[10] As identified in Ofcom's Mobile Sector Assessment process, Fixed Mobile Convergence as a term covers a wide range of different technology solutions. Different approaches incorporate differing elements of traditional "fixed" and traditional "mobile" networks. FMC therefore covers a wide grey area between straightforward fixed and mobile networks and setting specifically fixed and mobile termination rates fails to recognise this.

calls to create a competitive advantage which smaller, later entrants are unable to replicate.

- Smaller, later entrant operators will have a traffic imbalance between incoming and outgoing calls with the incumbent operators (as a result of the strategic incentives mentioned in the previous bullet, their smaller size in the market and barriers to growth), which means that the higher the MTRs, the greater the financial outflow from small to large operators: creating a competitive distortion. MTRs can therefore be seen as a barrier to entry and growth into the mobile markets.

These impacts create adverse effects for consumers directly. Higher wholesale rates increase retail call prices and simple economic theory shows that setting such rates above some measure of marginal cost creates allocative inefficiencies. Where there is no alternative, usage based charges can be increased to recover common costs. However, there is a clear alternative for the recovery of common costs in relation to mobile call termination services. Two part retail tariffs are already common in the mobile industry, with explicit fixed per month charges or implicit fixed charges in the structure of pre-pay tariffs. The allocatively efficient structure of prices is therefore one which tends to recover fixed common costs through fixed retail charges. Efficiency would be promoted through variable pence per minute call termination wholesale rates which are more closely aligned with some form of marginal cost measure. This is recognised in the Consultation at paragraphs 6.100 to 6.101, with which 3UK agrees.[11] Lower MTRs, which are better aligned with underlying cost structures and hence some measure of marginal cost, will therefore promote static efficiency providing an immediate benefit to consumers generally.[12]

Consumers are also harmed through dynamic inefficiencies created by weakening competition in the mobile sector. The mobile sector has also significantly evolved since the current regulatory approach was implemented. Some of the changes include: use of mobile data services both on HSDPA USB modems and on the handset (with increasing use of smartphones[13]) have significantly increased providing new revenue streams to operators; 3UK's network has become more stable with increasing coverage (increasing further its potential competitive impact on the market and therefore the benefits of a low MTR regime); there is real potential for other new entrants (including through the actual and proposed release of more mobile broadband suitable spectrum licences), especially through innovative FMC solutions; and the mobile voice market is now effectively saturated in terms of penetration. The key regulatory concerns should therefore shift from incentivising greater penetration of mobile devices and cost recovery from call termination to ensuring a level competitive playing field where all operators and technologies can compete on their own merits and costs are recovered, wherever possible, from where there is competition. The approach to regulating MTRs going forward needs to change to take account of changes in the market.

Where pricing and competition are not distorted, the current UK telecommunications sector will deliver significantly greater benefits to consumers. The recent history of mobile broadband ("MBB") provides an illustration of what competition can deliver

[11] Ofcom also previously recognised this issue, for example see paragraphs A17.23 to A17.27 of Ofcom's March 2007 Statement on the previous market review.

[12] These issues are discussed further in section 4.2 below.

[13] See for example, http://news.cnet.com/8301-1035_3-10245621-94.html; http://www.gartner.com/it/page.jsp?id=688116; http://www.mobile-phones.co.uk/news/mobile-phones/smartphones-sales-tipped-to-rise_19002640.html; http://www.reghardware.co.uk/2009/05/21/gartner_smartphone_q1_2009/

when pricing is not affected by regulatory and wholesale arrangements. 3UK launched HSDPA USB modems in September 2007 and significantly reduced the average pricing available at that time for any data model products. Table 2 illustrates the falling price trend which has resulted from 3UK challenging the wider mobile broadband market.

Table 2: Pricing snapshots for mobile broadband[14]

	3UK	Vodafone	T-Mobile	Orange	O2
Sep 2007					
Data Allowance (per month)	3GB	3GB	3GB	1GB	1GB
Cost (per month)	£15	£25	£29	£53[15]	£53[16]
Jun 2008					
Data Allowance (per month)	5GB	3GB	3GB	3GB	3GB
Cost (per month)	£15	£15	£15	£15	£20
Jul 2009					
Data Allowance (per month)	15GB	3GB	3GB	3GB	3GB
Cost (per month)	£15	£15	£15 (£10 for first 3 months)	£14.68 (£7.34 for first 3 months)	£14.69 (£9.79 for first 4 months)

Figure 1, showing the numbers of 3UK's MBB subscribers over time, shows the result. MBB has now become a key product being sold at competitive rates by all networks.

[14] This table shows an illustrative headline tariff at each point in time for comparison purposes. All operators naturally offer alternative tariffs with greater data allowances for heavier users and contract lengths have also been changing.
[15] Flex data 45 £0.045 per MB excluding VAT.
[16] O2 Data Max 1024 £45 per month excluding VAT. Source: Pure Pricing.

Figure 1: 3UK Mobile Broadband Customers, pre-pay and contract

[●]

This case study clearly demonstrates the benefits which can accrue to UK consumers and the impact which 3UK can have on the market when competition is not distorted. 3UK strongly believes that competition combined with the rapid evolution of mobile technologies (leading to greater capacity in mobile networks over the coming years) will have an equally significant impact on the mobile voice market, subject to the right regulatory regime for MTRs being in place which reflects the new market conditions.

If MTRs are reduced to the level of "pure" incremental cost (consistent with the EC Recommendation)[17] this will force operators to recover their common costs from revenue streams subject to competition (rather than protected regulated revenue streams) and will open the retail market fully to competitive forces. By removing the need to recover relatively high pence per minute incremental costs for all off-net mobile to mobile calls, operators will be able to build retail tariffs which reflect their underlying cost bases and which consumers want. Fixed price (or "all you can eat") tariffs will become feasible and competition will lead to their provision. Consumers will benefit from tariff levels subject to competition and tariff structures which are simpler and more transparent - containing far less (or no) risk of "bill shock". The fixed line and broadband markets have already moved substantially in this direction and it is the relatively high pence per minute structure of MTRs which is blocking such a move (which consumers clearly desire) in the mobile sector. Thus allowing mobile operators to compete directly with unlimited fixed tariffs will also increase competition in the communications sector overall.

As well as benefits in terms of enabling fixed mobile technologies commercially and providing the opportunity for fixed to mobile call charges to reduce (increasing the level of competition between the fixed and mobile sectors), 3UK therefore expects to

[17] A number of different cost measures and different terms for the same cost measures appear to be being used in relation to the debate on future regulation of call termination. See section 3.1.1 for an explanation of the usage which 3UK has adopted and which is used within this response.

offer retail mobile tariffs under an appropriate new MTR regime which would consist of all you can eat voice, texts and data for a flat rate monthly fee. Clearly the exact level of such a fee would be subject to the details of the market at the time and the details of the new regulatory regime for MTRs, but at the current time 3UK expects to be able to offer such unlimited bundles for a price point of £35 per month.[18] In such circumstances, 3UK is confident that competition would deliver such benefits to a very wide swathe of UK consumers – as has been the case in the MBB sector.

1.2. The need for a strategic approach to mobile termination rate regulation

In the context of the substantial benefits to consumers of a significant reduction in MTRs, 3UK considers that it is highly timely and appropriate that Ofcom has asked whether it is appropriate to have a broad strategic approach to regulation in this area.[19] Given the wide reaching impacts of MTRs on competition in mobile and the wider communications sector, 3UK considers that it is important that any regulation of MTRs should be done is such a strategic manner. Cost recovery is very important and 3UK would vigorously oppose any regulatory approach which stopped an operator from being able to recover its total efficient costs from all services. Such an approach would harm investment incentives and hinder competition. That is not, however, the issue at question here (despite the protestations of the incumbent operators). Rather, the relevant question is what costs it is appropriate to recover from what services and what the impacts of all the different approaches will be on competition and consumers.

3UK's current view is that, wherever there is economic justification, costs should be recovered from competitive services rather than those protected by regulation. Incentives to greater efficiency and reductions in costs will be better provided by competition than regulation, which approach is consistent with Ofcom's wider approach to regulation and general principles.[20] Further the impact of relatively higher MTRs, as discussed above, and the benefits to consumers in the short and long run of relatively lower MTRs is also a relevant consideration.

In practice this means that Ofcom should:

- pick the relevant cost or other benchmark for setting charge controls with care (ensuring that it is the benchmark which best promotes the interests of consumers as a whole and competition);
- deal with any specific disadvantaged consumer groups (if any) with separate, targeted regulation: rather than the rather blunt tool of relatively higher MTRs where there is no guarantee that the benefit will be passed through to the consumer groups of interest; and
- reduce the scope of regulated revenue streams as far as possible within the sensible constraints of the benchmark chosen (which means that Ofcom should consider pricing towards the lower end of ranges used to reflect uncertainty around key variables and take a robust and challenging line on assumptions used in any cost

[18] Clearly, such a tariff would be highly attractive to significant numbers of UK consumers, but it is of course the case that this will not be the right tariff for all consumers. 3UK considers that a change in the regulatory regime can be implemented in a way which will minimise, if not remove, any losers under such a regime as discussed further in section 4.4.5 of this response.
[19] Question 6.1 in the Consultation.
[20] See, for example, Ofcom's regulatory principles (at http://www.ofcom.org.uk/about/sdrp/) which include "Ofcom will operate with a bias against intervention, but with a willingness to intervene firmly, promptly and effectively where required." and "Ofcom will always seek the least intrusive regulatory mechanisms to achieve its policy objectives."

estimations on, for example, capacity of network elements and future volumes).

As explained further in section 4.2, 3UK also considers that a proper implementation of the approach in the EC Recommendation represents an appropriate cost ceiling for the setting of charge controls on MTRs, which further re-enforces the benefit of, and need for, such a strategic approach. Taking such a strategic approach will therefore promote allocative and productive efficiency, consumer and competition benefits. As discussed above, this will also expose more costs to the efficiency incentives of being recovered from competitive markets.

This highlights the fallacy and internal contradiction inherent in the incumbent argument that the so-called waterbed effect will mean that reducing MTRs leads to other price increases meaning overall or average prices cannot fall and might rise. This is predicated on the idea that the amount of "water" in the waterbed is fixed and constant. This reliance on waterbed arguments conveniently assumes that competition must be just strong enough to ensure that other retail prices are driven up exactly counteracting any fall in MTRs but competition is not strong enough to ensure that costs (and therefore overall price levels) are driven down. History and experience in other regulated sectors would suggest that such a balance is unlikely and that when such cost bases are exposed to competition, this acts as a spur to innovation and greater efficiency which reduces costs and therefore prices. 3UK has demonstrated its ability to act as a catalyst to such change in MBB and stands ready to play the same competitive role in relation to voice markets.

Later sections of this response provide further detail on 3UK's views on many of these issues, but this overview is to make clear the reasons for 3UK's strong support for Ofcom taking a policy position that MTRs should be driven as low as possible, as fast as possible. Clearly Ofcom must do this within the constraints of a sensible and justified economic approach, but this thinking should permeate all decisions on the areas of discretion which inevitably arise for the regulator in undertaking detailed cost analyses and, importantly, is in line with the EC Recommendation, of which Ofcom must take utmost account. Ofcom's historic approach of often taking conservative assumptions in such circumstances will no longer be the conservative or safe approach. Rather this will enable the incumbent operators to continue to stave off the full effects of competition and deny consumers the full benefits available.

2. Market Definition and Assessment of Market Power

A market review must naturally rest on a sound assessment of the relevant market and market power within that defined market (and is required to do so under the approach set out in the European directives). 3UK does not have firm views on these issues at this early stage in the market review process. The remainder of this section sets out 3UK's initial views on the market analysis required by the market review process. These views will be subject to change as further evidence and debate arises on these issues.

3UK's broad view is that the regulatory approach must take account of the rapid pace of development in the industry and ensure that regulation itself does not hinder technological and commercial change which might change the relevant market definition and market power within those markets. Regulatory certainty is required to provide a firm basis for further investment and innovation and the regulatory approach should ensure that operators compete on a level playing field: large protected and regulated revenue streams should not be a source of competitive advantage. These are more matters of ensuring the right regulation rather than arguments around the appropriate relevant market to regulate and therefore are dealt with in more detail in subsequent sections of this response.

2.1. Market definition

The starting point for a market definition for this market review is naturally the EC Recommendation on relevant markets susceptible to ex ante regulation. That defines the relevant market as:

> "voice call termination on individual mobile networks".[21]

Section 3 of the Consultation sets out some of the relevant considerations as to whether this market definition is still appropriate in relation to the current UK mobile sector. 3UK broadly agrees with Ofcom's approach of considering whether there are retail substitutes which could constrain a wholesale market and whether there is a relevant wholesale market of call termination on individual networks. Further, the types of potential substitute which the Consultation considers encompass the main potential sources of competition.

3UK notes that Section 3 of the Consultation does not propose a specific candidate relevant market at this stage in the process but refers to the existing market definition and notes a number of potential substitutes. 3UK believes that alternative forms of communication over a mobile (and other) networks are becoming increasingly important and could provide alternative methods by which consumers can contact each other. Usage of social networking sites, voice over IP and instant messaging is rapidly increasing. Use of such services on newer handsets is becoming easier and more intuitive. 3UK considers that Ofcom should investigate these developments carefully to evaluate the impact this has on the relevant market and the potential for competition to evolve in new forms. Such alternative forms of communication are typically delivered over data connections (using IP) which are not subject to call termination charges. Usage of these services would impact on market definition were a sufficiently large marginal group of customers prepared to use such services

[21] "Commission recommendation of 17 December 2007 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 communications networks and services" OJEC L344/65 28/12/2007.

as an alternative to a voice switched call such that operators were constrained in their wholesale pricing. 3UK has not yet been able to investigate the size of these impacts in detail, but expects that this point has not yet been reached (and is unlikely to be reached during the time period envisaged for the next charge control period under current trajectories).

It is important to note that there is a "chicken and egg" issue here, however, and that the form of regulation itself may impact on the speed at which such newer communication forms are able to represent a constraint on switched telephony. The call termination revenue itself and the margin which incumbent Mobile Network Operators ("MNOs") are able to recover from such revenues itself represent an incentive for operators to block and hinder the development of such services. Given its traffic imbalance, 3UK does not have such an incentive and it is therefore informative to consider the growth of these services amongst 3UK's customer base, as shown in figures 2 to 5.

Figure 2: [●]

[●]

Figure 3: [●][22]

[●]

Figure 4: [●]

[●]

[22] [●]

Figure 5: [●]

[●]

Increasing use of alternative, internet based forms of communication is a trend which is accelerating. [●]

Similarly, the extent to which FMC type products[23] are able to represent a competitive substitute will depend on the form of regulation. The current approach, where there are significantly different termination rates between fixed and mobile services, creates a regulatory barrier to the development of these services.

If the form of regulation creates a more level competitive playing field and reduces the incentives of incumbent operators to protect switched telephony revenue streams from substitute forms of communication (whether they be FMC style products or IP based communications services) then the pace of change could be extremely rapid. Even if Ofcom considers that, at 2011, the market definition has not substantially changed, sufficient flexibility must be included in the regulatory approach which allows this to be revisited should market conditions change going forward.

2.2. Assessment of market power

If the individual network market is adopted then clearly there is a 100% market share which leads to a rebuttable presumption of market power. It must then be considered whether there is sufficient Countervailing Buyer Power ("CBP") that the individual

[23] 3UK takes the view that this term applies to a wide range of potential services involving different mixes of technologies. FMC is not one specific type of product but could involve mobile services becoming more "fixed" as well as fixed services adding elements of mobility. Paragraphs 3.24/5 of the Consultation only mention the latter and as part of this market review it will be important to consider the full range of potential developments in this area.

network operator in question is constrained to an extent that it does not have significant market power.

As Ofcom is aware, consideration of the extent of CBP faced by 3UK was recently the subject of a judgment of the Court of Appeal.[24] 3UK is still considering the implications and detail of this judgment. Notwithstanding this, a key issue in that case was the extent to which dispute resolution powers fall to be disregarded for the purposes of assessing CBP. The judgment suggests that the logic of the EC Common Regulatory Framework is that there needs to be both *ex ante* and *ex post* regulation available (see, for example, paragraphs 87, 98 and 99 of the judgment). If that is correct then it is important that the exercise of these different regulatory approaches is consistent and ensures that the objectives of the Communications Act 2003 and the EU Common Regulatory Framework for electronic communications (as enshrined in Ofcom's statutory duties) are promoted. Importantly, this simply shifts the balance to ensuring that the regulatory remedies imposed, *inter alia*, promote competition.

Another issue which requires further consideration in this market review is the extent to which barriers to entry into the provision of call termination may be changing. New forms of technology may be reducing the extent to which there are absolute barriers to entry (which Ofcom found in the last market review). New spectrum awards are also relevant here and the extent to which services based on new spectrum awards are reducing barriers to entry and increasing competition.

Before the implications of the recent Court of Appeal judgment can be properly considered and any debate on the extent to which barriers to entry may have changed, 3UK is not expressing any firm view on the extent of SMP of any individual mobile operators. However, 3UK considers that the important issue, as discussed in subsequent sections of this response, is the extent to which the regulatory regime provides investment certainty and promotes competition, as well as championing the consumer. As discussed below, these objectives can be pragmatically and quickly achieved through the implementation of the right regulation going forward on call termination on individual mobile networks. For the remainder of this response, therefore, 3UK has assumed that each mobile network has Significant Market Power with respect to off-net call termination on its own network (i.e. the same conclusion as Ofcom reached in its last market review).

2.3. Position of operators other than five mobile network operators

The logic applied to the five existing MNOs applies equally to other operators using mobile number ranges and mobile technologies. As such, if the existing MNOs are found to have SMP and are subject to regulatory remedies technology neutral regulation would require that the same conclusion is reached with respect to other operators using mobile type technologies or offering services using mobile (07) number ranges. 3UK is disappointed that Ofcom does not even raise this issue in the Consultation which has been causing commercial uncertainty[25] and has already led to a disputes needing to be resolved by Ofcom.[26] Further this is an issue which

[24] *Hutchison 3G UK Limited* v *The Office of Communications* [2009] EWCA Civ 683.

[25] See Annex 5 for a list of the operators using 07 number ranges with termination rates already in the Carrier Price List.

[26] See disputes between Mapesbury Communications and T-Mobile about mobile termination rates (Case CW/01000/10/08) and between Cable & Wireless and T-Mobile about termination rates (Case CW/01004/11/08).

3UK has repeatedly requested that Ofcom consider[27] and which the last market review conclusions suggest would need to be addressed.[28]

Clarity on the regulatory treatment of termination rates for such operators would benefit all parties and is now overdue. Should Ofcom confirm its finding of SMP on the existing five MNOs there is no reason for the same logic not to be applied to all these other operators and appropriate SMP conditions applied to such operators.

[27] Most recently see 3UK's letters to Ofcom dated 25 October 2007 and 19 December 2007 (from Tim Lord to David Stewart). 3UK also raised this issue in response to consultations in the previous market review.
[28] See Paragraph 3.128 of "Mobile Call Termination: statement" published 27 March 2007.

3. 3UK's views on options for regulatory remedies

3.1. Introduction

The Consultation identifies six potential options for the future regulation of MTRs. This section sets out 3UK's views on the pros and cons of each of these options and the underlying framework for assessing these options which Ofcom has outlined in the Consultation. This identifies which options 3UK considers would provide benefits to consumers and competition going forward and would be practical.

In summary, 3UK's position is that the preferred option should be implementation of the approach set out in the EC Recommendation as soon as possible. While other potential approaches, such as reciprocal rates with fixed, and Bill and Keep ("B&K") would also provide much of the benefits of this approach, 3UK considers that the EC approach is most likely to be practical to implement rapidly as is required and provides benefits of harmonisation across the EU, one of the European Commission's stated objectives in making the EC Recommendation. None of the other approaches, set out in the Consultation, provide both the right regulatory backdrop given developments in the sector and the practicality of implementation. Nor do they further harmonisation of regulating MTRs across the EU. Given that the European Commission has identified harmonisation as a key objective of the EC Recommendation, Ofcom must assess each of the proposed options on the basis of whether they achieve this aim. This is required not only by the requirement to take "utmost account" of the EC Recommendation, but also to ensure compliance with Ofcom's duty under section 4(4) of the Communications Act 2003 to carry out its market review functions so as "to secure that Ofcom's activities contribute to the development of the European internal market", and its underlying duties under Article 8 of the Framework Directive.

