

The mobile call termination rate debate: implications for consumers

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1 Introduction

1.1 Scope of this paper

Ofcom's current Mobile Sector Assessment (MSA)¹ highlights how important mobile phones have become to UK consumers. Around 80% of households have both fixed and mobile phones. A shrinking proportion of households (now around 8%, predominantly elderly people) have only a fixed phone while a growing proportion (now around 12%, predominantly young) have only a mobile phone. Usage is moving from fixed to mobile phones, with mobile minutes likely to exceed fixed minutes within the next year or so.

The MSA opens the prospect of new approaches to setting mobile termination rates (MTR) after 2011, when current arrangements expire. In parallel, Ofcom and BERR have responded critically to a European Commission initiative to get all European regulators to set lower MTRs using harmonised methods².

The Consumer Panel requested independent advice on the implications for consumers of these possible new approaches and European harmonisation, to help it to contribute to the continuing debate on the topic both in the UK and in Europe. Its eventual aim is to get the best possible outcomes for consumers. In the light of an earlier draft of this paper, the Panel has taken the view that:

- Mobile termination rates are not a major factor influencing consumers' choice of mobile (or fixed) service provider.
- At current levels, mobile termination rates limit consumers' willingness to make calls to mobile phones, and lower rates would lead to more traffic of this kind. However, charges for receiving calls on mobiles would be an unwelcome new departure in this country, which would inhibit use of mobiles much more seriously than do current charges for calls to mobiles.
- Regulation of mobile termination rates is still needed for the time being.
- The Panel would like to see Ofcom chart a course for mobile termination rates that will:
 - Bring them down as fast as possible, in a predictable way, in accordance with reducing cost trends (but not below economically justifiable levels).
 - Reduce inhibitions to use of mobiles.
 - Not increase complexity or reduce choice in the mobile market, as these appear to consumers. (This may mean providing new tools to support consumer choice.)
 - Foster innovation and lead naturally towards future deregulation.

The rest of this paper supports these views. The first section provides some background, and the second an outline understanding of the most significant aspects of the topic. The third section summarises implications and concludes.

1.2 Meaning and importance of Mobile Termination Rate

The term "Mobile Termination Rate" refers to a wholesale (interconnection) price charged by a mobile network operator (MNO) (B) to another network operator (A). The service that B provides to A is to carry a call intended for a customer connected to B's network, from a point of interconnection between the two networks A and B, to the customer's termination point on B. MTRs are expressed in pennies per minute (currently, around 6p/minute). Payments due from A to B are calculated by measuring total call minutes from A to B through the point of interconnection over a period, and multiplying them by the relevant MTR³.

As they are wholesale rather than retail prices, MTRs do not affect end users directly. However, operators need confidence that they will recover interconnection dues from customers, so MTRs are reflected in retail tariffs. It is only when termination rates become very low (like those for calling to fixed networks, which are now well under 0.5p/minute, or like text message rates) that operators are ready to offer flat rate tariffs including unlimited usage.

In particular, the influence of MTRs can be seen in⁴:

- Prices for calling mobile phones from fixed lines, which appear to start at 6p/minute using alternative carriers⁵; BT's optional Mobile Saver feature offers calls to mobiles at 7.5p/minute.
- The effective per minute price of bundled post-paid mobile tariffs, eg T-Mobile's 700 inclusive minutes for £30, which works out at 4.3p/minute if all minutes are used⁶.
- The per minute price for calls to other mobiles once you have used up all the inclusive minutes in your bundle, eg 12p/minute from 3.
- Pre-payment per minute prices, eg 10p/minute for calling other mobile networks using the new Lycamobile⁷ SIM card.

1.3 Some background

Mobile termination rates have been the focus of much regulatory attention over the past decade at least, and have generated a huge literature. The core problem is that without regulation, mobile operators have incentives to set these rates well above cost, thereby generating a large revenue stream to themselves from fixed operators⁸. On Ofcom's figures for 2007 in the MSA, net interconnection revenues of around £750m a year flow from the fixed to the mobile industry. Each 1p reduction in the MTR amounts to some £125m a year (at 6p/minute), so both mobile and fixed sides of the industry have found it worth paying for a lot of economic and legal support in arguing their cases.