An added benefit of EU harmonisation is longer term regulatory certainty: as Europe increasingly moves towards the same approach, the sustainability of an inconsistent approach in the UK will become increasingly uncertain. As such, 3UK does not agree with Ofcom's current assessment that "it is not clear that there is a single termination regime which is better than all the others under all circumstances for all consumers".[29]

Section 4 below goes into further detail on 3UK's preferred options, providing more detail on the benefits 3UK sees with those options, how they could be implemented in a practical and pragmatic way and how alleged detrimental effects of these options are either not real or can be significantly mitigated.

3.1.1. Preliminary considerations around the terminology applied to different approaches

The Consultation refers to a continuation of the current approach to cost based charge controls as Long Run Incremental Cost ("LRIC") Plus and an implementation of the EC Recommendation approach as applying Long Run Marginal Cost. This response uses a slightly different terminology as explained in this sub-section.

Three of the options set out in the Consultation are based on explicit cost measures. Capacity based charging would require an estimation of an appropriate cost base to set the capacity charges. Continuation of the *status quo* and implementation of the

[29] Paragraph 6.22 of the Consultation.

EC Recommendation would both require the estimation of a suitable average (i.e. pence per minute) cost standard at which to set the relevant charge control. Economic theory also suggests that a rate should be related to marginal cost for efficiency reasons (adjusted to take account of competitive issues as discussed further below). While the EC approach can be considered as providing a suitable and practical proxy for marginal cost, the methodology set out in the EC Recommendation itself actually promotes the use of an incremental cost measure.

3UK therefore considers that the clearest way of identifying the differences in these different measures in practice is to refer explicitly to difference in the increment used in calculating the relevant cost base, which clearly distinguishes these practical cost measures from each other and the more theoretical concept of marginal cost.

Hence this response uses the following terminology.

- **All Traffic LRIC**: is the network cost measure on which the existing charge control is based, where the relevant increment is "all traffic" and therefore this measure includes network costs which are common between different services.
- **All Traffic LRIC plus**: is the cost measure which is at the actual level at which current charge controls are set which includes All Traffic LRIC plus an allowance for non network common costs.
- **Call Termination LRIC**: is the measure proposed in the EC Recommendation where the relevant increment used is call termination volumes only and therefore this measure does not include any common costs between services (network or non-network).[30]

3UK invites Ofcom to consider adopting this (or similar) terminology in the remainder of the market review process as it makes explicit and clear the relevant differences between the different approaches.

3.2. Ofcom's framework for analysis

The Consultation provides a framework for considering the different impacts of each of the options, grouping such impacts under four generic headings of economic efficiency, distributional effects on consumers, competitive impacts and commercial and regulatory consequences.[31] 3UK agrees that this is a sensible approach to assessing the different options and broadly supports Ofcom's framework and approach to assessing the different options (although 3UK's views diverge from Ofcom's in certain places on the detailed implementation of this framework as discussed later in this section). However, 3UK considers that the implementation of this framework could be further refined and made more explicit to provide an even more valuable tool for evaluating the different options. The remainder of this sub-section provides 3UK's suggestions and proposals in this area.

The broad framework in the Consultation groups relevant considerations but provides no basis for ranking these considerations. The next stage of Ofcom's evaluation of the policy options will require more specific tools to undertake such an evaluation. One potential such tool would be to develop a robust welfare analysis which can compare the welfare benefits of different approaches based on up to date economic

[30] Strictly speaking the Call Termination LRIC measure includes costs which are common between different terminated minutes. A measure which excluded even such common costs would be a true marginal cost measure.
[31] See paragraph 6.17 of the Consultation.

thinking in this area. This will provide one objective way in which the different impacts of each of the options can be sensibly compared. 3UK has therefore commissioned such a welfare analysis which compares the welfare benefits of B&K, Call Termination LRIC and reciprocal rates with an All Traffic LRIC plus approach. The details of this analysis are given in the report attached as Annex 3 of this response. The detailed calculations are based on the latest economic thinking in this area and the spreadsheet is also being provided to Ofcom at the same time as this response. In summary, the conclusions of this report are:

> *"Depending on the scenario, in particular the strength of the call externality, social welfare related to mobile and fixed telephony is found to increase by the equivalent of about £100m to £1.1bn per year. If call externalities […] are strong then aggregate consumer surplus increases by up to about £600m.*
>
> *Thus our simulations lend support to a move away from "LRIC+" towards lower MTRs, with Bill & Keep consistently leading to the highest increase in welfare.*
>
> *In the medium to long run, these lower MTRs on existing networks allow small networks to grow and invite more entry. Therefore they will lead to a more competitive market and additional benefits in terms of higher welfare and higher consumer surplus."*

It will also be important to consider the impacts of MTRs on the mobile and communications sectors as a whole, for the reasons set out in sections 1.2 and 4.2 of this response. The preliminary assessment of the different options in the Consultation does this to a certain extent implicitly, but 3UK considers that this should be an explicit and key element of the framework. The impact of different approaches to call termination regulation should be considered not only with respect to call termination and the mobile sector but across all services and all related and impacted markets. Given increasing competition between fixed and mobile, and the emergence of fixed mobile substitution products, this will include the impact on incentives to invest and innovate in retail mobile markets (voice and data) and fixed markets.

The Consultation refers to incentives to invest and dynamic efficiency considerations in general terms. Many of the benefits of moving to a new regime will arise under these headings and 3UK believes that these should explicitly include innovation benefits: both in terms of incentivising new products (such as IP based communications services), incentivising new technologies (such as more efficient evolutions of mobile technologies and FMC technologies) and incentivising innovation in setting tariffs and commercial offerings (such as fixed rate unlimited usage bundles). In practical terms it is important to assess whether any individual regulatory option will help or hinder such innovation and hence benefit consumers.

In considering the effects on competition, it will also be relevant to consider whether any particular approach exposes more of the revenues in the mobile sector to competition or protects greater proportions of revenue behind guaranteed regulated revenue streams. As noted above, 3UK considers that the ability of an operator to recover efficiently incurred costs is crucial to investment incentives and future development of the mobile sector. However, this needs to be assessed in the round across the business of a mobile operator as a whole. It is not necessary for all services to make the same proportionate contribution to common costs and in deciding what contribution to common costs should be made by regulated services, Ofcom should take into account competitive impacts, the effect on incentives to invest and innovate and the economic benefits of recovering costs from competitive markets.

In this respect, 3UK notes what Ofcom says around the implications of Ramsey pricing in paragraph 6.58 of the Consultation. However, this is only one potential consideration in deciding where common costs should be recovered. The Ramsey pricing approach is essentially a static allocative efficiency consideration and dynamic and productive efficiency should also be taken into account. The Ramsey pricing result is derived for a monopoly product and it is far from clear how to apply this result when there are significant common costs between regulated products and products provided in a competitive market. The Ramsey result will only apply where common costs are allocated across all products on a Ramsey basis. In previous debates around this issue, the incumbent operators have not been able to demonstrate that competitive products will recover the "right" amount of common costs were such an approach to be applied to call termination.[32] Last but not least, as usually applied, Ramsey pricing specifies optimal deviations from marginal cost pricing when firms are unable to recover fixed or common costs from fixed (i.e. subscription) charges, and hence are restricted to charging linear prices: but this makes little sense in an industry where two-part tariffs are commonplace. 3UK therefore believes that the preliminary analysis in the Consultation around the appropriate products from which to recover common costs and the economic considerations which apply to this needs to be further expanded and elaborated.

One final element of an appropriate framework for assessing the different options is implicit within the Consultation, but 3UK considers it would be clearer and more effective if this was made explicit. This is that, when considering the different positive and negative impacts of each potential approach there should be a further step in the analysis which considers whether these impacts can be achieved, mitigated or removed (as appropriate) by other more proportionate and appropriate regulatory means. If, for example, a particular approach was considered to have an adverse distributional impact then this needs to be weighed against the benefits of that approach. However, an additional element of the consideration is whether there are better ways to remove the adverse distributional impact than picking another approach (which would not achieve those benefits).

Ofcom's analysis in the Consultation does this to an extent in certain key areas, such as considering whether a social tariff is a more efficient way of dealing with some of the distributional aspects (rather than relatively higher MTRs which may be a blunt policy tool to achieve the desired goals) and whether concerns around unwanted and nuisance calls ("SPAM") could be dealt with in alternative ways. 3UK suggests it would aid the clarity of the comparison of the different options if this aspect could be explicitly added as a further step which would also aid in ranking the importance which needs to be given to each of the different groups of impacts set out in paragraph 6.17 of the Consultation. That is, impacts which can be dealt with through alternative more focused policy tools should be thus dealt with and given much less weight compared to impacts which can only be achieved through the MTR regulatory regime. 3UK expects that such an approach would lead to the conclusion that the primary considerations are whether the MTR regulation promotes competition and delivers consumer benefits (lower per minute prices more appropriately aligned with underlying cost structures and higher usage on average). The approach which does

[32] See, for example, paragraph 1.6 of "Vodafone, O2, Orange and T-Mobile: Reports 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.", Competition Commission 2003.

this to the greatest extent should be the preferred approach and any residual concerns around such an approach can be mitigated or removed through the targeted application of alternative regulatory requirements.

3.3. Ofcom's options

This sub-section explains 3UK's high level views on each of the options identified in the Consultation and whether they provide, in 3UK's view, a reasonable, appropriate and proportionate approach or are not appropriate. This therefore provides 3UK's assessment of the pros and cons of each of the approaches. These views (as set out in sections 3.3.1 to 3.3.6) are summarised in Table 1 in the Executive Summary of this response.

When practical, theoretical and legal considerations are combined 3UK considers that there is one approach – implementation of the EC Recommendation – which has a clear advantage over the other approaches for the purposes of this market review process. As such, 3UK has undertaken a more detailed consideration of this approach in section 4 of this response and has not considered it appropriate to go into this level of detail concerning each of the other five approaches. 3UK reserves its right to provide further and more detailed analysis of the pros and cons of (and practical issues related to) other approaches should Ofcom be minded to choose one of those as its preferred regulatory approach. Further, section 4 provides 3UK's initial views on how its preferred approach could be implemented and identifies some of the issues which will need to be considered and resolved in taking this approach forward.

Ofcom, as the national regulatory authority for the UK, is under a duty by virtue of Article 19(1) of the Framework Directive to take the utmost account of the EC Recommendation. The Consultation notes[33] that Ofcom considers its approach fulfils this duty by carefully considering the EC approach together with a number of other approaches. 3UK would add that its duty also requires Ofcom only to depart from the recommended approach if it has particularly cogent reasons for doing so. Other approaches need to be considered in terms of whether there are strong and compelling reasons which mean that these alternatives must be preferred to the EC approach. 3UK has approached its assessment of the various options in this light and considers that the approach set out in the EC Recommendation will provide significant competitive and consumer benefits which are not obviously bettered by any of the alternative approaches. On its own merits, 3UK considers the EC approach should be the preferred approach for this market review.

In addition, and as discussed above, 3UK notes the harmonisation objectives of the EC Recommendation, and Ofcom's duties under section 4(4) Communications Act 2003 in this regard, which also compel Ofcom to have particular regard to the EC Recommendation. Taking all of these factors together, 3UK considers that there are no particularly compelling or cogent reasons for continuing to pursue any other approach in this market review.

3.3.1. Deregulation

At a high level the Consultation notes that "while a deregulatory approach might appear attractive, there is a significant risk that it would be impractical in reality". The benefits of such an approach would be that it removes any impediments which

[33] See paragraphs 6.19 to 6.21.

regulation creates to competition and to investment and innovation incentives. However, as also noted in the Consultation, the practical effect of this approach will be to move from an *ex ante* type of regulation to *ex post* regulation of rates (almost certainly through dispute resolution). In theory, 3UK considers that this could be feasible and could provide a robust regime which would promote competition, investment, innovation and consumer benefits. Achieving this would require appropriate regulatory guidance on how disputes would be resolved and probably a number of resolved cases which would provide actual experience of how such guidance would be applied.

The development of such guidance and experience would take time and recent appeals suggest that significant issues remain to be resolved on how such an approach would legally work.[34] Further, the interaction between mobile termination rate deregulation and whatever regulation is or is not applied to fixed termination rates in future would require careful consideration.

3UK considers that the regulatory approach applied to MTRs must now provide as soon as possible the certainty and clarity which is required to ensure that incentives to invest and innovate are appropriate and that competition is promoted. Taking the deregulatory approach in this market review would likely significantly prolong the process of arriving at such certainty and the benefits can be more certainly and more efficiently gained through alternative approaches in this market review.

For these reasons, 3UK tends to agree with Ofcom's overall negative stance towards this approach in the Consultation and agrees that there are significant risks and complications of pursuing such an approach which are not necessary to incur given the overall circumstances in which this market review is being undertaken. In conclusion, 3UK considers that the deregulatory approach neither requires nor warrants further consideration in this particular market review.

3.3.2. Long Run Incremental Cost Plus

This option represents the *status quo*, basing call termination rates on an All Traffic LRIC plus an allowance for appropriate non-network common costs. Albeit based on efficient forward looking costs, it should be noted that this is therefore a form of Fully Allocated Cost approach, which determines an appropriate contribution to all costs which should be made by the individual service (call termination) being regulated.

The benefits of such an approach would be:

- regulatory continuity: as this would simply be a continuation of existing policy which has some benefits in terms of certainty and therefore investment incentives;
- a well understood methodology: which has been rigorously analysed and debated in front of the Competition Commission ("CC") several times; and
- provides certainty: allowing operators to be certain that the regulatory regime allows efficient cost recovery.

These benefits should not be over-stated however.

[34] Ground 1 of 3UK's appeal (concerning the rate which Ofcom should or should not set in the context of dispute resolution) was not decided either way in the Court of Appeal judgment (see footnote 24 above). See, for example, paragraph 77 of that judgment. The issue of the meaning of a reasonable rate for these purposes is still not clear (see, especially, paragraphs 109-100 of the Court of Appeal judgment).

- The advantages of regulatory continuity are likely to be minimal where there is pressure at a European level to evolve the existing approach. In such a situation, maintaining the *status quo* simply prolongs the uncertainty about when and to what extent the European approach will be adopted. Even if Ofcom chose to maintain the *status quo* for the purposes of this market review, 3UK expects that pressure from other National Regulatory Authorities adopting the EC Recommendation and from the Commission itself will continue to provide such uncertainty. Investment incentives in such circumstances are better provided through taking a rapid and early lead in implementing the new approach and providing early certainty in this regard. Further, 3UK's analysis suggests that, as a result of greatly increased expectations of traffic levels (principally data), continuing the currently applied methodology would lead to significantly different outcomes in terms of the level of price controls which would further undermine any certainty provided by this approach.
- The All Traffic LRIC plus cost model is indeed well understood but this does not mean that it is not still subject to considerable uncertainty. 3UK considers that, even following three CC inquiries there remain issues which would need to be revisited and considerable issues of principle which would inevitably be re-opened.[35] Further the basic cost model and much of the elements which are well understood could be used in some of the alternative approaches which means that the benefits of the modelling being well understood can equally be gleaned under alternative approaches not subject to the same disadvantages (in particular the approach implementing Call Termination LRIC, as discussed in more detail below in section 3.3.3.)
- It is important that the regulatory approach ensure the possibility of overall efficient cost recovery from all services, but the *status quo* is not the only way of achieving this and other approaches do not suffer from the same disadvantages going forward as continuing with an All Traffic LRIC style approach to this issue.

A principle welfare detriment (as identified in the last market review) which this approach seeks to address is an inefficient structure of charges especially as between fixed and mobile which leads to inefficient levels of consumption of different types of retail services and also potential distortions of consumer choice. Ofcom's approach in using All Traffic LRIC plus (including a network externality surcharge until this was removed following the appeal process) also included a concern about ensuring efficient levels of overall mobile subscriptions. The welfare detriments identified essentially concern efficient levels of transfers between the fixed and mobile sectors.

3UK considers that the EC Recommendation approach now represents a better way of dealing with these issues given the potential for FMC products to emerge and increasing competition between the fixed and mobile sectors at the retail level. Further, high rates to maintain mobile subscription penetration are no longer required

[35] Such issues would include, for example, the treatment of already paid spectrum licence fees, potential new spectrum awards, how to treat new technologies in the model (especially those which have been introduced since the last market review process) and the appropriate way of dealing with future uncertainty around volume forecasts (and the right level of such forecasts).

given the already high level of subscriptions in the UK market (see discussion below at section 4.4.4). To the extent that a concern remains in this area (which is principally around ensuring that specific vulnerable groups have access to affordable mobile services) it is best dealt with through alternative policy means than the relatively blunt tool of effectively subsiding all mobile subscribers from the fixed market (see section 4.4.5 below). Further continuation of the *status quo* now would increasingly lead to adverse effects and not deal with increasingly important alternative welfare detriments (which are addressed by some of the alternative options).

Against the above advantages, however, maintenance of the *status quo* has a large number of disadvantages going forward in that the key policy issues have changed as a result of market change and the All Traffic LRIC approach is not flexible enough to deal with new issues. Adverse distortions from sticking with such an approach are likely to increase over time. Significant disadvantages of continuing the current approach are as follows.[36]

- Relatively high MTRs lead to higher average mobile retail prices as discussed above which depresses mobile usage generally below the allocatively efficient level. This is suggested by the international data analysis carried out in annex 5 of the Consultation.
- Relatively high MTRs based on All Traffic LRIC measures will increasingly distort competition. Recent economic theory on this issue, as noted in the Consultation, clearly identifies that there is a strategic incentive for larger operators to use price discrimination between on- and off-net retail rates to create a competitive advantage in such circumstances. 3UK considers that this is a significant concern in theory and in practice as discussed further in section 4 below.
- Where later entrants (such as 3UK) have a traffic imbalance which is an inevitable result of their competitive position as a later entrant, relatively high MTRs create a further related competitive distortion and result in net MTR interconnect payments to the incumbents which also distort competition (creating more revenue for the incumbents to spend on customer acquisition and retention which revenue is not available to the later entrant).
- Allowing a greater proportion of revenues to be recovered from regulated revenue streams reduces the extent to which cost bases are exposed to incentives to be reduced and made more efficient over time. In principle, such an approach could be addressed through including efficiency factors in any charge control but this is likely to be difficult in practice. Alternative approaches which lead to greater proportions of cost being recovered from revenue streams exposed to competition will be a more effective way of providing efficiency incentives over time.
- Use of an All Traffic LRIC, which leads to rates which are significantly different between fixed and mobile sectors, will continue to create a

[36] Many of these concerns are also set out by the EC in the EC Recommendation and associated documents (see references in footnote 2). See for example: section 4 of the EC Explanatory Memorandum and sections 3.2, 3.3 and 4.2.1 of the EC Implications Document.

regulatory barrier to the emergence of FMC products and limit the extent to which fixed and mobile sectors compete with each other. Such a distinction is no longer warranted and hinders innovation.

- Reductions in MTRs will likely lead to price falls in fixed to mobile pricing which provides another source of increased consumer welfare.
- Many of the assumptions which underlie a conclusion that All Traffic LRIC plus is the appropriate benchmark no longer apply, as identified by Ofcom in paragraph 6.108 of the Consultation with which 3UK agrees.

Overall, therefore, 3UK considers that a continuation of the approach used in the current market review is no longer appropriate. The benefits of this approach can be replicated or improved upon by using alternative approaches. As identified by the European Commission, maintaining rates at an All Traffic LRIC plus level will also not maximise welfare going forward and will lead to competitive distortions. These competitive distortions could, in principle, be ameliorated through the setting of asymmetric rates. However, this is increasingly problematic in practice and the right level of asymmetry is likely to be controversial and extremely hard to assess. 3UK therefore considers that an approach which does not lead to such competitive distortions in the first place (or where they are minimal) is preferable where rates can be appropriately symmetric.

3.3.3. Implementation of the EC Recommendation

Implementing the EC Recommendation in the UK context as soon as possible and bringing rates down to the level of Call Termination LRIC as fast as possible is 3UK's preferred option for this market review. This approach represents the best balance of the practical and theoretical considerations to provide very real benefits for consumers and competition in the shortest timeframes. This will lead to significant improvements in welfare and promote investment and innovation going forward.

In relation to the welfare gains available, 3UK agrees with the reasoning in the EC Implications Document which identifies the potential for significant such gains. 3UK has commissioned a welfare analysis to consider these effects in a UK context (provided as Annex 3 to this response). In high level terms, 3UK considers that a move from All Traffic LRIC plus to Call Termination LRIC would lead to welfare improvements worth in the order of half a billion to a billion pounds per year (depending on the assumed size of the call externality).[37]

Section 4 of this response considers this option in more detail, identifying why it is consistent with current economic theory, is practical, and can be implemented in a sensible way in this market review. Section 4 also considers some of the arguments which have been made against this approach in more detail and sets out why 3UK considers these concerns have been over-blown. The detriments identified by other parties are either not as significant as is made out or can be more efficiently dealt with through alternative policy instruments.

[37] See Annex 3, especially section 4.1 on "Aggregate effects". As set out there, the welfare modelling suggests that slightly greater benefits can be gained through the even lower rates which would result from mandated B&K or setting rates on a reciprocal basis with fixed. However, as that report notes "All three alternative choices for MTR levels lead to quite similar increases in welfare." For the other reasons set out in this response, 3UK's current preferred option is therefore implementation of the EC Recommendation. The results reported here assume that there is some significant call externality, which would accord with common sense (i.e. the relevant parameter – beta – is set between 0.5 and 1, which would seem to be a reasonable range). Even if no call externality is assumed and the beta is set at zero, there is still a non-trivial increase in welfare from moving to a lower MTR regime.

Broadly the benefits of this approach are:

- the reduction in rates would improve consumer welfare and welfare as a whole by reducing average pence per minute retail mobile rates and aligning prices more closely with underlying cost structures (and exposing a greater proportion of mobile cost recovery to competition);
- reducing MTRs would also reduce a significant element of fixed to mobile calling costs providing the opportunity for these rates to fall significantly as well;
- common costs would be recovered from competitive rather than regulated revenue streams improving efficiency incentives;
- the reduction in rates implied would largely deal with the competition issues associated with higher MTRs, both as between mobile operators and as between mobile and fixed operators; and
- the differential between fixed and mobile rates would be significantly reduced on a robust and justified basis which would promote competition between fixed and mobile and promote innovation and investments in new technologies (for example, in FMC type products).

The Consultation identifies some potential disadvantages with this approach in paragraphs 6.115 to 6.119. 3UK agrees that these are issues which need to be considered but also agrees with Ofcom's suggestion that none of these issues in insurmountable.

Taking each of the points raised in the Consultation in turn.

- Estimating a Call Termination LRIC will still involve some risk of regulatory failure and (like the All Traffic LRIC plus approach) will becoming increasingly hard to implement in face on new and different types of entrant. 3UK considers that there is a risk of regulatory failure associated with any of the options (expect potentially the B&K solution) but this risk is less under the EC Recommendation approach as lower rates will reduce the impact on consumers and competition of such failures. In relation to new entrants, the Call Termination LRIC approach allows symmetrical rates to be set which means that rates can be set at the level of an efficient operator and any new entrant models should be able to survive receiving such rates or are not efficient.
- Paragraph 6.116 identifies a potential issue that calculating Call Termination LRIC could be more complicated or require new modelling considerations. 3UK does not agree with this and sets out below in section 4.3 and Annex 2 how the existing approach can largely be used to estimate such a benchmark in a way entirely consistent with the methodology described in the EC Recommendation and associated documents.
- In terms of consistency with regulatory practice in other areas, 3UK considers that the EC Recommendation approach should ultimately be rolled out to be used for all call termination. Consistency with other wholesale regulation is less important given the special nature of call termination (as noted, for example, in footnote 92 of the Consultation).

- The final concern with this approach expressed in the Consultation relates to potential distributional issues (where the benefits of a lower MTR approach would flow disproportionately to higher usage customers and low usage customers would be disadvantaged). 3UK considers that the lower retail prices would increase the number of higher usage customers increasing overall welfare and reducing average prices. To the extent that there may be a smaller group of low usage customers at risk of being worse off under the approach, this is more effectively dealt with through alternative policy means (such as the social tariff) as discussed in more detail in Section 4. This is not a reason to reduce welfare for the majority of UK customers.

The approach set out in the EC Recommendation therefore reaps the consumer and competition benefits of lowering MTRs generally, and it is a practical and pragmatic way of achieving these benefits. The apparent disadvantages identified are either not real or can be managed. It also has the very important and real benefit of being a consistent and harmonised approach across the EU, which assists in providing a stable and harmonised investment climate. Further, undertaking a different approach to the rest of the EU may provide opportunity for those undertaking fraud or arbitrage to focus on opportunities in the UK. The EC Recommendation suggests rates should be symmetric expect in limited circumstances. Moving to a system based on significantly lower rates would enable symmetric rates to be implemented without distorting competition. Overall, 3UK therefore considers that implementing the EC Recommendation should become Ofcom's preferred solution and Ofcom should rapidly move towards considering how it can and should be implemented.

3.3.4. Capacity Based Charges

In principle, 3UK agrees with the statements in paragraph 6.125 of the Consultation that a capacity based charging system would align prices more with actual cost structures, would be more future proof with respect to next generation networks and could promote economic efficiency. A properly implemented capacity based charging approach should also address many of the competitive distortions of relatively high MTRs. This is therefore an interesting option which would warrant further investigation in future market reviews, if still appropriate, although the different impacts on different operators and consumers would need to be considered with care.

However, for the purposes of this market review, 3UK considers that there would be significant practical issues to be overcome and that other approaches are likely to be preferable in the immediate future for this reason.

As is clear from section 1 of this response, 3UK considers that real change in the approach to call termination regulation is required in this market review. The large potential benefits to consumers and competition which are available need to be reaped as soon as possible. The implementation of such a fundamental shift (changing the structure as well as, potentially, the level of charges) as is represented by capacity based charging in the timescales of the current review would be risky and is likely to be unfeasible. A robust implementation would likely delay the implementation of any change with on-going and lasting damage to competition and therefore the interests of consumers.

Practical issues which would need to be considered and which lead 3UK to this conclusion are as follows.

- As noted in the Consultation, this approach still requires a decision around the right overall level at which to set wholesale rates and the right costs to recover from call termination revenues. Changing the structure and level of charges would add another layer to the complications of deriving the right cost base and potentially delay the ability of the market review process to deliver benefits of a lower level of overall charges.
- The practical requirements of implementing such a radical change to the structure of wholesale charges will take a significant period of time. Operators would need time to be able to take account of such changes in the wholesale billing systems and to assess how changing the fundamental structure of wholesale charging might impact on retail pricing approaches. Relevant interconnect contracts would also need a fundamental re-working. This would require a long lead time and it is not clear what approach could be implemented in the meantime. Whichever way this was tackled, it would likely delay the delivery of benefits to consumers which can be achieved by reducing the overall level of wholesale charges.
- Having a different structure (as opposed to level) of charges between different communications sectors (e.g. mobile and fixed) and between different countries would further complicate the implementation challenges. Great care would need to be taken to ensure that competition was not distorted in other dimensions, that opportunities for arbitrage and fraud were not inadvertently created and that having such a different structure of wholesale charges did not create new and different barriers to competition between fixed and mobile and for emerging FMC style products. It may be that such barriers could not be overcome which would require such an approach to be more far-reaching than the scope of the current market review (i.e. include the fixed sector as well), which would further increase the practical and process issues with implementing such an approach.

A final observation would be that this approach could end up being very similar in practice to B&K (as implemented through setting termination charges to zero). This would occur as the fixed payments made in either direction by equally efficient operators should, in principle, cancel out. The commercial impact is therefore the same as a B&K regime which might be much simpler to implement. If capacity based charging is a preferred option this therefore implies that B&K should be considered as a more practical way of achieving any perceived benefits of such an approach.

Capacity based charging would provide benefits over continuing with the current approach in terms of increased allocative efficiency, increased incentives to reduce costs, greater consumer benefits and reduce competitive distortions. Such an approach has significant theoretical benefits and warrants further consideration in the future, but for the above reasons is not 3UK's preferred approach in this market review.[38]

[38] This conclusion is also consistent with the approach which the EC Explanatory Memorandum takes towards alternative approaches – see the conclusion at page 31 in section 6.1.5 of that document.

3.3.5. Mandated Reciprocity

The option of regulation which mandates MTRs to be set at a reciprocal level with fixed rates could, in practice, lead to MTRs which are not dissimilar to a proper implementation of the EC Recommendation. As set out below (see section 4.3 and Annex 2), 3UK's current estimate of Call Termination LRIC is around 0.5ppm which is not too far from the current average pence per minute rate payable by 3UK to BT using Carrier Price List prices for call termination services of around [●]ppm. In this sense, many of the practical, commercial and competitive benefits of implementing the EC Recommendation approach apply equally to mandating reciprocity.

Recent economic literature suggests that the economically efficient rate is marginal cost minus an allowance for the call externality (as is recognised in the discussion in paragraphs 6.149 *et seq.* of the Consultation and termed "uninternalised call externalities").[39] If Call Termination LRIC is taken as a reasonable proxy for marginal cost then mandated reciprocity, leading to rates which are similar to, but below, this level therefore align well with this economically correct approach. 3UK is not currently aware of any robust way of estimating the appropriate adjustment to make for call externality in practice. Such an approach would therefore provide one sensible approach to implementing this economic literature in a pragmatic way. Another practical benefit of this approach is that it means only one cost model is required across the communications sector to regulate BT's rates. The rest of the industry, mobile and fixed, can then set rates with reference to those rates. Clearly, this approach will, by definition, be the most effective way of removing any regulatory barrier to competition between fixed and mobile or the development of FMC products by setting the rates equal to each other. Such an approach would also be relatively easy to implement, given that it would simply require an adjustment to rates in existing contracts and is based on a well understood cost model which already exists.

For the above reasons, 3UK considers that this approach is feasible and would be a viable alternative to implementing the EC Recommendation.

However, it is not 3UK's preferred approach for the purposes of the current market review due to a number of potential disadvantages which need to be set against these issues.

- While the relevant mobile cost and fixed cost are likely to be converging, and it can be assumed that taking account of uninternalised call externalities means that it is appropriate to set the rates at equality, this is a somewhat arbitrary approach to resolving this issue. At the present time 3UK considers that setting rates at equality will be a reasonable proxy for the economically correct rate; however, this does not mean that, in the future, changes in fixed or mobile technologies or cost inputs could change this conclusion. It is therefore not clear whether this approach would need to be fundamentally revisited again in future and what impact that might have in subsequent market reviews.
- There is a benefit from harmonising around the EC Recommendation approach. Such benefits arise in commercial terms providing an EU

[39] The relevant economic literature is summarised and discussed in Harbord, David and Pagnozzi, Marco (2008): "*On-Net/Off-Net Price Discrimination and 'Bill-and-Keep' vs. 'Cost-Based' Regulation of Mobile Termination Rates."* Mimeo. 3UK understands this paper will be published shortly and has previously provided a copy to Ofcom with its response to "Mobile Citizens, Mobile Consumers", response dated 6 November 2008.

wide regulatory approach which, *inter alia*, provides stability for investment. There are also benefits to harmonisation in terms of the legal certainty provided by using an approach endorsed by a wide range of regulatory bodies including the European Commission.

- While the approach is very simple and transparent at one level, it will lead to implementation complications which can be avoided through using a Call Termination LRIC benchmark. The interpretation of reciprocity has been subject to some controversy in the fixed sector, leading to a number of disputes needing to be resolved. BT in practice has a number of call termination rates across different geographies and time bands. It is likely to be a matter for debate about which of these rates are the most appropriate to use for the reciprocal benchmark. Alternatively, each operator could use the fixed rate that its own traffic profile means it pays, but this would then move away from symmetry and potentially create some distortionary incentives. Such issues could in principle be dealt with by Ofcom through the current market review although 3UK expects this would be controversial and could well lead to an outcome which was essentially arbitrary. Alternatively, Ofcom could simple mandate reciprocity and leave the interpretation of this up to commercial negotiation (and any subsequent disputes). This would lead to a reduction in certainty for the sector and, again, potential distortions from different rates between different operators on the basis of no sound competitive analysis.

Like the approach set out in the EC Recommendation, mandated reciprocity would give rise to much better outcomes for consumers and competition than a charge control based on All Traffic LRIC. It does, however, suffer from some disadvantages not faced by the EC Recommendation approach. Although these disadvantages could, in principle, be significantly mitigated or addressed, 3UK's current view is that implementing the EC Recommendation will, in the round, actually offer a simpler, more justifiable and effective way of achieving the benefits which can be achieved in moving rates below a penny per minute.

3.3.6. Mandated "Bill and Keep"

A regulatory approach which requires operators to interconnect on a B&K basis (which can be considered as equivalent to setting MTRs at zero) also has a number of benefits and would achieve the benefits discussed above from a significant reduction in MTRs from current levels. 3UK agrees with much of Ofcom's preliminary analysis of this approach in the Consultation and, as with the mandated reciprocity approach, this would align with the most recent economic theory which suggests rates of marginal cost minus an allowance for uninternalised call externalities. Another benefit of such an approach is that it would also align traditional telephony services with those provided over internet based systems. In the IP world B&K is one of the main commercial ways in which traffic is exchanged. As traditional and IP forms of communication merge and as fixed and mobile networks become less distinct, B&K would therefore provide a simple, robust and competitively neutral commercial arrangement for exchanging different forms of traffic. This approach is therefore likely to be the most future proof of all the options and is consistent with long term trends within the broader sector.

Despite these benefits, this is not 3UK's preferred approach for the current market review for the following reasons.

- While it is likely to be the long term destination for commercial arrangements for interconnection, it is not clear that mandating such an approach is the best way to reach this destination. Significant regulatory reductions based on cost based measures may pave the way for commercial agreements which would lead to something close to B&K. This would give the industry more flexibility about the exact form of B&K (including the scope of traffic included within it) and the timing of its introduction.
- For, although it may well be the long term solution, it is not clear that the next couple of years would be the optimal time to introduce B&K. Traditional circuit switched and IP networks are converging but currently still distinct. Similarly with fixed and mobile networks. The Consultation refers, for example, to the introduction of femtocells as one way in which fixed and mobile networks are ceasing to become as distinct. However, this is a solution which has only very recently been introduced by only one UK operator and other solutions to the problems femtocells seek to address, which rely more on traditional mobile technologies, may be introduced by other operators. At the current point in time, the impact of such developments is not clear, though this may, of course, change over the course of the market review process.
- Also, B&K does raise some implementation issues. Where it is introduced on one set of operators (i.e. mobile networks through this market review process) before other operators (i.e. fixed operators or those in other countries) there will arise opportunities for abuse and inefficient arbitrage. These could be managed, but are probably more easily managed when B&K is introduced through commercial arrangements or on a more wide-spread basis than is achievable through the current market review process.
- B&K will also raise potential issues around the way it encourages SPAM. Again this could be addressed through alternative means, but these may be more easily introduced in the context of commercially agreed B&K arrangements rather than its regulatory imposition.

None of these objections to the mandated B&K approach are insurmountable or make it completely impractical. A B&K approach will achieve many of the same benefits as an approach based on the EC Recommendation in terms of promoting efficiency, consumer welfare and competition. Given that it is the long term direction in which the communications sector is moving, mandated B&K is 3UK's preferred alternative option to implementing the EC Recommendation. However, in the short term (i.e. for the purposes of the current market review), 3UK considers that the EC Recommendation will be easier to implement, provide a large amount of the same benefits and be subject to less short term practical implementation issues. Mandated B&K may then provide a more viable solution for a subsequent market review (potentially in combination with a consideration of its implementation in the fixed industry) or be achieved anyway through commercial means.

3.4. Remedies for operators other than the five mobile network operators

As noted above in section 2.3 there are a number of other operators which use mobile number ranges and provide services using a range of mobile or mobile related technologies. Some of these operators are pure Voice over Internet Protocol ("VoIP") operators, some use alternative mobile services (for example, using the old GSM/DECT guard band spectrum to provide low powered campus style services) and some use various forms of hybrid technologies (combining such low powered campus networks, MVNO services and fixed technologies in various ways). The potential forms of such offerings are likely to increase (with new spectrum being used and evolving different forms of technologies).

3UK considers that it is important to provide regulatory certainty over the approach to be taken to the termination rates of such operators. Ofcom's logic of why the existing five MNOs have SMP applies equally to these operators. 3UK therefore urges Ofcom to include a consideration of such operators in its next consultation in this market review process. At the current time, 3UK can see two potential forms of suitable SMP conditions for such operators. First, they could be subject to exactly the same SMP conditions (based on Call Termination LRIC for an efficient national network) as the existing five regulated operators. The alternative approach, recognising the smaller size of these operators, that the potential regulatory burden of equivalent SMP Conditions may therefore be disproportionate and that they are likely to use a wide range of different technologies with different cost bases would be to place a simple requirement on such operators to charge fair and reasonable charges. As with the similar SMP condition applied to alternative fixed line operators, Ofcom could make clear that it expects that such fair and reasonable charges would be reciprocal with those charged by equivalent price regulated entities. Such operators would then need to justify whether it is most appropriate for them to charge rates which are reciprocal with fixed rates or with mobile rates (to the extent that there is a difference remaining between the two) and this would be subject to commercial negotiation.

4. 3UK's preferred options on regulatory remedies

4.1. Introduction

The previous section of this response considered the pros and cons of each of the six options identified in the Consultation and provided the reasons why 3UK considers that rapid implementation of the EC Recommendation represents the approach which delivers the greatest benefits to UK consumers going forward and best ensures that competition is not distorted. This approach should be chosen as the preferred approach for this market review (assuming that Ofcom continues to base its regulation on the same underlying market definitions and SMP assessments), as it provides the most pragmatic and practical way to ensure that the relevant commercial, competitive and economic theory factors are properly taken into account. For these reasons, 3UK considers that there is one approach which warrants further consideration and which Ofcom should select as its preferred option. Further work in this market review should focus on the details of how this approach can be appropriately implemented.

The remainder of this section provides 3UK's initial views on the following issues:

- going into more detail as to what 3UK considers are the benefits of this approach;
- explaining how 3UK considers that the Call Termination LRIC can readily be calculated and reporting on 3UK's initial work estimating what such a Call Termination LRIC is;
- addressing some of the disadvantages which are alleged for this approach, explaining why such disadvantages either do not in fact exist or how they can be mitigated; and
- providing some initial thoughts on remaining implementation issues which will need to be addressed as part of this market review process.

4.2. Benefits of the Call Termination LRIC approach

MTRs which are set at levels to recover significant quantities of common costs create inefficiencies and competition distortions. 3UK has previously identified the problems with inefficiently high termination rates in its submissions to Ofcom.[40] In summary, 3UK suggested that relatively high MTRs lead to a distortions including:

- an artificial barrier to competition between small and larger networks;
- inefficiently high prices for voice services;
- distorted incentives for MNOs;
- a restriction of innovative services such as VoIP and Instant Messaging ("IM"); and
- prevention of effective competition between fixed and mobile voice services.

[40] See, for example, 3UK's response to the "Mobile Citizens, Mobile Consumers" consultation, dated 6 November 2008. Ofcom will also be aware that 3UK raised many of these issues in submissions in the appeal process in front of the Competition Appeal Tribunal, although some of these submissions were later ruled inadmissible for the purposes of that particular appeal process.