In 1998, having been unable to agree regulated termination rates with the mobile operators, Oftel referred the issue to the Monopolies and Mergers Commission (MMC)⁹. After a thorough investigation the MMC largely supported Oftel in imposing cost-based rates with a 4-year price cap requiring real price reductions of around 9% a year. In 2002, Oftel again had to refer the matter to the (by then) Competition Commission (CC)¹⁰, who undertook an even more exhaustive investigation leading to broad confirmation of the earlier conclusions, this time with real price reductions of around 15% a year. Ofcom's 2006-7 price control¹¹ (also contested by some operators) is still in place until 2011.

The topic has also attracted regulatory attention in many other countries, including all of Europe¹², Australia and New Zealand¹³, and an increasing amount of academic research, not all of which is industry-sponsored. The debate has been especially sharp in the UK, perhaps because fixed and mobile networks are mainly under separate ownership, while in other industrialised countries the major fixed line operators often also have significant stakes in mobile networks.

2 Overview of issues

2.1 The figures in perspective

Over the lifetime of the mobile industry, the accumulated fixed-to-mobile net transfers entailed by above-cost MTRs have been very significant, and have helped to account for the relative success of mobile and its increasing substitution for fixed service¹⁴. But this is

history. Looking ahead, it is unclear that reducing these rates faster than indicated by cost trends, or even changing the regime entirely, could have major consumer benefits.

The amounts at issue are large in absolute terms, but they are relatively small as a part of whole industry revenues. Ofcom's figures for 2007 show that fixed-to-mobile minutes are 17% of all minutes terminated on mobile networks (and 13% of all minutes originated on fixed networks). The revenue projections in the Analysys Mason report¹⁵ show incoming calls accounting for under 15% of total mobile revenues, at all relevant times for all four scenarios (and much less, in later years and especially in data-heavy scenarios). So, lower MTRs alone cannot greatly affect most people's bills, either up or down.

To make this more concrete, we consider imaginary consumers who could be most affected by lower MTRs.

- "Careful granny", who subscribes to BT's lowest price standard telephony package ("Unlimited Weekend Plan"), pays by direct debit and avoids making any charged calls apart from one 2-minute call a day to helpers and her grandchildren, who are all only available on mobiles. (This represents the highest level of calling to mobiles for which it is not worthwhile to subscribe to the Mobile Saver option). Her current monthly bill might be about £16, and if the prices of calls to mobiles were halved it would become about £13.
- "Dependent dad", whose phone use is like careful granny's but who gets Guaranteed Pension Credit and has signed up for BT Basic. His current monthly bill is about £10.50, and with half-price calls to mobiles it would be reduced to £7.50.
- "Painter's partner", who has the same package as granny and like her avoids making charged calls except to her painter husband, whom she calls on his mobile on average for 10 minutes each working day. It is worth her subscribing to the Mobile Saver option, and she does. Her total bill at present might be about £25, and if the prices of calls to mobiles were halved it would fall to about £18.
- "Careful granny" also has a mobile phone that her grandchildren bought her for emergency use. The keypad breaks so she can't use the phone, and she thinks about replacing it. Currently a cheap replacement handset on a prepaid tariff costs £20, and she is prepared to pay this. But if the prices of calls to mobiles were halved, this handset and package might be priced at £40, which she is not prepared to pay

These examples assume unchanged calling patterns. In fact, of course, if prices for calls to mobiles fall then in general people would be more willing to make such calls, and the relevant portions of bills and mobile operators' revenues would fall less than the prices.