A move to MTRs which are capped at the level of Call Termination LRIC will create significant benefits and will:

- promote allocative efficiency through rates being at a suitable proxy for marginal cost and better reflecting the underlying cost structure;
- lead to lower retail prices in mobile to mobile and fixed to mobile calls;
- reduce distortions in competition between, and the relative use of, fixed and mobile networks;
- reduce distortions in competition between mobile operators: especially between larger more established operators and later, smaller entrants;
- improve efficiency incentives by increasing the extent to which common costs need to be recovered from competitive markets;
- promote innovation by removing the incentive of incumbent operators to block services based on alternative technologies which they may consider would cannibalise existing switched telephony services;
- promote efficient investment; and
- promote overall welfare.

The remainder of this sub-section expands on each of these points.

The underlying cost structure of providing a call termination service involves significant fixed and common costs and a (significantly smaller) marginal or incremental cost. Standard economic theory would therefore suggest an efficient charging structure which would mirror this structure. Setting variable termination rates at marginal cost promotes allocative efficiency.[41] Efficient recovery of fixed and common costs in such circumstances is either from charges for services provided in a competitive market or through fixed charges.[42]

It is likely that there would be significant discontinuities in a true marginal cost function (that is certain marginal minutes would be subject to very high marginal costs where the provision of that additional minute requires additional capacity to be added to the network, whereas the vast majority of additional minutes could be added at effectively zero marginal cost). A regime based on true marginal cost is therefore likely to introduce distortions to incentives to invest in additional capacity and to retail pricing. Call Termination LRIC can be considered a sensible long run average measure of cost which will smooth out such distortions and lead to a practical and suitable proxy for marginal cost.

As the EC Recommendation states, termination rates based on efficient incremental costs promote "efficient production and consumption".[43] The associated EC Implications Document goes into greater detail noting that costs above the efficient level will generate various productive and allocative inefficiencies.[44] Setting MTRs at the level of Call Termination LRIC will address these issues.

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[41] The EC Explanatory Memorandum states (page 14) that "[s]tandard economic theory determines that prices be set equal to marginal cost. This sends appropriate cost signals and ensures that consumers are informed about the costs of producing the product in question."
[42] Ofcom recognised these benefits in the previous market review (see footnote 11 above) and paragraphs 6.100 to 6.101 of the Consultation.
[43] Recital 3 of the EC Recommendation.
[44] See section 3.2 of the EC Implications Document (page 10). Also discussed on page 15 of the EC Explanatory Memorandum.

By significantly reducing the pence per minute wholesale cost, pence per minute retail prices will no longer be forced to artificially high levels. In relation to mobile to mobile calls, the off-net wholesale termination payments provide a floor below which off-net retail prices cannot go without the operator losing money on each call made. In practice, this provides a limit on the volume of included minutes which can be provided in any bundled tariff at a particular price point. In setting the size of such bundles (which tend to be any network bundles across calls to mobile and fixed networks) operators will therefore need to take account of calling patterns between fixed and mobile. In relation to fixed call packages, fixed to mobile retail prices typically do not tend to be included within bundles and therefore the MTR simply represents a (significant) proportion of the per minute cost. Reducing this wholesale charge will create the opportunity for fixed to mobile retail prices to be competed down. Retail calling prices will fall if the wholesale charge is reduced to the level of Call Termination LRIC (the argument that the so-called waterbed effect will mean equal and opposite price increases elsewhere for customers is addressed below in section 4.4.2.) The higher prices arising from setting wholesale charges above these levels inefficiently dampen consumer demand and usage of mobile phone services and hence reduce consumer welfare.[45]

In contrast, setting wholesale rates at the level of Call Termination LRIC will ensure that off-net retail prices only recover the efficient costs of the terminating network associated with actually delivering that call (if the impacts of call externalities are ignored, which in fact mean that the appropriate measure will be strictly below this as discussed further below). Given that networks provide products which are both complements (the originating and terminating leg of an off-net call) and are in competition (operators compete in call origination) this ensures all retail prices should be above the relevant cost and promote efficiency – but does not allow lager operators to recover larger proportions of their cost from competing networks. Setting MTRs at these lower levels will make true unlimited mobile offers feasible. Rather than the complication of bundled minutes and out of bundle charges, operators will be able to set tariffs which include true unlimited usage for a suitable monthly fee. This would be feasible through the removal of the risk currently associated with unlimited tariffs of losing money through large wholesale out-payments. Such tariffs would benefit a large number of consumers in turn removing the risk of “bill-shock” for such customers. This form of tariff would also be substantially simpler for customers to understand, creating a further pro-competitive effect in that the offerings of different operators would be easier to compare. 3UK would also expect this to reduce the incidence of mis-selling.

3UK has done some preliminary analysis of the type of tariff which it could offer under a charge control for MTRs set with reference to Call Termination LRIC. Where wholesale rates fall below one pence per minute, 3UK currently expects that it would be profitable and feasible to offer an unlimited price plan (including unlimited calls to other mobiles and geographic fixed numbers, as well as unlimited data) for around a £35 monthly fee. A flat rate voice only plan would likely be feasible around the [•] per month price point.[46]

As the EC Recommendation and associated EC Implications Document and EC Explanatory Memorandum identify, setting rates above the Call Termination LRIC

[45] This issue is also referred to in Recital 3 of the EC Recommendation and, for example, in section 3.2 of the EC Implications Document.
[46] [•]

also creates competitive distortions between fixed and mobile. Recital 3 of the EC Recommendation refers to "substantial transfers between fixed and mobile markets and consumers". The Commission identifies one element of this effect being the generation of a transfer from lower cost to higher cost operators (e.g. from fixed to mobile networks) which can act as a disincentive to operators to produce at their most efficient cost level, given that their inefficiency would in any case be covered by their competitors.[47] The Commission further suggests that setting charges above Call Termination LRIC leads to inefficiently low usage of fixed networks and may impact on the ability of fixed networks to invest in next generation technology.[48] At a retail level, the difference in wholesale rates inhibits the ability of both fixed and mobile operators to offer true unlimited tariffs and to compete traffic away from each others' networks. In the context of increasing FMC type services, a substantial difference between fixed and mobile termination rates also creates a regulatory barrier to the development of such products. Moving in contrast to rates based on Call Termination LRIC would reduce the differential between fixed and mobile wholesale rates on a robust and economically justifiable basis. This would therefore promote both competition between fixed and mobile services and innovation in services which are a blend between the two technologies.

Recital 3 of the EC Recommendation also refers to the potential for significant payments from smaller to larger competitors where termination rates are set above efficient costs and operators have asymmetric market shares. This is especially the case in the UK as between 3UK and the incumbent operators as can be seen in Table 3.

Table 3: UK mobile market shares by subscribers (Handsets and MBB)

	3UK subscriptions (m)	Total 2G/3G MNO subscriptions (m)	3UK Market Share
2007/08 Q4	[•]	[•]	[•]
2008/09 Q1	[•]	[•]	[•]
2008/09 Q2	[•]	[•]	[•]
2008/09 Q3	[•]	[•]	[•]
2008/09 Q4	[•]	[•]	[•]

The EC Implications Document also expands on this effect. Noting that telephone calls are a two way service benefiting both parties to the call and that the operators at both ends of such a call are also competing, the Commission notes that this can distort competition such that smaller operators cannot reasonably match the on-net offers of their larger competitors. The Commission also notes that there is potential for financial disadvantages of smaller scale and associated traffic imbalances to be "magnified" by above-cost termination rates.[49]

[47] See also page 16 of the EC Explanatory Memorandum which notes that it is important that regulation is "as far as is practicable technology neutral and ensures that there is no distortion or restriction of competition and that efficient investment and innovation is encouraged". These comments are made in the context of "increasing convergence between fixed and mobile networks and with a view to promoting sustainable competition and investment within and across all telecoms markets".
[48] See page 12 of the EC Implications Document.
[49] Page 16 of the EC Explanatory Memorandum also refers to this issue, concluding that "termination rates which approximate the long-run incremental cost of providing the service can be expected to lead to enhanced competition and lower retail tariffs across the range of consumers, while still facilitating efficient cost recovery and appropriate investment incentives."

These effects have been studied in a range of recent economic research as recognised and referred to in to the Consultation.[50] The latest literature on this topic identifies the source of such competitive distortions being the calling externality (where, in a calling party pays regime, the receiver of a call receives a positive externality from the call as she does not pay but benefits from the call).[51] Introducing this effect into economic access pricing models leads to a strategic incentive for larger operators to set relatively high off-net rates and relatively low on-net rates. This exacerbates the traffic imbalance which a smaller network is likely to have when it needs to enter a saturated market with competitive rates (and hence naturally attracts customers with higher outbound calling). Further the later entrant will not be able effectively to respond to such a strategy from the larger networks as its greater relative level of off-net traffic will attract the above cost MTR compared to the larger networks which can benefit from a greater proportion of on-net traffic on which they do not need to pay an MTR. As noted in the Consultation (for example, at paragraph 6.149), this effect is now well established in theory in the economic literature. The paper by Harbord and Pagnozzi[52] (which 3UK has previously submitted to Ofcom) summarises the relevant models and draws out the relevant implications for setting termination rates. That paper concludes:

> *"As we have argued in this paper, in addition to the advantages noted by Littlechild and others, a move to bill-and-keep also reduces incentives for inefficient on-net/off-net price discrimination, which is at least partly responsible for softening price competition and maintaining higher call charges in the UK and other CPP countries. In addition, by exacerbating MNOs' incentives to introduce socially inefficient tariff structures, high mobile-to-mobile termination charges, which make off-net calls more costly than on-net calls, create an entry barrier for small networks which are unable to profitably replicate incumbents' pricing strategies."*
>
> And further:
>
> *"As we have shown in this paper, efficient pricing in mobile networks requires equal on-net and off-net charges which are below marginal cost, to correct for the call externality. Hence, optimal termination charges are also below marginal cost, and the difference between termination charges and marginal costs is likely to be larger for mobile-to-mobile charges than for fixed-to-mobile charges, to compensate for more intense competition between mobile networks. A move to bill-and-keep for mobile-to-mobile termination would likely result in a more efficient wholesale and retail price structure, help to eliminate barriers to entry caused by 'tariff-mediated' network effects, and increase welfare and competition in the mobile market."*

This economic literature, as summarised in Harbord and Pagnozzi, suggests that the efficient level of charges is set in relation to marginal cost minus an allowance for the call externality. As discussed above, 3UK considers that Call Termination LRIC is a reasonable proxy for marginal cost. Setting charge controls at this level can therefore be considered as a conservative approach: the economically efficient level of charges would be strictly less than the level of the Call Termination LRIC but setting charges at this ceiling is a reasonable approach at this stage (and this should

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[50] See, for example, the discussion at paragraph 6.149 of the Consultation and the references in footnote 98 of the Consultation.

[51] The importance of recognising that telephony is a two-way service and the implications of this are also discussed in the EC Explanatory Memorandum at page 15.

[52] See footnote 39 above.

be taken into account when considering appropriate glide paths to the efficient cost level in the next charge control period as discussed below at section 4.5).[53] The competitive impacts created under the current system are therefore significantly mitigated by an approach which sets MTRs at the level of Call Termination LRIC.

The Consultation suggests that the UK market does not currently see significant price differentials between on-net and off-net calls. 3UK disagrees. It is true that most current tariffs are based on bundles of minutes which can be used to make calls to any mobile or geographic number.[54] However, this does not mean that alternative means are not used to discriminate in the prices which operators charge on-net and off-net. A careful study of existing tariff offers shows that there is significant price discrimination included in all the operators' tariff structures driving on-net usage and, where there are relatively high MTRs, creating a competitive distortion adverse to a later entrant operator such as 3UK. The extent to which this price discrimination impacts consumers will depend on the relative volumes which are charged at these discriminatory prices. 3UK, of course, does not have access to the data of other operators on the volumes of minutes where they are able to charge lower on-net rates and higher off-net rates. Ofcom could easily seek this information from 3UK's competitors properly to assess the impact and extent of such price discrimination.

3UK in recent years has introduced aggressive on-net tariffs to attempt to mitigate the competitive effects of the current MTR regime which has marginally increased its "reciprocation" rate (ratio of incoming calls to outgoing calls). The limited impact large bundles of included on-net calls (300 minutes per month) has had on this reciprocation rate shows the competitive imbalance which 3UK faces and the on-going strategic importance of this discriminatory pricing.

In practice, such price discrimination operates in more subtle ways than simply whether calls to particular numbers are included in-bundle. For example, operators are increasingly offering discounted or free rates to specified (on-net) numbers. O2 offers a "bolt-on" for a fixed fee giving free on-net calls. Business tariffs also contain significant on-net discounts. Annex 6 lists some examples of such tariffs. The conclusion in the Consultation that on-net/off-net price discrimination is no longer significant in the UK market is therefore premature and requires further empirical and detailed investigation.

A further advantage of implementing the EC Recommendation would be that common costs are no longer recovered from wholesale regulated call termination charges. The benefit of this would mean that such costs would need to be recovered through other retail prices or fixed charges: that is, revenue streams which are subject to competition. Rather than protecting a significant element of these costs through determined regulated revenue streams, exposing all of the recovery of such costs to competition would provide stronger incentives on operators to improve efficiency.

[53] This is consistent with the conclusions reached in the EC Explanatory Memorandum which notes the same economic literature. See pages 16-17 of the EC Explanatory Memorandum which discusses these issues and concludes that the Call Termination LRIC approach represents a reasonable balance and contributes towards a level playing field.

[54] 3UK notes that such "cross network" bundles were not common place in the market prior to its entry. 3UK, with a small existing subscriber base, effectively had to offer such any network any time bundles to make its tariffs attractive when its customers would not have a large number of other 3UK customers to call on-net. This has led in large part to 3UK's traffic imbalance and the opportunity for the incumbent operators to use the strategic incentive to further worsen the competitive position of 3UK.

The current approach, by providing the incumbent operators with a protected regulated revenue stream (effectively a significant contribution from fixed operators to common cost recovery) through the provision of switched voice services, creates incentives for the incumbent operators to block and hinder the development of new and innovative services based on IP networks. In order to ensure that such services do not cannibalise their regulated revenue streams the incumbent operators are blocking VoIP services on their networks and hindering the widespread open development of alternative forms of communication (which may act as substitutes to traditional switched telephony) such as IM services.[55] Such services become more valuable the wider they are available and used through standard communication network effects. This approach therefore not only harms the customers of the incumbent networks but reduces overall consumer benefits through not realising the positive network externalities potentially available. If common costs were no longer recovered through call termination revenues this hindrance to innovation would be removed and customers of wider communications services generally would benefit from wider choice and availability of alternative forms of communication.[56]

The arguments against not recovering common costs from call termination, which focus on the alleged negative effect on investment incentives of operators, are addressed below in section 4.4.6. 3UK does not consider that implementing the EC Recommendation will negatively impact on investment incentives. Rather, such an approach will positively promote efficient investment through providing a level competitive playing field and incentivising operators to focus investment in areas which provide benefits to customers (rather than simply recouping a regulated return on common costs protected under a price cap regime). In one specific area such an approach will also provide much needed certainty for operators. This is in relation to how the payments made for spectrum licences can be recouped. The appropriate way in which these unique common costs are recovered has been controversial and created significant uncertainty for operators. Excluding their recovery (except where such costs are specifically incurred in order to provide capacity solely for call termination, consistent with the EC Recommendation) will provide much needed regulatory certainty for operators, placing them all on an equal competitive footing. Resolving this issue in line with the EC Recommendation rapidly would therefore be positive and provide clarity for operators in advance of future impending auctions of further spectrum licences for frequencies suitable for mobile broadband. This provides another reason why it would be beneficial for Ofcom to make an early decision in principle to follow the EC Recommendation so that operators can bid in such auctions knowing the regulatory treatment of such payments for the purposes of call termination regulation.

[55] For example, use of internet based communications services such as "internet telephony" or instant messaging is explicitly not allowed under the standard terms and conditions for T-Mobile's "web 'n walk" service (see paragraph 18 at http://www.t-mobile.co.uk/content/pdf/non_standard_charges.pdf). Vodafone makes additional charges on a per megabyte basis for the use of such services, subject to a minimum 5pence charge per data session, specifically excluding use of its normal data add on service for VoIP and IM services (see http://help.vodafone.co.uk/system/selfservice.controller?CMD=VIEW_ARTICLE&ARTICLE_ID=2572&PARTITION_ID=1&CONFIGURATION=1000&CURRENT_CMD=BROWSE_TOPIC&SIDE_LINK_TOPIC_ID=1047&SIDE_LINK_SUB_TOPIC_ID=1158&SIDE_LINK_TOPIC_INDEX=null&SIDE_LINK_SUB_TOPIC_INDEX=null). O2's terms and conditions for its data bolt on services also explicitly exclude the use of VoIP and IM services (see http://shop.o2.co.uk/tariffSmallPrint). This issue was also recently discussed in evidence sessions in front of the All Party Parliamentary Group on Communications (see http://www.apcomms.org.uk/category/Activities/).

[56] The EC Explanatory Memorandum makes a very similar point on page 32 in section 6.2, noting that "If call termination fees remain at current levels, it might be that many mobile operators … might choose not to evolve their networks to IP-based interconnection. They might perceive the migration as a risk of losing termination revenues."

For these reasons, 3UK believes that a significant reduction in rates imposed through an implementation of the EC Recommendation would lead to substantial consumer benefits, a significant improvement in the competitive landscape and improve overall welfare. As discussed above in section 3.2, 3UK has commissioned analysis to estimate the overall welfare gains available and believes that a move to such an approach would lead to improvements in overall welfare in the order of half a billion to a billion pounds per year (including significant increases in consumer welfare: up to around a half a billion), depending on the assumed strength of the call externality effect.[57]

4.2.1. International comparisons

The Consultation reports the significant and useful work Ofcom and its consultants have undertaken with respect to international comparisons. 3UK broadly agrees with the conclusions which can be taken from this analysis as reported, for example, in paragraphs 6.39 to 6.41 of the Consultation. Broadly, lower MTRs lead to higher levels of usage. 3UK thinks that the weak evidence that there is a corresponding reduction in take-up of mobile services needs to be treated with some care. First, measures of take-up reported in different countries differ and the relevant metric here is levels of mobile ownership (subscriber penetration) rather than number of SIMs compared to population. 3UK agrees with Ofcom's statement that "industry claims of widespread negative impact need to be weighed against evidence of widespread take-up and low barriers to affordability in the UK for mobile services". This is discussed further below in section 4.4.4.

3UK has undertaken some further simple analysis which considers the statistical relationship between MTRs and usage across a wider group of countries as well as the relationship between MTRs and penetration. This shows that there is a statistically significant relationship between MTRs and usage (lower MTRs lead to higher usage) whereas the relationship between level of MTRs and take-up is not statistically significant.

International comparisons are always fraught with difficulty and interpretation of such results need to be undertaken with some care. However, 3UK considers that there is good reason to treat the claims of the incumbent operators that lower MTRs will lead to higher prices, lower usage and lower penetration with extreme scepticism. The onus is on the incumbent operators to prove why this would be the case as this is not the conclusion which a proper review of the international evidence seems to lead at the current time.

4.3. Call termination LRIC in practice

The EC Recommendation identifies a clear methodology in principle for calculating the relevant Call Termination LRIC. This is set out in Article 6 of the Recommendation:

> *"… in evaluating the incremental costs NRAs should establish the difference between the total long-run cost of an operator providing its full range of services and the total long-run cost of this operator in the absence of the wholesale call termination service being provided to third parties".*

[57] See Annex 3, section 4.1 on "Aggregate effects".

This clearly identifies the relevant increment as the provision of off-net call termination services and identifies a straight-forward avoided cost approach to calculating such a cost.

Recitals 13 and 14 of the EC Recommendation further elaborate on this.

This is again repeated in the Annex under the heading "principles for the calculation of wholesale termination rates in mobile networks":

> *"The relevant incremental costs (i.e. avoidable costs) of the wholesale call termination services are the difference between the total long-run costs of an operator providing its full range of services and the total long-run costs of an operator not providing a wholesale call termination service to third parties."*

This provides a straight forward practical and economically sensible approach to calculating a long run average (i.e. pence per minute) incremental cost, where the increment is the provision of off-net call termination. 3UK has used Ofcom's existing and well established mobile cost model to implement such an approach. As far as possible for the purposes of this response 3UK has used the existing structure and logic of the existing model.

3UK has created two sets of volume data: the first including all volumes and the second including all volumes other than off-net call termination volumes. The difference between these two measures provides the Call Termination LRIC. 3UK has run this model using the assumptions used by Ofcom in its 2007 model and has also undertaken a first estimate of how the outputs would change if some key assumptions and inputs are updated in line with more recent experience. The relevant inputs which have been updated as part of this process principally include:

- updating engineering assumptions in the model to reflect current technology capabilities (for example, HSDPA which was not taken into account in Ofcom's 2007 model); and
- updating volume forecasts in line with recent experience and updated expectations.

The results of this analysis show that Call Termination LRIC lies within the range 0.5ppm (updated assumptions) to 1ppm (Ofcom 2007 assumptions).

Annex 2 provides further detail on the approach taken and on the initial results which this approach has provided. There are likely to be further inputs and assumptions which will need to be considered during the course of this market review relating to changes which will have occurred by the start of the next charge control period. At this early stage in the process, 3UK has taken no view on such issues (such as potential further spectrum licences being awarded for mobile broadband and the liberalisation of existing mobile licences). On balance, 3UK would expect such future refinements of this approach to reduce rather than increase the relevant Call Termination LRIC estimates.

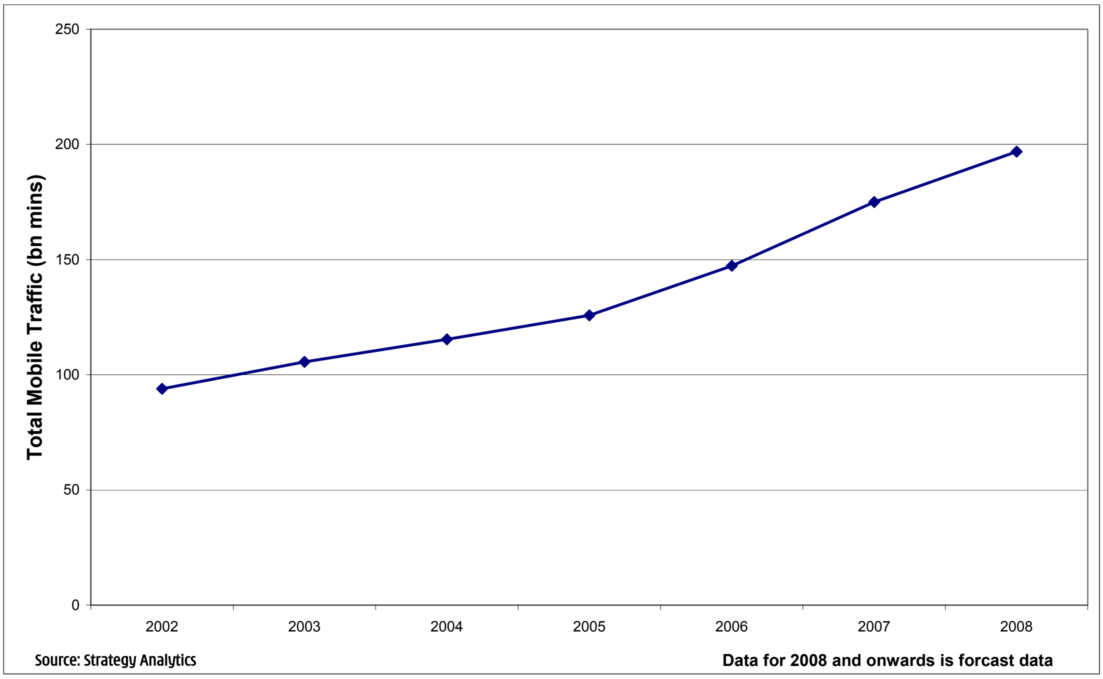
3UK considers therefore that 0.5ppm provides an appropriate order of magnitude for the relevant cost benchmark for implementing the EC Recommendation approach. 3UK would welcome the opportunity to discuss these updated models with relevant Ofcom staff and share more detail on the work undertaken. 3UK considers, however, that this analysis has clearly demonstrated that a Call Termination LRIC can readily be estimated building on previous Ofcom work on cost modelling and that rates, which are significantly below a penny per minute, are the appropriate efficient level.

4.4. Why arguments against the EC approach do not hold water

The incumbent operators have made a range of arguments around the alleged detrimental effects of a significant reduction in MTR levels. 3UK considers that these alleged detrimental effects cannot be substantiated and that these effects will either not occur or can be more easily and efficiently dealt with through alternative regulatory means than propping up MTRs with all the detrimental effects on consumers and competition that will have.[58] This sub-section deals with some of the specific arguments which 3UK is aware have been raised. These arguments have been generally applied to any approach which would lead to a significant reduction in rates from their current All Termination LRIC plus levels. They are discussed here in the specific context of moving to a Call Termination LRIC approach, but many of these rebuttals are more general.

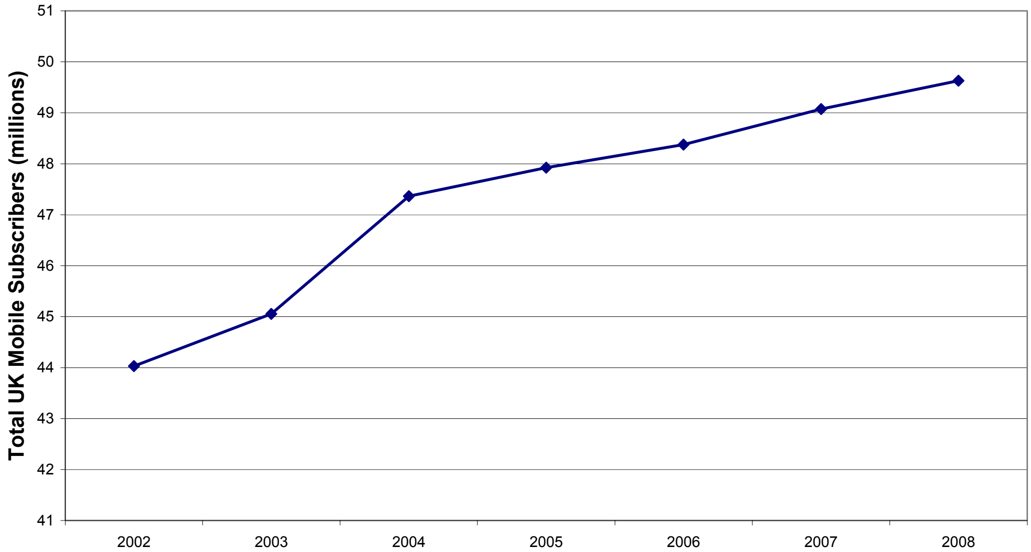
Before considering the arguments raised in more detail, it is worth considering recent history. As part of the 2002 CC process various arguments were raised about the potential adverse impacts which would arise from reducing termination rates. It was alleged that this would lead to a fall in usage and subscriber level and an increase in price levels. The outcome of that process was a significant reduction in rates for the incumbent operators and yet none of these effects, in fact, came to pass. On the contrary, levels of usage and numbers of subscribers continued to rise healthily and retail prices continued to fall under continued competitive pressure. This can be seen in Figures 6, 7 and 8 below.

Figure 6: Total UK Mobile Usage over time



[58] It is also worth noting that Vodafone has sought zero termination rates in Qatar (see ictQatar Interconnection and Access Dispute between Vodafone Qatar QSC and Qatar Telecom (Qtel) QSC) 10 February 2009, para 8.) and proposed B&K in New Zealand.

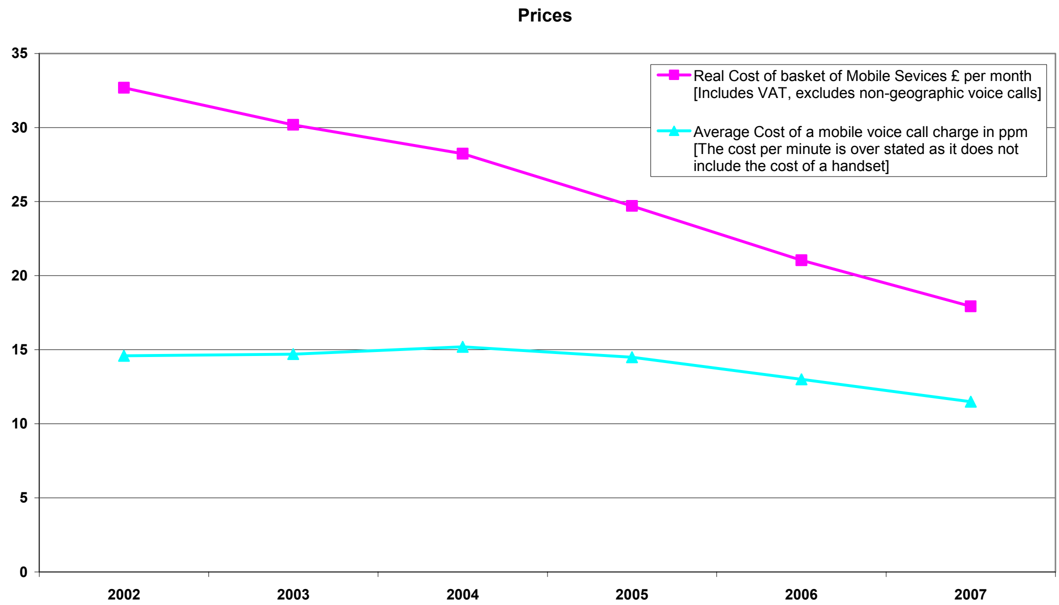
Figure 7: Total UK Mobile Subscribers over time



Source: Strategy Analytics

Data for 2008 and onwards is forcast data

Figure 8: Price indices for UK retail mobile prices over time



Source: Ofcom, Communications Market Report 2008

As is clear from the above figures, the unsubstantiated scare stories of the incumbent operators need to be treated with extreme scepticism. Placed against the very concrete benefits to consumers and competition of a low MTR regime, 3UK does not consider that the potential detrimental effects are significant or provide any justification for not implementing the EC Recommendation.

4.4.1. *It is not fair for call termination not to recover a "reasonable share" of common costs*

It is sometimes said that not allowing call termination to recover some appropriate share of common costs would simply be inequitable or unfair. The slightly more sophisticated version of this argument suggests that all services should contribute towards the recovery of common costs for economic efficiency reasons: that is, not allowing common cost recovery from all services will lead to inefficient distortions in consumption of different services.

There is no basis for making such a claim. Except where there are strong economic efficiency or competition reasons for not so allowing, all services should be priced to recover their own incremental costs. Setting wholesale charges at the Call Termination LRIC level allows exactly this. Recovery of common costs is a different matter. There is no fundamental equity, fairness or efficiency reason of which 3UK is aware that can be substantiated in the economic literature which requires that all services must contribute to common costs. Rather, the recent economic literature suggests that the efficient and pro-competitive outcome is one where these costs are not recovered from call termination under a calling party pays regime. This takes account of the fact that it is inefficient to recover common costs from per minute charges in the presence of two part tariffs. It also takes account of the fact that a telephone call is a two-way process which benefits both parties to a call. In such a situation, charging a termination charge which recovers common costs of the terminating network leads to all the costs of the call being recovered from only the originating calling party. It is arguable that this is less "fair" than an approach where all common costs are recovered through competitive retail charges.

4.4.2. *The so-called "water-bed" effect*

Another alleged negative impact supposedly arises as a result of the so-called waterbed effect. This argument rests on the idea that there is an unchanging lump of network costs which are invariably recovered from other charges. Therefore, if a lower proportion of these network costs is recovered from call termination (pressing down on one side of the waterbed) then prices will need to rise elsewhere in the system such that exactly the same amount of overall cost (i.e. the amount of water in this mythical bed) can be recovered. Retail competition is cited as being the reason that the level of cost is efficient and unchanging, which supposedly results in no potential overall changes in welfare being possible from driving down MTRs but simply a redistribution between different groups of customers (depending on their differing propensities to call from or to mobiles).

For this argument to be correct, a number of extremely strict assumptions must hold. The level of MTRs must have no effect on the degree of competition (which must already be perfect in the retail market), there can be no further scope for any efficiencies, no scope to develop innovative services which can also contribute towards common cost recovery and the volume of traffic must be broadly invariant (i.e. price inelastic) such that changes in the regulated rate simply mean higher pence per minute recovery elsewhere. 3UK does not consider any of these assumptions holds in practice: as history would seem to demonstrate given that previous falls in MTR levels have not driven up retail prices (as shown in Figure 8 above).

Significant falls in the level of MTRs to more appropriate levels will mean that the common costs no longer recovered through MTRs will need to be recovered elsewhere. However, a number of factors need to be considered here. First, the level of common costs recovered under the current approach should not be over-stated. 3UK understands that traffic flows between the four incumbent operators are largely balanced and therefore MTRs charged for mobile to mobile calls will not – under the current system – be recovering any of the common costs of the relevant networks. They will simply be cancelling out. Current MTRs therefore only recover a proportion of common costs from fixed operators and later entrants with a traffic imbalance such as 3UK. This has obvious competition implications which the waterbed argument ignores.

Second, if the common costs being recovered from the fixed operators and 3UK fall instead to be recovered from retail charges, then this will expose such costs to competition and hence efficiency incentives. Once not protected by a regulatory featherbed, the overall level of cost is not invariant. If an MTR system is imposed which enables all operators to compete on equal terms then it is the level of competition which will drive down retail prices through incentivising additional efficiencies. For the reasons discussed above in section 4.2 3UK does not agree that there can be no greater retail competition. The existing system of MTR regulation is leading to increased competitive distortions. Remove those distortions and competition will become even more effective.

Third, 3UK considers that a low MTR regime will lead to increased call volumes. As Ofcom's international research indicates, lower MTRs lead to higher usage as retail tariffs can be re-structured. 3UK considers that the greater competition enabled will also lead to lower average prices which will further increase total call volumes. Even if this latter effect does not occur, greater call volumes from a different structure of retail prices will lead to lower pence per minute contributions being required to cover the same amount of fixed and common costs. Therefore, retail prices will not need to rise if common costs are not recovered from terminating minutes.

Finally, additional revenue streams from new services (for example, mobile broadband which is growing significantly) will provide alternative sources of contributions towards common costs which does not require retail prices of existing services to increase.

In the round, the argument that the waterbed mechanism will lead to inevitable retail price rises if common costs are no longer recovered from termination rates is pure sophistry. Put simply, the greater competition released by a more appropriate MTR regime will simply create an efficiency knife to the comfortable waterbeds of the incumbents.

4.4.3. "Inevitable" Receiving Party Pays

A variation on the waterbed argument debunked above states that if significant elements of cost cannot be recovered from terminating traffic, operators will be forced to charge for incoming minutes at the retail level and break the existing calling party pays regime. That is, customers will have to pay to receive calls.

Receiving party pays ("RPP") is clearly a deeply unpopular idea with a significant number of consumers in the UK and would represent a significant retail upheaval. Scare stories that equate reductions in termination rates with RPP have therefore been used.

3UK welcomes and supports the short shrift Ofcom is giving to the idea that lower termination rates can inevitably be equated with RPP. As Ofcom notes in paragraphs 6.44 to 6.46, it would be odd for an operator to introduce RPP tariffs given the likely consumer reaction and the fact that there are clearly alternative ways in which price structures could be changed (increasing fixed charges or reducing handset subsidies) which would be more acceptable to operators. As discussed above, 3UK does not accept that price increases across the board are a necessary result of lowering MTRs but does consider that a re-structuring of retail tariffs would be likely to occur.

3UK also commits to not introducing RPP tariffs following a reduction in call termination rates to an appropriate level such as Call Termination LRIC.

Competition in the market (which would be even stronger if MTRs are at an appropriate level) will therefore ensure that no other operator will be able to introduce an RPP tariff successfully which consumers do not want. In these circumstances, saying that implementation of the EC Recommendation would mean consumers must pay to receive calls in nothing but empty rhetoric.

4.4.4. Impact on subscription levels

Another argument, which is frequently raised in relation to the alleged adverse effects of lower MTRs and not recovering common costs through call termination, is that it will lead to lower subscription levels. A crude version of this argument is simply an extension of the retail price rises argument. That is, through the waterbed mechanism retail prices will rise and this will dampen demand (i.e. reduce subscription). This is wrong for all the reasons set out above in section 4.4.2.

A more subtle version of this argument is that, while not recovering common costs through call termination may not cause overall price levels to rise significantly, the rebalancing of retail tariffs which will occur will make low usage tariffs relatively more expensive. Such tariffs as currently structured are profitable only because of incoming revenues as well as the retail price associated with such tariffs. In broad terms, the argument goes that this means such low usage tariffs, to remain profitable, will need to include more expensive retail prices. Given that these tariffs are, by definition, sold to more price sensitive consumers, this will mean that some significant proportion of low usage customers will simply decide not to purchase mobile services anymore and hence overall levels of subscription will fall. A variant of this argument is that the removal of the ability to recover costs from call termination rates will lead to a reduction in handset subsidies which will price more price sensitive customers out of the market. Those who subscribe to this argument point to supposedly lower levels of subscriptions in those countries with significantly lower MTRs (i.e. countries such as the United States) as evidence that this is true.

This argument is therefore clearly closely linked to the issue of potential distributional issues of the re-structuring of retail tariffs which could occur following a reduction in MTRs to something like the Call Termination LRIC level. This is discussed in more detail in section 4.4.5 below.

These arguments rest on the idea that at least some retail prices will increase overall if common costs are no longer recovered from call termination. For reasons discussed above this is far from proven. First it only relates to the common costs recovered from termination rates paid by fixed operators and 3UK and moving to a Call Termination LRIC based regime could lead to greater efficiency meaning that tariffs would not, in fact, rise significantly for any customers. Further, the international evidence needs to be interpreted with some care. As discussed above at section 4.2.1 and in Annex 4 3UK does not consider that it is clear cut that countries with "low" MTR regimes actually have significantly lower penetration. The relevant measure here would be numbers of unique mobile subscribers (not the number of active SIMs which is more usual metric in use in Europe). 3UK therefore considers that this should be the relevant measure which is compared which would lead to significantly lower differentials between mobile penetration in countries with different MTR regimes.

Further, slower growth in mobile subscriptions is a different matter to customers actually deciding they no longer need a mobile once they have one. There is very little actual evidence on how low-usage customers would actually react to changes in the structure of their prices and a small price increase resulting from the recovery of some common costs (i.e. those currently recovered from fixed operators and 3UK through termination rates) from other retail prices. There is a number of ways in which tariffs could change and a number of potential consumer reactions to this. For example, handset subsidies could be reduced which may lead not to a lower overall level of subscriptions but simply less frequent upgrading. If prices for low usage tariffs were increased through higher fixed charges with lower pence per minute rates, low usage customers might become higher usage customers taking advantage of low pence per minute rates.

The different effects here are complicated and the answer not as clear cut and simple as proponents of this argument would have Ofcom and other policy makers believe. This is an important issue to consider as part of this market review, but 3UK considers that the issue is best considered in terms of the distributional impacts of changing the MTR regime (as Ofcom sensibly does in the Consultation document) and not in terms of scare mongering claims that overall subscriptions will inevitably fall in a way which is very hard to substantiate (and therefore to refute). Distributional effects are discussed in section 4.4.5 below of this response.