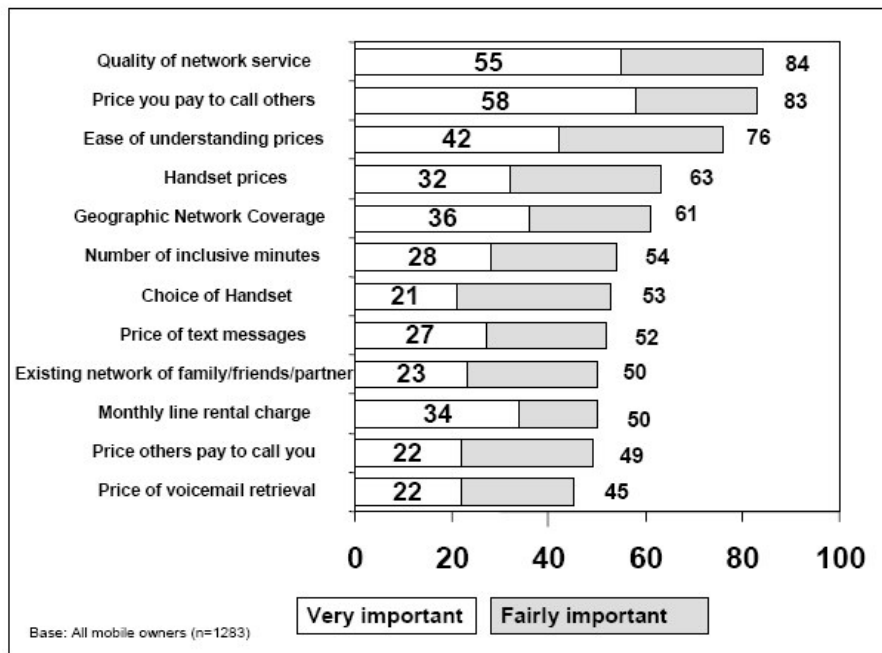
Our imaginary most-affected consumers have little or no ability to reduce their bills, which depend on decisions made by people who own mobiles. Market research such as that shown in Figure 1 to Figure 3 below (from different surveys, but with broadly consistent findings) reveals that when people choose a mobile phone, they usually give little thought or weight to the prices paid by people who need to ring them. This is the main reason for the lack of competitive pressure on MTRs, and the need for regulation in this area.

Figure 1: Spontaneous considerations when choosing mobile network



Source: Ofcom 2006¹⁶

Figure 2: Factors considered when choosing a mobile phone package



Source: Competition Commission 2003¹⁷

Figure 3: Important factors when choosing current mobile phone package

| Factor | Percentage of respondents saying highly relevant |
|--|--|
| Value for money of the overall package | 65 |
| Price of making calls | 59 |
| Payment method | 57 |
| Network coverage | 55 |
| Handset | 40 |
| People I call most are on this network | 35 |
| Customer service | 28 |
| Network brand | 18 |
| Price that people pay to call me | 13 |

Source: Competition Commission 2003¹⁸

2.2 The waterbed

A recurrent image in MTR debates is of the “waterbed”, supposed to be full of mobile operators’ costs, which of course must be recovered through revenues if the operators are to stay in business. The argument runs that pressing down on recovery for one part of the cost structure (here, call termination) will simply lead to those costs popping up again somewhere else, most likely as higher tariffs for the customers that the operator is least anxious to retain, generally its lowest users. This argument has been set out again recently in a report by Frontier Economics for a group of mobile operators¹⁹. Publicity around the release of that report included references to the risk of up to 40 million low users in Europe giving up their mobile phones if MTRs were reduced as the EU draft Recommendation would like.

The waterbed argument rests on two assumptions which are both open to question:

- The mobile operators are already highly efficient and cannot cut back on the actual costs of call termination without damaging service quality.
- Mobile markets are already extremely competitive, with profits minimally acceptable to attract investment, so profits cannot be reduced either.

The thorough investigations of both the MMC in 1998 and the CC in 2002 rejected both these assumptions. Other recent reports suggest they should still be rejected:

- The Analysys Mason report projects MTRs falling steeply after 2011, to under 2p/minute for all scenarios, as relevant costs fall and traffic shifts from voice to data.
- Ofcom’s MSA consultation refers to an inevitable concern that mobile industry co-operation, while in itself desirable for some purposes, weakens competition.

Even if the waterbed effect holds good, wholly or partly²⁰, it is moderated by the relatively small proportion of revenue associated with incoming calls (discussed above). In particular, following Analysys Mason, suppose that the revenue associated with mobile call termination accounted for 15% of total revenues; then a 10% reduction in these would require only a 1.8% compensating increase in the other 85% of revenues²¹.

Mobile operators could choose to recover this “missing revenue” in many ways. (A candidate that was prominent in Ofcom’s 2007 Statement on MTRs is reducing the handset subsidies that many consumers particularly relish; these subsidies discourage changing network and therefore competition.) If all the revenue were to be recovered from the lowest users, it should be a cause for serious concern. We address this below. However, we should say here that Frontier Economics’ figure of 40 million low users who might leave the network was obtained by scaling US figures to fit Europe, without taking account of the prevalence of prepayment in Europe. Therefore, it represents a worst case or upper bound which would be unlikely to occur in practice.

2.3 Distributional issues

The MTR debate can be seen as one about distribution of benefits among:

- Mobile operators
- Fixed subscribers who make calls to mobiles
- Mobile subscribers at different usage levels

There are also distributional issues through time (“jam today” versus “jam tomorrow”).

A simple reduction in the level of MTRs would immediately most benefit fixed-only subscribers who make a lot of calls to mobiles. Depending on how mobile operators choose to recover the missing revenues, the biggest losers could be marginal mobile subscribers who choose not to replace a mobile phone that stops working²², or mobile-only subscribers (who do not have fixed lines on which to make compensating gains). For the majority of consumers who have both fixed and mobile phones, any losses from higher mobile prices would be at least partly offset by gains from lower prices to call to mobiles from fixed phones. Though the match is not exact, we can say with confidence that the direct effect on most of these people would be small.

The 2002 CC enquiry saw BT speaking out on behalf of older people who often had only fixed lines and were obliged to make expensive calls to mobiles. At the same time, some mobile operators pointed out that people who have mobiles but no fixed lines often also have low incomes and would be most vulnerable to mobile price rises (such as might follow imposed cuts in MTRs).

A longer-term effect of lower MTRs could be that mobile operators delay or cut investments, which currently are focused on network enhancement to accommodate broadband. Of course, the size and timing of such effects are unpredictable, and depend on many other factors too. Delays or cuts in broadband investment would first affect early adopters of mobile broadband, who are probably not concentrated among disadvantaged groups.

Potentially more significant than simple changes in the level of MTRs are changes in their structure or regulation, such as are floated in Ofcom's MSA consultation and discussed below. In any such scenario, similar distributional issues arise. The highest-spending customers are the most commercially attractive and will be most strongly competed for. The major service providers will tend to focus their attention (and any available price cutting) on acquiring and retaining these groups, and on stimulating medium-spenders to spend more, while leaving low-spending customers to pay a little more for the same service, and drift away if they so choose²³.

In particular, as is illustrated and discussed further below, the US market, founded on the model of Receiving Party Pays (RPP), has developed to favour higher-spending users (who do better than their equivalents in Europe, as they speak more and at lower per minute prices) at the expense of lower-spending users (who do worse than their equivalents in Europe, as fewer of them have a mobile phone at all). A regime change, for example to RPP, could therefore present the awkward challenge of choosing between the interests of the different groups of consumers.

Economists tend to speak in terms of maximising aggregate consumer welfare, but consumer representatives may prefer somewhat lower total welfare if this reduces distributional problems. An approach worth considering is maximising competition for the mass market while retaining regulatory protections to ensure continuing and improving services and tariffs for low spending and disadvantaged groups.

2.4 Costs and costing issues

Economic theory, broadly accepted by almost everybody who has engaged in the MTR debate, points to regulated MTRs being set at cost (possibly moderated by call or network externalities). This is an attractive notion in principle, and at first glance looks deceptively simple. Unfortunately, the relevant unit cost calculations are complex and highly challengeable, in both principle and practice. For example:

- It is not always clear which costs should be included. The obvious cost of interconnected traffic is additional network capacity, but this is also due to other traffic so must be

apportioned²⁴. Some maintenance and customer care costs also seem to be legitimate. For a wholesale charge, one would expect purely retail costs (such as high street shops) to be excluded. This means also excluding part of head office costs – but what part?

- The usual basis for regulated interconnection charging is Long Run Incremental Costing (LRIC) based on an efficient network. This calls for elaborate modelling of network structures with input component costs which have to be obtained from suppliers or service providers, and assumptions about the costs of other necessary parts of the business. A lot of work and a multitude of detailed decisions go into such modelling.
- There are issues of symmetry of cost-based charging, initially between fixed operators or between mobile operators, and ultimately also between fixed and mobile. The ERG debate already mentioned has focused on this particular aspect. Resolving it calls for a balance between looking at actual and potential costs, with delicate treatment of incentives, especially for new operators.
- Once a total amount of relevant cost has been derived, it has to be spread out over whatever base has been chosen for its recovery to obtain unit costs. In the MTR case, the chosen base has been total minutes of use during particular time periods. In reality, minutes of use are only one driver of cost and this recovery base is not self-evidently right or best. Networks are dimensioned for peak traffic, and arguably traffic outside the peak period is carried at no cost.