4.4.5. Distributional issues and impact on pre-pay

The potential distributional impacts of a significant lowering of MTRs (e.g. through ceasing to allow MTRs to include an allowance for common costs) is raised in the Consultation document and Ofcom presents a number of trade-offs.[59] 3UK agrees with Ofcom's characterisation of this issue and believes that a measured consideration of the different effects is vital here. Low usage customers tend to be pre-pay and there is clearly a correlation between such pre-pay customers and the more vulnerable groups of society. 3UK therefore recognises that this is an important issue to resolve in relation to changing the MTR regime. There are a range of different factors which need to be disentangled here though and it is not immediately obvious that low usage customers will inevitably be worse off:

- low usage customers may be low usage because of high pence per minute rates and under the new regime may actually becoming higher usage customers (average minutes of use per subscriber are higher in low MTR regimes)[60];
- operators may find alternative ways of differentiating different price plans which would still produce profitable plans for low usage customers which involved cheaper handsets[61] or differentiating the

[59] See, for example, paragraphs 6.47 to 6.50 of the Consultation.
[60] See Figure A4.2 in Annex 4.
[61] A basic 2G handset now costs around £20 and there is no reason why low usage tariffs should require a high-end handset.

product on offer in some other way (many new tariffs include a range of non voice and text services which may not be important to low usage customers) such that low usage subscribers would still have access to the same core service which they care about for roughly the same price;

- lower usage customers could effectively pay the same for the same service, even if prices rose under the new regime, through upgrading handsets less often (or not having multiple pre-pay handsets with different operators): clearly this would be disadvantageous to the incumbent operators but it is not clear that this is a less efficient outcome for UK consumers as a whole; and
- the incremental costs of maintaining low usage customers on the network is actually very low (as noted by the Competition Commission)[62] which suggests that operators will find alternative ways of charging such customers to ensure that they do not face significant price rises: high minimum monthly charges are not required but tariffs could naturally evolve which had high per minute call charges but very low (if any) monthly charges which would be attractive to low usage customers but not for other pre-pay customers.

Taking all of these factors into account and the greater competition which would result from setting MTRs which only recover Call Termination LRIC, 3UK expects that there will not be significant adverse distributional impacts. However, it is hard, if not impossible, to be sure of all the potential effects which could occur and how commercial incentives will evolve under such a regime two years and beyond into the future. 3UK would therefore support a precautionary approach which introduced a "social tariff" which would protect the more vulnerable groups from potential adverse distributional effects were they to occur.

If 3UK is wrong and there are some adverse distributional effects then it is also important to consider what the right policy response is in this context. Again, 3UK considers that the idea of a social tariff is a far more targeted and efficient policy tool to address the specific concern than maintaining call termination rates at higher levels would be. Such an approach would allow Ofcom to achieve both the policy goals of promoting competition and general consumer welfare through lower MTRs, as well as protecting from any potential adverse impacts through the implementation of a social tariff. In summary, 3UK strongly agrees with Ofcom's approach in the Consultation on this topic and thinks that the idea of mandatory social tariff should be further explored as part of this market review. Such a tariff could be relatively simple to construct and would logically be based on appropriate pre-pay offers currently in the market. This would ensure that the specific consumers of concern would not have to pay more than today. This could be made affordable to operators through not requiring this tariff to be offered with the latest handsets (reducing the amount of handset subsidy required).

In line with some of the Government's current objectives, as set out in Digital Britain, this market review could also explore whether other particular services of general social benefit should be provided along with such a service (such as some basic access to eGovernment services). Mandating operators to offer such a tariff should

[62] See "Mobile phone wholesale voice termination charges" Competition Commission final determination, dated 16 January 2009 at paragraph 4.56.

also be taken into account when considering future funding of the universal service commitments and obligations, as this would represent a significant contribution by the mobile industry to maintaining universal service.

This approach would provide confidence that any potential adverse distributional impacts of implementing the EC Recommendation were minimised and few if any customers would be worse off under the new regime. 3UK is confident that the majority of UK consumers would be better off.

4.4.6. Reducing MTRs harms investment incentives

Another argument which is raised about regulatory approaches which do not allow common costs to be recovered from call termination rates is that the removal of the effective subsidy from fixed and later entrant operators will harm investment incentives. This argument is characterised by the EC as follows.

> "*certain larger mobile operators argued that the relevant increment would not contribute sufficiently to the recovery of joint and common costs and would result in reduced investment…"*[63]

The EC clearly disagrees as does 3UK. The EC considers that its approach:

> *"…can be expected to lead to enhanced competition and lower retail tariffs across the range of consumers, while still facilitating efficient cost recovery and appropriate investment incentives."*[64]

The key here is <u>appropriate</u> investment incentives. The EC Recommendation approach allows the recovery of efficient costs which are required to provide the service which is being supplied to other networks. It therefore explicitly provides a suitable return on the incremental investment required to provide call termination services. Revenue in addition to this, from the provision of call termination, is clearly not required and not efficient (for all the reasons discussed above). Any other investment over and above the incremental investment required to provide call termination should be justifiable based on the returns received from other services (in particular, mobile retail services). Further, as noted by the EC, dynamic considerations also need to be taken into account.[65] That is, investment incentives will also be negatively impacted if an approach is taken which distorts competition. By removing a key source of such distortion the EC Recommendation approach will promote investment. Greater alignment of fixed and mobile rates will also promote investment and innovation in FMC products and technologies. Removing the disincentive the current system creates for incumbent operator to invest in IP based communications services will also promote investment. Finally, the EC also notes that:

> *"… the elimination of the fixed-mobile cross-subsidy provides a more balanced framework for important innovations and investments in fixed networks."*[66]

The same logic applies to the removal of the cross-subsidy from later entrant mobile networks to incumbent mobile operators.

Removing the ability of incumbent operators to recover significant proportions of their common costs through call termination revenues will lead to operators needing to

[63] Box 2 on page 25 of the EC Implications Document.
[64] Page 16 of the EC Explanatory Memorandum.
[65] See Box 2 on page 26 of the EC Implications Document.
[66] *Ibid.*

justify the return on investment for services other than call termination from the benefits provided to customers of those services. This would seem to be an appropriate and fair incentive to provide. It should also be noted, as discussed in more detail above in section 4.4.2, that a significant proportion of the reduced revenue from fixed and later entrant operators could be "made up" through efficiency gains and this will significantly reduce the impact on investment incentives of incumbent operators.

4.5. Implementation Issues

The EC Recommendation approach provides no insurmountable implementation or practical difficulties. Existing contracts, billing systems and interconnect arrangements are based on per minute charging and reducing pence per minute rates to the level of Call Termination LRIC simply involves implementing different rates under existing arrangements. Unlike, for example, the Capacity Based Charging approach, therefore, 3UK does not expect that this approach will require any significant implementation costs at a practical level. (As discussed above this represents a significant benefit as it will mean there are no practical barriers to rapidly implementing the new approach and therefore reaping the competitive and consumer benefits sooner.)

Another potential consideration noted in the Consultation is the potential for lower termination rates to lead to an increase in the prevalence of SPAM.[67] Such an increase would not be in the interests of consumers or operators. Operators have a vested interest in ensuring that the service does not provide a nuisance to its customers (leading to lower consumer usage). Setting MTRs at the level of Call Termination LRIC still implies a (smaller) positive charge which will have a deterrent effect on SPAM in and of itself. 3UK notes that where SPAM is of most concern is where rates are effectively zero (e.g. in relation to email currently). Call Termination LRIC would imply rates slightly above current fixed termination rates and it would appear that SPAM concerns can be appropriately dealt with in the fixed sector currently.

Further, a positive payment system will also be unlikely to be sufficient in and of itself to deter all SPAM (some still occurs even with current levels of MTRs), which means an alternative complementary approach is required anyway. Overall, 3UK strongly agrees with Ofcom's suggestion in the Consultation that such issues are better dealt with using policy tools other than call termination rates. Improving the enforcement of the telephone preference scheme would be one such approach.

In relation to the charge control arrangements themselves, these can also be simply implemented under the EC Recommendation approach. One feasible and easily implemented approach would simply be to extend the existing SMP Conditions, but simply changing the Target Average Charges ("TACs") defined within them to levels consistent with the Call Termination LRIC. This would have the benefit of using conditions which are now reasonably well understood in the industry and would reduce the costs of future compliance by extending current arrangements for the duration of the next charge control period. This would also have the advantage of continuing to provide operators with flexibility on the specific structure of charges subject to commercial factors, while ensuring that rates fall on to be on average no more than the Call Termination LRIC.

[67] See paragraphs 6.51 and 6.52 of the Consultation.

3UK does consider that the opportunity should be taken to adjust the current SMP Conditions in one important respect. As Ofcom is aware, 3UK has long held that the arrangements with respect to calls to ported numbers are inappropriate.[68] 3UK supported changing these arrangements in its response to Ofcom's consultation on this topic published on 27 March 2007. At the time of this response it is not clear whether this issue will remain in the next charge control period. This issue could be moot if a direct routing approach is implemented, but this does not currently look likely at least until well into the next charge control period. The issue would also become somewhat academic if rates were immediately moved to symmetry. 3UK would support a move directly to Call Termination LRIC at the start of the next charge control period (see below), but to the extent that there is any glide path and remaining asymmetry in rates in the interim period, 3UK believes that the issue of call to ported numbers must be addressed. Ofcom has already identified a suitable way of dealing with this issue in its consultation published in 2007 and 3UK sees no reason why this should not be incorporated into the next set of charge control conditions for all the reasons set out in its previous responses to Ofcom on these issues.

However, the competitive distortion created by the inappropriate regime in respect to calls to ported numbers under the current charge control period also needs to be addressed as a matter of urgency. If this issue is not resolved then it will leave an over-hang of a significant competitive distortion into the next charge control period with continuing significant adverse effects on the markets and ultimately consumers. 3UK therefore urges Ofcom to resolve the dispute 3UK has raised[69] on this matter as soon as possible addressing this historic distortion.

Another issue which will need to be considered is the appropriate glide path between the level of MTRs as of 31 March 2011 and the Call Termination LRIC. 3UK considers that greater consumer and competitive benefits are achieved the faster the Call Termination LRIC level of charges is reached and therefore considers that there is a strong argument for cutting rates immediately for all operators directly to this level of charges.

In the last market review, Ofcom considered these issues in terms of trading off the benefits to consumers of cutting rates quicker to the appropriate cost benchmark with the impact on operators. The impact on operators was considered in terms of providing sufficient notice to operators to enable them to take account of the proposed changes without undue disruption to business plans and existing tariff plans. Cutting rates to the level of Call Termination LRIC will also lead to competitive benefits which should also be taken into account in this trade off in this market review. The impact on operators and investment incentives can also be minimised if Ofcom provides an early decision in this market review, significantly in advance of the date at which these new SMP Conditions would come into force, that the appropriate level for rates would be Call Termination LRIC. This would need to be accompanied by an early indication by Ofcom that TACs will be set at this level at the start of the charge control period.

At the very least, Ofcom should consider a significant one-off cut at the start of the next charge control period to reduce rates significantly towards the appropriate long run level. 3UK considers that this would be justified even further by the fact that a

[68] See, for example, 3UK's response to "Amendment to charge control on Mobile Network Operators: proposals for consultation", response dated 5 June 2007, which response also cross referred to where 3UK had raised this issue in each of its responses to the various consultations in the previous market review process.
[69] See http://www.ofcom.org.uk/bulletins/comp_bull_index/comp_bull_ocases/open_all/cw_983/

simple continuation of the current approach to setting charge controls would imply a significant reduction (in particular on account of updating volume assumptions for data usage in line with recent experience) for an efficient network.[70] A glide path which reduced rates to the level of new estimates for All Traffic LRIC Plus at the start of the charge control and then implemented a glide path from that level to Call Termination LRIC would be the very least which is required to ensure appropriate competitive and consumer benefits flow through to the wider sector.

The justification for a rapid reduction to lower rates and reaching the Call Termination LRIC level as soon as possible is further re-enforced if the fact that the economically efficient level of charges will be strictly less than this for the reasons set out in section 4.2 above. Setting charge controls at the Call Termination LRIC is a conservative approach which does not take account of the calling externality (benefits of receiving a call) and therefore reducing the competitive impact of above Call Termination LRIC rates should be a matter of urgency.

The final issue in relation to implementation relates to the period for which the next charge control is set. The Consultation suggests that the next charge control should be in force from 1 April 2011 to 31 March 2015. 3UK is not clear why this period has been set. Given the rapid technological and commercial changes in the market Ofcom should consider whether some form of greater regulatory flexibility is built into the system. 3UK also believes that there is a significant benefit to be derived from providing certainty for the sector around the level of call termination rates for a significant period. One way of balancing these competing concerns would be to set a charge control which brings rates down to the level of Call Termination LRIC within two years and for the levels of the TACs to then remain constant for a further two years, but with an explicit option for Ofcom to reconsider the final two years should market, regulatory or commercial conditions warrant the exercise of such a re-opener.

Given the increasing competition and convergence between the fixed and mobile sectors, Ofcom should also consider bringing the fixed and mobile charge control periods into line with each other. This would also suggest some option for a shorter charge control period, which would enable greater regulatory flexibility on appropriate options for termination rates across the whole sector in future reviews.

[70] See Annex 2.

5. Conclusion: summary of the right way forward

3UK believes that implementing the approach in the EC Recommendation is practical, feasible and desirable. It is also the only approach that achieves the harmonisation objectives of the EC Recommendation and the Framework Directive, and that is consistent with the requirements of section 4(4) Communications Act 2003. Doing so will recognise the major changes in the commercial and regulatory landscape and benefit UK consumers. This response has set out the reasoning behind 3UK's views. This final section summarises the way forward which 3UK advocates.

- Implementation of the approach in the EC Recommendation should be selected as the preferred option and Ofcom should move forward on this basis as soon as it reasonably can.
- Ofcom's existing cost model can be readily updated to reflect changes in market conditions (traffic volumes and forecasts) and technology; it can also be readily adapted to provide cost estimates for different increments (including the call termination traffic increment under the EC approach).
- Undertaking such cost analysis is relevant to taking forward any of Ofcom's proposed options and therefore this cost modelling work should be initiated immediately. A model capable of informing Ofcom on the level of the different LRIC measures and whether efficient costs can reasonably be recovered under alternative approaches will be relevant whichever approach is selected (and even under the deregulatory approach could be required for dispute resolution). Therefore there is no reason for Ofcom not to start updating its cost modelling from the previous market review as a matter of urgency.
- 3UK considers that a Call Termination LRIC measure – the EC Recommendation approach - would lead to MTR charge controls of around 0.5ppm for all operators.
- A glide path which moves all operators to such rates as soon as is feasible (and almost certainly significantly before the end of envisaged duration of the next charge control) should be implemented.
- Ofcom should include provisions to provide regulatory certainty around other operators using mobile number ranges, other than the existing five MNOs.

Such an approach will provide benefits to competition and UK consumers and place the UK at the forefront of international best practice on regulation of MTRs.

Annex 1: Answers to specific consultation questions

The main body of this response provides 3UK's detailed views on the issues raised by most of the specific consultation questions. For ease of reference this annex briefly summarises 3UK's views on each of these and provides cross references to the relevant sections of the main response where more detail is contained.

Question 3.1: Do you agree with our preliminary view on market definition? Has anything changed, or is anything likely to change within the period of the next review, which would materially impact on the definition of the market(s)?

Section 3 of the Consultation sets out a number of factors to be considered in re-assessing the market definition for this market review process. It does not appear to propose a specific market definition, but 3UK assumes Ofcom's base proposal is essentially to use the same market definition (wholesale mobile voice call termination provided to other Communications Providers by a specific network) as was used for setting the charge controls for the period 2007-2011.

For the reasons set out in section 2.1, 3UK's view is that this needs to be considered carefully in light of market and technology developments which are likely over the course of the next charge control period. For the purposes of this response, 3UK has assumed the market definition has not changed compared to the previous market review.

Question 4.1: Do you agree with our view? Or are there other developments, not considered elsewhere in this consultation document, for potentially removing the underlying causes of SMP?

As explained in section 2.2 3UK has assumed for the purposes of this response that each operator has Significant Market Power in the market for the provision of off-net call termination on its own network (i.e. the same conclusion as Ofcom reached in the last market review process).

Question 5.1: What are likely to be the main sources of detriment to consumers of excessive termination rates in the period 2011 to 2015?

3UK considers that section 5 of the Consultation broadly summarises most of the main potential impacts of inappropriate call termination rates. Especially in light of the recent Court of Appeal judgment,[71] it is not currently clear when a termination rate should or should not be considered to be "excessive", but relatively high rates will have a detrimental effect. Section 4 of this response provides 3UK's views on the appropriate level for MTRs which leads to economic efficiency, does not inappropriately distort the structure of charges (either within the mobile sector or between the fixed and mobile sectors), promotes competition and therefore ultimately provides the best outcome for consumers.

[71] See footnote 24.

Question 6.1: Should our policy approach to regulating MCT change? For example, given the possible benefits, should we adopt a policy of reducing termination rates as far and fast as we reasonably can, within the boundaries of sound economic policy, and whilst recognising underlying cost differences? If our policy approach did change, what do you think are the relevant factors for us to consider in deciding on the best future policy to regulating MCT?

3UK supports Ofcom adopting a general policy approach to the regulation of MTRs favouring their reduction as far and fast as is feasible. Maximum benefit to ultimate consumers should be promoted in setting such a policy (including longer term impacts on consumers through impacts on investment incentives and competition). If potential off-setting detrimental impacts are identified alternative methods should be considered to addressing such impacts. Consistent with Ofcom's wider regulatory approach, the scope of revenues subject to regulation should be minimised and the scope of revenues constrained by competition should be maximised.

See section 1.2 of this Response.

Question 6.2: Are there additional options (other than the six set out in this consultation) that we should consider? If so what are they and what advantages/disadvantages do they offer?

3UK considers that the range of options identified by Ofcom in the Consultation is sufficient. While it would be possible to construct a number of other alternative approaches, 3UK does not consider that these would provide any significant additional consumer and competitive benefits which cannot be reaped by adopting one of the options which Ofcom has already identified. Further, as set out in section 4 of this Response, 3UK considers the most appropriate way forward is to implement the approach set out in the EC Recommendation as soon as possible and, given this, there is not a great deal of benefit from considering even more alternative options. 3UK therefore does not believe that there is a need, or benefit from, considering yet further options in this market review process (although notes that alternative options may be worth considering in future market reviews should they be required).

Question 6.3: Do you agree with our preliminary views set out for each of the options? If not, what are the additional factors that we should take into consideration, and why are the relevant to our analysis?

3UK's views on the pros and cons of each of the options are set out in section 3.3 of this response (and see also the summary Table 1 in the Executive Summary). 3UK's views on the approach taken by Ofcom and the factors which should be taken into account are discussed in section 3.2. The evidence and argument underlying 3UK's view that the preferred option should be the implementation of the EC Recommendation is set out in section 4 of this Response.

Question 6.4: Do you agree with our preliminary view of the De-regulatory option? If not, what are the additional factors that we should take into consideration, and why are the relevant to our analysis?

At the current time, 3UK believes that the deregulatory option would not provide sufficient certainty going forward and therefore does not consider that this is an appropriate option to consider further for the purposes of the current market review.

See section 3.3.1 of this response.

Question 6.5: Do you agree with our preliminary view of the LRIC+ option? If not, what are the additional factors that we should take into consideration, and why are the relevant to our analysis?

3UK does not think that the continuation of the *status quo* is appropriate or feasible. Developments in the market mean that this approach will distort competition going forward and provide lower overall consumer welfare compared to alternative available approaches.

See section 3.3.2 of this response.

Question 6.6: Do you agree with our preliminary view of the LRMC option? If not, what are the additional factors that we should take into consideration, and why are they relevant to our analysis? In addition what do you expect the costs of a move to this option to be?

3UK considers that implementation of the EC Recommendation should be the preferred approach. Ofcom is required to take utmost account of the EC Recommendation and therefore require particularly compelling reasons to chose an alternative option. This approach would promote competition, increase consumer welfare, and promote competition between fixed and mobile operators. It would also enable and promote innovation in FMC products. As such, 3UK does not consider that there are any such compelling reasons not to implement the EC Recommendation approach. In fact, quite the reverse, such an approach would benefit UK consumers and competition.