Considerable effort from regulators, industry participants and consultants goes into costing and debates about costing. Ofcom's MSA refers to reducing the regulatory burden, and of course, other things being equal, this would be desirable. However, from a consumer angle this burden is not really material. Since the result of any costing method is only approximate, the specific costing method chosen should not matter much to consumers either, so long as any change is smooth and results in relevant prices falling to reflect improved technology and efficiency.

A last remark on costs: the whole MTR debate in the UK has rested on the assumption that mobile unit costs are much higher than fixed unit costs. In the early days this was true, with well-established fixed networks spreading their costs over a large subscriber base, and new mobile networks using expensive technology whose costs were met by relatively few subscribers. All these conditions have already changed radically and, as the MSA highlights, are continuing to change. Technical advances including Voice Over IP (VOIP) are reducing costs and leading to increased competitive pressures on both fixed and mobile networks. Even now it cannot be taken for granted that mobile is "really" a more costly solution than fixed, though this tradition still suits the mobile operators. At some point in the future the position may well be reversed; as a Finnish government report on fixed-mobile substitution²⁵ shows, it has already been reversed in Finland²⁶.

2.5 European harmonisation

As has already been mentioned, the EU has issued a draft recommendation which would harmonise the costing methods used by European regulators when calculating regulated MTRs, and would do so in ways that lead to lower rates. Specifically, the recommendation accepts that the current "calling party pays" approach should continue but among other things proposes:

- Applying an "avoidable cost" approach when costing mobile termination. This means that mobile termination (like universal service, when it is costed) would be regarded as free of overheads.

- Excluding any externality allowance (such as the 0.3p a minute that Ofcom estimated in 2006-7) from mobile termination costs²⁷.

The response by Ofcom and BERR highlights shortcomings in the logic and consistency of these and other proposals, and calls for a more thorough review of the whole topic.