See section 3.3.3 and section 4.2 of this response.

Question 6.7: Do you agree with our preliminary view of the CBC option? If not, what are the additional factors that we should take into consideration, and why are they relevant to our analysis? In addition what do you expect the costs of a move to this option to be?

Broadly, 3UK thinks Ofcom's preliminary view of the CBC option is appropriate. This approach has a number of theoretical advantages and, if properly implemented, would have many of the same benefits as implementing the EC Recommendation, but it is also subject to significant implementation challenges.

See section 3.3.4 of this response.

Question 6.8: Do you agree with our preliminary view on mandated Reciprocity? If not, what are the additional factors that we should take into consideration, and why are they relevant to our analysis? In addition what do you expect the costs of a move to this option to be?

Mandated reciprocity would have many of the advantages of implementing the EC Recommendation (and at the current point in time may lead to very similar rates as that approach). It does, however, suffer from some disadvantages not faced by the EC Recommendation approach. Although these disadvantages could, in principle, be significantly mitigated or addressed, 3UK's current view is that implementing the EC Recommendation will, in the round, actually offer a simpler, more justifiable and effective way of achieving the benefits which can be achieved in moving rates below a penny per minute.

See section 3.3.5 of this response.

Question 6.9: Do you agree with our preliminary view of the B&K option? If not, what are the additional factors that we should take into consideration, and why are they relevant to our analysis? In addition what do you expect the costs of a move to this option to be?

A B&K approach will achieve many of the same benefits as an approach based on the EC Recommendation in terms of promoting efficiency, consumer welfare and competition. Given that it is the long term direction in which the communications sector is moving, mandated B&K is 3UK's preferred alternative option to implementing the EC Recommendation. However, in the short term (i.e. for the purposes of the current market review), 3UK considers that the EC Recommendation will be easier to implement, provide a large amount of the same benefits and be subject to less short term practical implementation issues. Future implementation of B&K should not be ruled out, however, whether achieved through commercial means or mandated by regulation.

See section 3.3.6 of this response.

Annex 2: 3UK's initial cost modelling analysis

Approach adopted to calculating Call Termination LRIC

The EC Recommendation clearly states that the cost of call termination should be calculated on the basis of the costs avoided by no longer providing off-net call termination:

> *"It is recommended that the evaluation of efficient costs is based on current cost and the use of a bottom-up modelling approach using long-run incremental costs (LRIC) as the relevant cost methodology."* [72]
>
> *"Within the LRIC model, the relevant increment should be defined as the wholesale voice call termination service provided to third parties. This implies that in evaluating the incremental costs NRAs should establish the difference between the total long-run cost of an operator providing its full range of services and the total long-run costs of this operator in the absence of the wholesale call termination service being provided to third parties."* [73]
>
> *"The recommended approach to identifying the relevant incremental cost would be to attribute traffic-related costs firstly to services other than wholesale voice call termination, with finally only the residual traffic-related costs being allocated to the wholesale voice call termination service. This implies that only those costs which would be avoided if a wholesale voice call termination service were no longer provided to third parties should be allocated to the regulated voice call termination services."* [74]

The EC's approach may be characterised as Call Termination LRIC or CT-LRIC, i.e. LRIC where the increment in question is call termination, as distinguished from the approach previously adopted by Ofcom of All Traffic LRIC or AT-LRIC, i.e. LRIC where the increment in question is all traffic[75].

In order to estimate CT-LRIC, we therefore require estimates of, in the EC's words:

(1) "the total long-run cost of an operator providing its full range of services" ; and

(2) "the total long-run costs of this operator in the absence of the wholesale call termination service being provided to third parties".

If these two estimates are available, then the difference between those estimates is equal to the CT-LRIC as defined by the EC.

Ofcom's 2007 cost model is designed to generate (a), total costs including termination, in the model's "Cost" module, which estimates the total cashflow expenditure resulting from a given set of demand, engineering and cost assumptions.

Although not originally designed with this end in mind, Ofcom's 2007 cost model can also be used to generate (b), total costs excluding termination. This is because it is a bottom up model whose first three modules (Demand, Network, and Cost) estimate, for any given set of demand assumptions, the network required to meet the resulting traffic patterns, and the resulting total cashflow expenditure. Therefore, the demand assumptions can be amended so as to exclude off-net termination, and the model re-run to generate total cashflow expenditure excluding termination.

[72] Paragraph 2, EC Recommendation
[73] Paragraph 6, EC Recommendation
[74] *Ibid.*
[75] A distinction recognised by Ofcom at Paragraph 6.112 of its Consultation

The exclusion of off-net termination does not compromise the integrity of Ofcom's model in any material way. As pointed out by Ofcom in its March 2007 Statement:

> "*The model calculates the network costs to an operator in delivering voice and data services to end users. In common with the 2G LRIC model, the new model is driven by three key cost drivers: the number of subscribers, coverage requirements and the total traffic that subscribers consume. The number of subscribers drives a relatively small number of assets e.g. HLRs and handsets, whereas service demand (traffic) drives the majority of costs. Service demand from all traffic services is combined to form aggregated cost drivers. Since certain traffic services use different network resources more or less intensively than others, specific aggregation factors are applied in order to capture these effects. These cost drivers are used to calculate the required deployment of 2G and 3G networks (where appropriate) in order to meet the demands for capacity and coverage.*" [76]

From a modelling perspective therefore, the exclusion of off-net termination simply causes a change in the value of the "*aggregated cost drivers*" which drive calculated deployment and costs. This is in principle no different from what happens when the model is used to run different "high", "medium" and "low" demand scenarios, as in the March 2007 Statement. That is, since the model was judged robust enough to generate reliable cost data for the use of different demand scenarios in that Statement, it would also appear to be robust enough to generate reliable cost data for demand excluding termination.

3UK notes Ofcom's concern that the modelling of CT-LRIC might give rise to network planning concepts that have not previously been considered[77]. However for the reasons above 3UK does not believe that such a concern is warranted. In particular, while 3UK understands that Ofcom may be concerned that there may be some doubt over its model's ability to provide a reliable estimate of the level of common costs between services (a job it was not designed for), 3UK would point out that the EC's approach does not require common costs to be estimated. All it requires is that total costs can be estimated, with and without termination. This is something Ofcom's model can easily achieve, not least because of the "*aggregated cost driver*" approach.

It would appear that 3UK's position is consistent with that of the French regulator, ARCEP. In September 2008, ARCEP produced its own estimate of CT-LRIC. One of the approaches it used relied on a bottom-up operator model, which appears to be a close variant of Ofcom's own 2007 model, ARCEP ran the model twice, once assuming a full service provider, and once excluding call termination, in order to estimate CT-LRIC[78].

3UK has therefore adapted Ofcom's cost model to generate the total long-run cost estimates required by the EC's definition of CT-LRIC as follows:

(1) adding a front end module onto the model, which converts a set of subscriber demand assumptions into a set of network traffic forecasts, as shown in the Demand module of the final Ofcom model. The conversion algorithms were

[76] Paragraph A5.16, Ofcom March 2007 Statement.
[77] Paragraph 6.116, Ofcom Consultation.
[78] Annexe A, Les referentiels de couts des operateurs mobiles en 2008, ARCEP, September 2008.

not shown in Release 4 so 3UK has followed those shown in Release 2 of Ofcom's model[79].

(2) reverse engineering the subscriber demand assumptions underlying the "medium demand" network traffic forecasts in the Demand module of Release 4.

(3) running the Demand, Network, Cost and Economic modules on the basis of these subscriber demand assumptions, ensuring that the results of Release 4 are replicated accurately.

(4) setting the subscriber demand for incoming off-net calls equal to zero, and re-run the Demand, Network, and Cost modules.

This has generated two sets of Demand, Network and Cost modules: one based on the full range of services; and another excluding off-net call termination. The difference between the costs shown in the first Cost module and the second Cost module is the CT-LRIC of call termination, as defined by the EC Recommendation.

Of course the difference generated in this way is a total cash figure and needs to be converted into unit charges. 3UK has used the Economic module from Ofcom's model to achieve this, by setting the input fields for that module equal to the incremental values generated by the other modules. So, for example, the network investment fields are set equal to the network investment values calculated by the Cost module in its first run (including termination), less the network investment values calculated by the Cost module in its second run (excluding termination). 3UK acknowledges this is not the only way to convert total cash CT-LRIC into unit charges. However, it is consistent with Ofcom's established Economic Depreciation approach and appears to give stable results the purposes of these initial estimates.

3UK has also included within the adapted model the facility to define the call termination increment in different ways. This is because the EC's Recommendation can in principle be interpreted in different ways.

(1) On the one hand, the EC Recommendation refers to differences in "*total long-run cost*", with and without termination. This could be interpreted to mean that the costs avoided are to be considered over the entire life of the network. The model allows for the calculation of CT-LRIC according to this "whole life" increment by setting incoming off-net termination demand to zero for every year in the model (past and future).

(2) On the other hand, the EC Recommendation states that the cost of termination "*should be calculated on the basis of forward-looking long-run incremental costs*"[80]. This could be interpreted to mean that only costs avoidable in the future should be considered. The model allows for the calculation of CT-LRIC according to this "forward-looking" increment by setting incoming off-net termination demand to zero for future years only[81].

[79] In so doing we identified and corrected what appears to be a minor error in Release 2 which appears to have been corrected by Ofcom for the conversion calculations underlying Release 4. In the table "Changes to 2G network traffic" starting at row 1909 of the Traffic tab of the Traffic module, the first row of each set of three populated rows appears to be showing an incorrect reference. So for example, in row 1911, the cells refer to row 463 but it seems that the reference should be to row 423.

[80] Paragraph 13, Preamble, EC Recommendation. Note also that when the EC Recommendation mentions spectrum (at Paragraph 9) it favours a forward-looking approach.

[81] On the assumption that the next price control is set in the same manner as the existing one, by first considering the efficient charge level at the end of the price control period, "future" is defined as from 2014/15 onwards.

3UK believes that the forward-looking increment is the more accurate approach and the interpretation which best promotes economic efficiency, but has allowed for both interpretations here for the purposes of advancing discussion on the more general issue of CT-LRIC modelling.

3UK therefore believes that the adapted Ofcom model provides a practical means of calculating unit charges based on CT-LRIC as defined by the EC recommendation, and has the benefit of being based in very large part on Ofcom's well established cost model.

3UK invites Ofcom to give serious consideration to using a model of this type to estimate CT-LRIC, and would be very happy to show Ofcom the adapted model in detail and provide whatever explanation Ofcom requires to gain confidence in the adapted model.

Resulting estimates of Call Termination LRIC

Estimates based on Ofcom 2007 assumptions

3UK has produced a first set of CT-LRIC estimates by running the adapted model using Ofcom's 2007 assumptions as reflected in Release 4 (medium demand). The results for 2014/15 are summarised in Table A2.1.

Table A2.1: Call Termination LRIC Estimates using Ofcom 2007 assumptions

Pence per minute (2009/10 prices)	2G/3G (900/1800) operator	2G/3G (1800) operator	3G Only operator
Whole life	1.2	1.1	1.0
Forward-looking	0.8	0.8	1.0

Estimates based on early 3UK 2009 assumptions

Clearly time has moved on since Ofcom developed its 2007 assumptions, and many of them will need updating. 3UK is not yet in a position to form a definitive view of the appropriate updated values. However, in order to illustrate the potential scale of CT-LRIC, the adapted model has been re-run using some preliminary estimated values in some selected areas, in line with 3UK's latest experience and current broad expectations. These include:

[●]

These revised assumptions lead to significantly lower estimates of CT-LRIC. The results for 2014/15 are summarised in Table A2.2.[82]

Table A2.2: Call Termination LRIC Estimates with updated input assumptions

Pence per minute (2009/10 prices)	2G/3G (900/1800) operator	2G/3G (1800) operator	3G Only operator
Whole life	0.6	0.6	0.5
Forward-looking	0.5	0.4	0.5

These estimates do not, however, reflect any of the following:

(1) potential future changes to spectrum holdings: consistent with Ofcom's 2007 model, it is assumed that no spectrum would be released if operators were to cease supply of termination, and that operators will not acquire additional spectrum in the future;

(2) network sharing: it is assumed that each operator utilises its own dedicated network;

(3) femtocells: the network is assumed to operate with macro, micro and picocells only, and the potential impact of femtocells is ignored;

(4) 3G voice capacity per sector: capacity is based on existing implemented technology, [●]; and

(5) 3G data capacity per sector: capacity is based on existing implemented technology, and the impact of planned future releases on that existing technology, which are expected to be implemented before the start of the next price control period, have been ignored

On balance, 3UK expects that these developments will cause CT-LRIC to fall below 0.5 ppm.

[82] Using similar assumptions would lead to AT-LRIC+ estimates in the region of 1.5pppm, assuming a symmetrical approach and using the 3G spectrum values determined by the CC. 3UK notes that this is towards the upper end of the range suggested by Analysis in paragraph 440 of its report annexed to Ofcom's August 2008 Mobile Sector Assessment consultation, which from the graph provided appears to be around 0.4p to around 1.7p.

Annex 3: Welfare analysis

Please see attached report "Welfare effects of alternative approaches to regulating call termination rates in the UK mobile market", dated 28 July 2009 by Steffen Hoernig, David Harbord and Adam Mantzos. 3UK is also submitting to Ofcom separately the spreadsheet model which is described and discussed within this report.

Annex 4: International evidence

Introduction

This Annex summarises international experience with Bill and Keep ("B&K") wholesale arrangements and other low MTR countries within Europe and the rest of the world. This analysis builds on the Analysys Mason report (Annex 8.1 of the Consultation) and Data Analysis (Annex 5 of the Consultation), both looking at international experiences of alternative MTR regimes in other countries.

Various sources of information have been used (as identified below), but mostly the data used for the analysis in this Annex has come from the Merrill Lynch Global Wireless Matrix database.

3UK fully supports Ofcom's conclusion that output generally tends to be higher and prices lower in B&K countries. Ofcom's work on international experience under alternative regimes therefore provides a strong *a priori* reason for preferring an approach to MTR regulation which sets rates at a level at least not including common cost recovery. This annex builds upon the conclusions set out in the Consultation and tests the theory that lower MTRs generally – even under a Calling Party Network Pays ("CPNP") arrangement:

- increase traffic levels and reduces prices (MTRs);
- reduce outgoing versus incoming traffic imbalances for small networks;
- allow small networks and new entrants to compete more effectively; and
- do not impact subscription penetration (once adjusted to take account of multiple subscriptions).

Observing simple cross country comparisons can be valuable when looking at factors that will potentially affect a termination regime (or the level of termination rates) and what will explain different outcomes across different countries.

Multiple subscriptions are generally less common in B&K countries like the US and Canada, hence measures of penetration based on the number of SIMs can be distorted and over stated in CPNP countries. Adjusting for such effects shows no significant difference in general subscriber penetration rates between lower and higher MTR regime countries. 3UK agrees with Ofcom that Ownership[83] may be a better indicator as subscription penetration can be skewed by customers holding multiple SIMs. 3UK notes that it is more difficult to find 'ownership' levels for countries outside of Europe.

Lower MTRs do not mean that low usage customers lose out. South Korea has very low MTRs and also has very low retail prices for both low and medium usage profiles demonstrated in Annex 5, figures 6 and 7 of Ofcom's consultation. (3UK agrees that a social tariff would be a more efficient form of regulation to address issues for more vulnerable groups.[84])

The mobile industry has demonstrated that as MTRs have fallen over the last few years, so have retail charges leading to increased competition and increased

[83] Proportion of the population that makes use of a mobile phone.
[84] See section 4.4.5 above.

efficiency in the telecommunications market. A history of MTRs for European member states is shown in Table A4.1 below. The greatest reduction in MTRs has occurred in Sweden, where MTRs have fallen 50% from 0.0783 eurocents in 2006 to 0.0393 eurocents in 2009. The analysis in this annex shows a clear relationship between usage, as measured by Minutes of Use ("MoU"), and MTRs, so lower MTRs incentivise higher usage levels. MoU are significantly higher in B&K countries and Revenue per Minute (RpM) are significantly lower in B&K countries, relative to CPNP countries.

Table A4.1 MTRs in European Member States from 2006 to 2009

Average Mobile Termination Rate per country euro cents/min					Growth Rate
Country	**1st Jan 2006**	**1st Jan 2007**	**1st Jul 2008**	**1st Jan 2009**	**Reduction in MTR from 2006 to 2009**
Austria	0.1121	0.0908	0.0600	0.0600	-46%
Belgium	0.1388	0.1160	0.0868	0.0868	-37%
Denmark	0.1128	0.1136	0.0852	0.0858	-24%
Germany	0.1136	0.0910	0.0817	0.0818	-28%
Finland	0.0790	0.0706	0.0529	0.0502	-36%
France	0.0980	0.0780	0.0685	0.0685	-30%
Greece	0.1496	0.1197	0.1003	0.0786	-47%
Ireland	0.1045	0.1006	0.0993	0.0958	-8%
Italy	0.1309	0.1216	0.1075	0.0937	-28%
Luxembourg	0.1400	0.1247	0.0898	0.0898	-36%
Netherlands	0.1157	0.1137	0.0939	0.0939	-19%
Norway	0.1003	0.8930	0.0839	0.0739	-26%
Portugal	0.1319	0.1100	0.1100	0.0721	-45%
Sweden	0.0783	0.0714	0.0455	0.0393	-50%
Switzerland	0.1552	0.1296	0.1135	0.1137	-27%
Spain	0.1131	0.1047	0.0714	0.0644	-43%
UK	0.0870	0.0895	0.0770	0.0721	-17%
Iceland	0.1251	0.1128	0.0786	0.0822	-34%
Hungary	0.1157	0.1158	0.0857	0.0634	-45%
Romania	0.0847	0.0737	0.0678	0.0597	-30%
Bulgaria	0.1910	0.1844	0.1509	0.1353	-29%
Slovak Rep	0.1059	0.1071	0.1131	0.0990	-7%
Estonia	0.1671	0.1691	0.0882	0.0876	-48%
Lithuania	0.0782	0.0782	0.0782	0.0626	-20%
Malta	0.1249	0.1058	0.0961	0.0962	-23%
Slovenia	0.1550	0.1444	0.0638	0.0648	-58%
Czech Rep	0.0918	0.1029	0.1255	0.1114	21%
Cyprus	0.0224	0.0226	0.0201	0.0201	-10%
Latvia	0.0882	0.0900	0.0883	0.0882	0%
Poland	0.1440	0.1123	0.1065	0.0555	-61%
Turkey	0.0888	0.0858	-	0.0559	-37%
Croatia			0.1077	0.1042	*-3%*[85]

Source: ERG MTR Benchmark Snapshot document

[85] Croatia only has 2 years of MTR data therefore growth rate is from 2008 only.

Of the countries analysed in this annex, US, Canada, Hong Kong, and Singapore all have B&K regimes. Cyprus[86] and South Korea do not have B&K regimes but do have very low MTRs at 2.01 euro cents and 5.78 euro cents respectively. MTRs for the countries considered here are listed in Table A4.2 below.

Table A4.2: MTRs and B&K Cost regimes

Country	B&K Countries	Prices € cents per min Q4 2008
Australia		7.94
Austria		9.39
Belgium		12.28
Canada	B&K	6.50
Cyprus	Low MTR	2.01
Czech Rep		15.16
Denmark		11.55
Finland		8.67
France		10.11
Germany		11.55
Greece		11.55
Hong Kong	B&K	2.89
Ireland		9.93
Israel		7.22
Italy		11.55
Japan		18.77
Luxembourg		10.13
Netherlands		15.16
New Zealand		6.50
Norway		10.83
Portugal		10.83
Singapore	B&K	4.33
Slovak Rep		10.59
Slovenia		7.54
S. Korea	Low MTR	5.78
Spain		14.44
Sweden		7.22
Switzerland		20.94
Taiwan		7.22
UK		8.67
US	B&K	3.61

Mobile Penetration Levels versus Mobile Termination Rates

B&K is sometimes thought to lead to lower levels of mobile penetration than CPNP countries. This view is primarily based on the two biggest developed economies with B&K; Canada and US both appear to have relatively low levels of mobile penetration.

Figure A4.1 below shows the levels of subscription penetration across developed economies. B&K countries are highlighted in red and low MTR countries are highlighted in green. The countries have been ordered from lowest MTRs to highest MTRs.

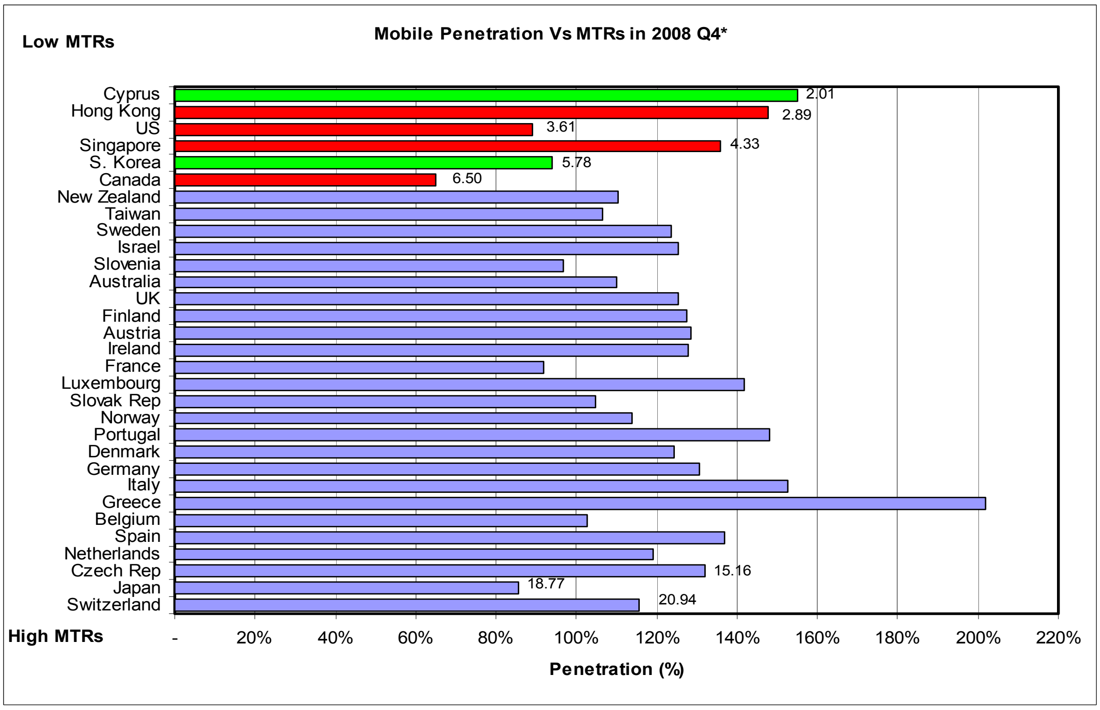
The Figure demonstrates that:

[86] In Cyprus there are two MNOs, the incumbent operator with 84.92% market share (in terms of subscribers) in October 2008 and the second MNO with 15.08% market share, which constitutes only a slow strengthening of the second MNO's market position. Both MNOs have 3G licences and provide related services. In October 2008 mobile penetration reached 126.05% (119.09% in October 2007), which is above the EU average (117.3%).

- US (89%), Canada (65%) and South Korea (94%) have low penetration levels than any other CPNP countries apart from France and Japan;
- Singapore (136%) has normal levels of penetration; and
- Cyprus (155%) and Hong Kong (148%) have high levels of subscription penetration.

The measure compared in this Figure relate to SIM penetration which is not as appropriate a measure as ownership, but even in this comparison it is clear that the relationship between lower MTRs and lower subscription levels is not as straightforward as some of the incumbents claim.

Figure A4.1: Mobile Penetration Vs MTRs (Q4 2008)



There are obviously many factors other than wholesale call termination rates which can affect the level of mobile subscription penetration, such as; technological consistency, coverage, industry structure and behaviour and cultural factors.

This is further supported by some regression analysis whereby MTR is the dependant variable on the left hand side of the equation and the explanatory variables; Number of Subscribers, Minutes of Use and Market Penetration are on the right hand side of the equation. From Table A4.3 below it is clear that the market penetration variable is clearly rejected (at a 5% significance level) from simple regression analysis. This shows no statistically significant relationship between market penetration and MTRs (market penetration as a single explanatory variable also gets rejected shown in Table A4.4).

Table A4.3: Regression Output: $Ln(MTR) = \alpha_0 + \alpha_1\ Ln(No\ of\ Subs) + \alpha_2\ Ln(MoU) + \alpha_3\ Ln(Mkt\ Pen)$

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.65							
R Square	0.43							
Adjusted R Square	0.36							
Standard Error	0.41							
Observations	31.00							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	3.00	3.41	1.14	6.73	0.00			
Residual	27.00	4.56	0.17					
Total	30.00	7.97						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3.26	1.11	2.94	0.01	0.99	5.54	0.99	5.54
ln(No. of Subscribers)	0.15	0.06	2.50	0.02	0.03	0.28	0.03	0.28
ln(MoU)	(0.67)	0.16	(4.32)	0.00	(0.99)	(0.35)	(0.99)	(0.35)
ln(Mkt Pen)	(0.45)	0.38	(1.18)	0.25	(1.22)	0.33	(1.22)	0.33

Table A4.4: Regression Output: $Ln(MTR) = \alpha_0 + \alpha_1\ Ln(Mkt\ Pen)$

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.01							
R Square	0.00							
Adjusted R Square	(0.03)							
Standard Error	0.52							
Observations	31.00							
ANOVA								
	df	*SS*	*MS*	*F*	*ignificance F*			
Regression	1.00	0.00	0.00	0.01	0.94			
Residual	29.00	7.97	0.27					
Total	30.00	7.97						
	Coefficients	*tandard Err*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*Ipper 95.0%*
Intercept	2.17	0.12	17.87	0.00	1.92	2.42	1.92	2.42
ln(Mkt Pen)	(0.03)	0.44	(0.08)	0.94	(0.94)	0.87	(0.94)	0.87

Mobile Termination Rates versus Minutes of Use

By contrast, there is strong evidence to suggest that lower MTRs are associated with higher per minute per subscriber usage. Figure A4.2 below illustrates the relationship between MTRs and Minutes of Use whereby minutes of use tend to be higher in B&K countries. Cyprus tends to be a bit of an outlier but this could be down to other factors (for example, very low GDP compared to the other low MTR countries: Canada, USA, Singapore, Hong Kong).[87] (The same observations can be drawn from Ofcom's figure 2 in annex 5, which shows the average monthly revenue per minute (rpm) per subscriber is lower in B&K countries.)

[87] GDP per capita for the following countries has been calculated on a PPP basis and is a 2008 estimate on the Wikipedia website: Cyprus has GDP per capita of $ 29,830; Singapore has GDP per capita of $ 51,142; USA has GDP per capita of $ 46,800; and Hong Kong GDP per Capita of $44,413.

Figure A4.2: MTRs Vs MoU (Q4 2008)

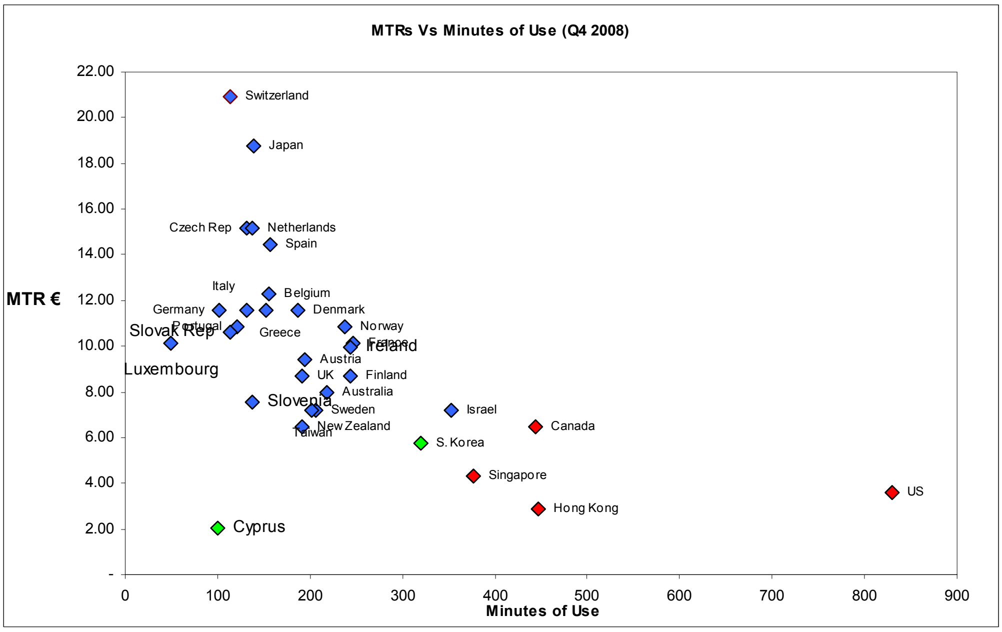


Table A4.5 further demonstrates through regression analysis the strong relationship between Minutes of Use and MTRs. This says a 1% decrease in MTRs would result in a 6.1% in Minutes of Use. The number of subscribers would not have so much of an impact with 1% increase in MTRs leading to 1.6% increase in number of subscribers.

Table A4.5: Regression output: Ln(MTR) = α_0 + α_1 Ln(No of Subs) + α_2 Ln(MoU)

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.63							
R Square	0.40							
Adjusted R Square	0.36							
Standard Error	0.41							
Observations	31.00							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	2.00	3.18	1.59	9.27	0.00			
Residual	28.00	4.80	0.17					
Total	30.00	7.97						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	2.72	1.02	2.68	0.01	0.64	4.80	0.64	4.80
ln(No. of Subscribers)	0.16	0.06	2.66	0.01	0.04	0.28	0.04	0.28
ln(MoU)	(0.61)	0.15	(4.13)	0.00	(0.92)	(0.31)	(0.92)	(0.31)

Conclusion

3UK agrees with Ofcom's conclusion that the average MoU is higher in B&K and lower MTR countries. The analysis in this annex further supports and strengthens this conclusion.

Glossary

Minutes of Use – is the usage per subscription whereby the minutes used equal the minutes called plus the minutes received (sourced from the Global Wireless Matrix Q4 2008, June 2009).

Market/Subscription Penetration – defined as the number of active SIM cards as a proportion of the total population (sourced from the Global Wireless Matrix Q4 2008, June 2009).

Number of Mobile Operators- The number of operators in each country (sourced from the Wireless Intelligence Database Q1 2009).

Number of Connections - A SIM, or where SIMs do not exist, a unique mobile telephone number, which has access to the network for any purpose (including data only usage) except telemetric applications (sourced from the Wireless Intelligence Database Q1 2009).

Mobile Termination Rates – The wholesale price charged between operators.

Annex 5: Other operators currently charging a mobile termination rate not subject to regulation

The Other Operators are those operators, other than the five mobile network operators, with termination rates in the BT Carrier Price List ("CPL") for mobile number ranges (the 075, 077, 078 and 079 number ranges)[88]. 3UK urges Ofcom to review the regulation of termination rates of Communications Providers who have mobile number ranges allocated for their use and give further clarity in this area. See sections 2.3 and 3.4 of this response.

If Ofcom confirms its current approach to SMP and charge controls as set out in the Consultation, regulatory consistency suggests that such operators should be included in the current market review process. Table A5.1 below lists operators in the BT CPL (as of 8 July 2009).

[88] i.e. excluding "070" personal number ranges and "076" pager number ranges. 3UK also currently considers that numbers used by operators in the Isle of Man and the Channel Islands would be excluded from consideration here.

Table A5.1

Communications Provider	MTR			Effective from
	Daytime	Evening	Weekend	
24 Seven Communications Ltd	12	8	4	08/12/2008
25 Seven Communications Ltd	10	10	10	01/06/2009
BT				
Cable & Wireless Plc	7.601	5.379	4.354	31/07/2008
CFL Communications Limited	12	8	4	13/11/2008
Cheers International Sales Limited	12	8	4	19/03/2009
Cheers International Sales Limited	7.601	5.379	4.354	08/12/2006
Citrus Telecommunications Ltd	8.5	3.45	2.83	08/06/2006
Citrus Telecommunications Ltd	12	8	4	03/04/2007
Coralbridge Ltd (Telephony Services Limited)	10	10	10	13/05/2009
Core Communication Services Ltd	9.08	8.204	2.51	12/11/2007
D2See Limited (Invomo Limited)	6.036	6.239	6.441	17/06/2008
FleXtel Limited	9.08	8.204	2.51	13/07/2006
Hotchilli Communications Ltd	7.601	5.379	4.354	01/09/2006
Inquam Telecom (Holdings) Limited (Core Communications Services Limited)	9.08	8.204	2.51	01/07/2007
Invomo Ltd	6.036	6.239	6.441	17/06/2008
IV Response Limited	7.601	5.379	4.354	03/05/2007
Magrathea Telecommunications Limited	8.9	6.3	4.3	23/05/2006
Mapesbury Communications Limited	7.24	7.24	7.24	23/09/2008
Mars Communications Limited	12	8	4	17/06/2008
Noo Mobile Ltd (JEDILLON GRANT LIMITED)	12	8	4	02/04/2008
Opal Telecom Limited	9.092	4	4	01/09/2006
Opera Telecom (Oxygen8 Communications UK Limited)	12	8	4	22/02/2008
QX Telecom Ltd	12	8	4	11/02/2008
Routo Telecommunications Limited	8.31	8.31	5.14	26/04/2006
Subhan Universal Limited	12	8	4	20/02/2008
Swiftnet Ltd	6.036	6.239	6.441	04/12/2008
Swiftnet Ltd	10	10	10	04/12/2008
Switch Services Ltd	12	8	4	12/01/2009
Teamphone Limited (Resilient Networks Plc)	7.6	5.54	4.01	05/09/2008
Teledesign plc (Cable & Wireless U.K.)	5.745	5.745	5.745	28/01/2009
Telephony Services Limited	6.036	6.239	6.441	13/05/2009
TeleWare PLC (JEDILLON GRANT LIMITED)	12	8	4	16/04/2008
Tismi BV (Voxbone SA)	10	10	10	23/03/2009
Vectone Network Limited	8.31	8.31	5.14	11/05/2007
Wire9 Telecom PLC (Cloud9 Mobile Communications plc)	15.62	10.78	2.51	11/08/2006
Wire9 Telecom PLC (Cloud9 Mobile Communications plc)	10.98	8.74	3.12	01/11/2006
Yim Siam Telecom Ltd (Core Telecom Limited)	12	8	4	23/07/2007

Source: BT Carrier Price List. Available at: http://www.btwholesale.com/pages/cmsjsps/service_and_support/service_support_hub/online_pricing_hub/cpl_hub/cpl_pricing_hub/cpl_browsable_sections/cpl_browsable_sectionb_1.jsp

Annex 6: Examples of on-net / off-net price discrimination

This annex provides examples of current tariffs for each of incumbent operators, which include price discrimination between on-net and off-net charging. Given the high volume of on-net traffic compared to off-net traffic which Ofcom's own data shows this is likely to have a significant impact on the market, but – as discussed in section 4.2 above – 3UK is not in a position to assess the commercial and economic impact of such tariffs directly.

Ofcom have indicated in Annex 9 of the consultation that there are still on net and off net price differentials for some of the other UK mobile operators. In Table 1 of Annex 9 of the Consultation, Orange and Vodafone still have a substantial price difference within their main tariff plans, in some case more than a 20p price differential, between on and off net prices out of bundle. Table 2 of Annex 9 illustrates that O2 also have an on-net/off-net price differential for pre-pay tariffs

O2

The O2 Family Bolt On gives unlimited calls, texts and picture messaging between the subscriber and nominated favourite people on-net. "Keep your family in the loop by choosing from our two options":

- Family Bolt On: 1 person in the group pays £7.34 per month and 5 family members or friends get to stay in touch.
- Extended Family Bolt On: add an extra 5 family members or friends to make a total of 10 people for £12.23 in total per month.

These bolt-ons are available on PAYG and Contract.

Simplicity is a SIM only tariff priced at £14.69 and this comes with a choice of unlimited text or on-net calls.

O2 Anytime 600 price plan comes with a choice of inclusive bolt-ons, which include free unlimited on-net calls. Online O2 200 and O2 400 are also available with free unlimited on-net calls.

All O2 Business plans come with free unlimited on-net calls.

T Mobile

T- Mobile offer a Family Booster package which gives the family organiser and up to four family members on T-Mobile unlimited calls and text and picture messages to each other within the UK for their personal use only for an extra £5 per month. In order to qualify the customer must be on pay monthly Flext, Combi, Solo or Solo Fixed contract.

PAYG customers can be added onto a family booster by someone who is on pay monthly and have paid the £5 a month fee. The person on the monthly plan has to be on Combi, Flext or Solo price plans.

Orange

All Plans include "magic numbers", which provide free on-net calls to one number and an Orange customer can continue to add a new magic number every 6 months potentially building up a substantial Orange on-net group of callers.

"Your Group" within Orange offers free on-net calls for 2-8 numbers for £10.

The Canary price plan is offered on the PAYG whereby Canary 30 and 40 have unlimited on-net calls.

Business Solo and Business Sense price plans offer unlimited on-net calls. Business SIM Only plans all offer unlimited free on-net calls

Vodafone

Vodafone Family on Pay Monthly is mainly for personal customers but a customer can have a business number added to other people's groups. You can only set up one family group of your own. However, you can be invited to join up to two other groups as a member. There are 2 choices, depending on how many people you want to join your family group:

- **4** people (yourself and 3 others) **£5 per month**
- **6** people (yourself and 5 others) **£7 per month**.

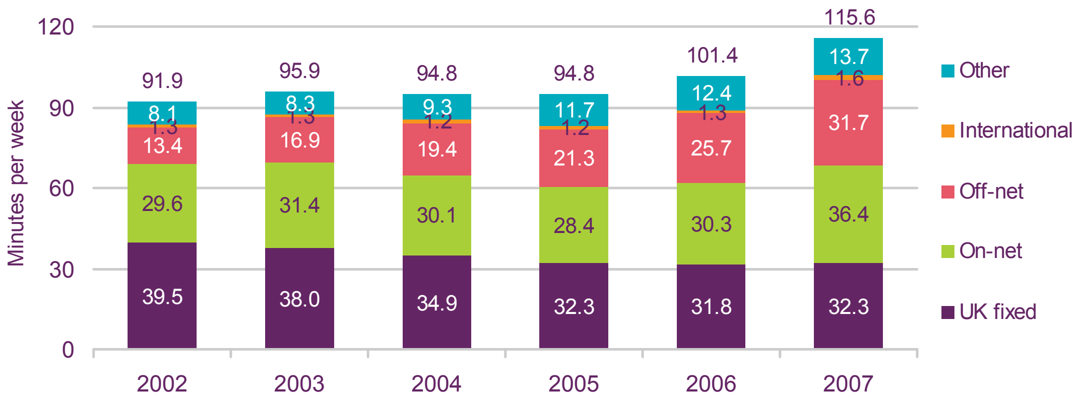
Calls within the family group are free beyond this.

Vodafone PAYG offer a "Free Weekends**"** deal whereby customers get unlimited free texts to any UK mobile, and unlimited free calls to UK landlines and other Vodafone mobiles all weekend, as long as you spend £5 on calls, texts and web browsing during the week. This is completely free to set up.

Indicative impact

The chart below illustrates on-net minutes increased overall for the incumbent mobile operators from 2002 up to 2007. The impact of on-net/off-net price discrimination is therefore likely to be significant in the market.

Table A6.1: Average monthly outbound voice minutes per mobile connection



Source: Ofcom / operators
Note: Excludes 3UK; 'Other calls' include roaming, premium rate calls, WAP calls and all other call types