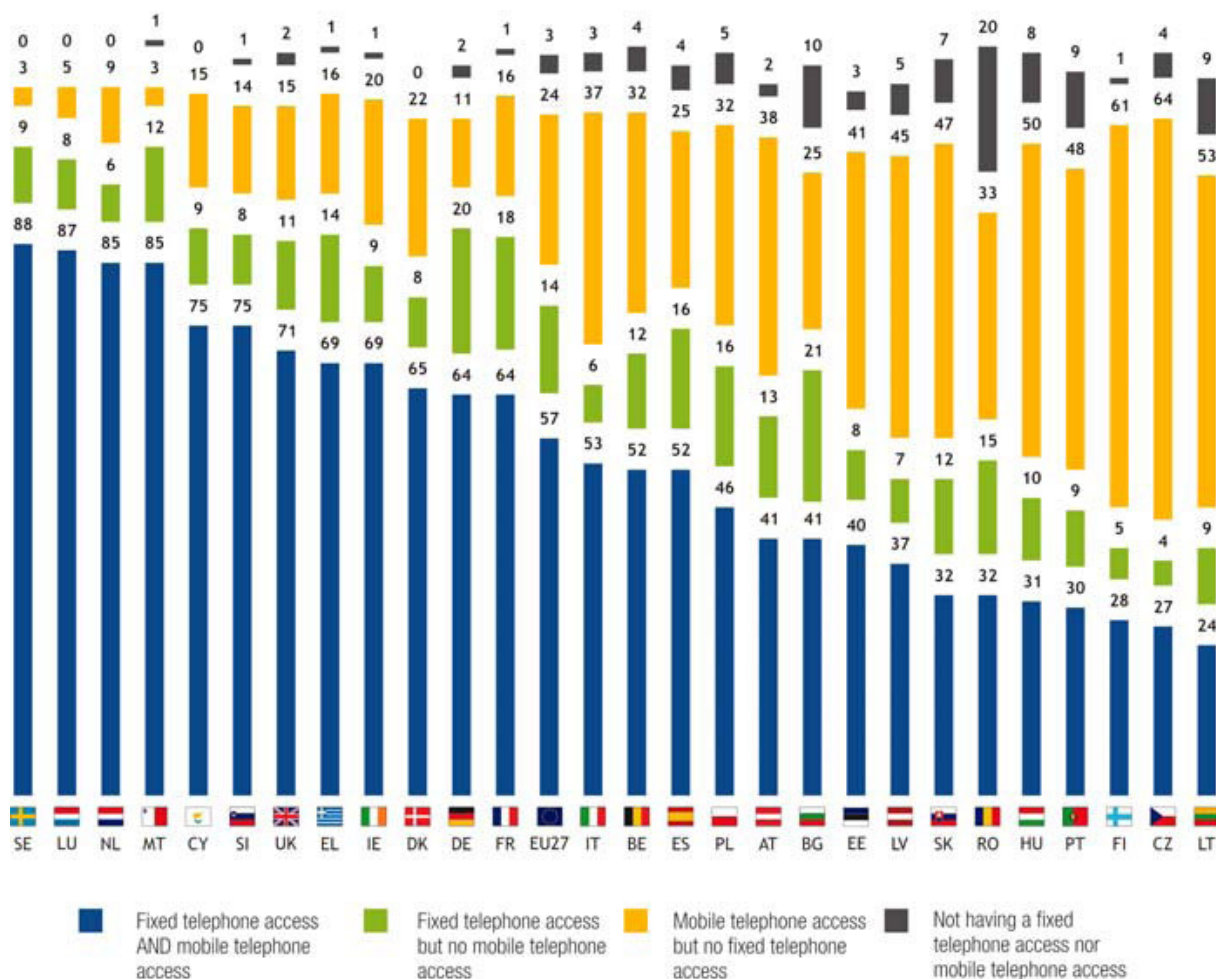
At the technical level, the response by Ofcom and BERR seems well argued and wholly justified. It is unfortunate that the response may be perceived as siding with the industry and its profits, and against consumers and lower prices. The draft EU recommendation may be viewed as the latest in a series of pro-consumer initiatives in the mobile sector (following regulation of international roaming rates for voice, text and data) and anyone opposing it risks being perceived as anti-consumer as well as pro-decentralisation.

Incidentally, Figure 4 shows the considerable differences in fixed and mobile phone take-up among European countries.

Figure 4²⁸: Percentages of households in EU countries with fixed and mobile phones

Question: QD.1 For each of the following, please tell me how many of them are available in your household.

Option: Household with...



2.6 Alternative interconnection regimes

Various alternative interconnection regimes are mentioned in the Ofcom MSA consultation and the literature. Below we look at the North American arrangements, which attract attention as a working alternative with certain advantages²⁹, and briefly at some others.

Exploring alternatives and their implications in depth is a major project. Here we only touch on some of the more obvious features. When thinking about the possible application of alternatives in the UK, it is important to note that:

- Each system that has been tried in practice has developed in keeping with its own specific environment, and could not simply be transplanted to the UK and expected to work in similar ways. This applies especially to the North American arrangements.
- Untried systems remain in the realm of good ideas. They would need to be introduced with caution to spot and deal with any practical problems as they arise.
- Any change to a new system for interconnection charging would itself be costly, while the costs of the existing system have already largely been incurred. The costs of change would need to be included when weighing up the case for change.

2.6.1 Receiving Party Pays (RPP)

This is the system prevalent (for historical reasons) in North America and some other countries³⁰ mainly influenced by North America³¹. Table 1 below compares key features of Receiving Party Pays (RPP) with Calling Party Pays (CPP), which is prevalent in Europe and most other countries. Table 2 provides some relevant statistics for sample countries. Figure 5 and Figure 6 aim to provide fuller information on how fixed and mobile take-up have developed in the US and UK, though this is not easy as the available data are not fully comparable. Figure 4 above provides take-up figures for EU countries at the end of 2007.

Table 1: Comparison of features associated with CPP and RPP regimes

| | Calling Party Pays | Receiving Party Pays |
|--|--|---|
| Mobile termination rate | Based on calculated cost of mobile termination | Set at same level as fixed termination rate (based on calculated cost of fixed termination) |
| Price for calling to a mobile | Significantly higher than a call to a fixed line | Same as call to a fixed line |
| Price for receiving a mobile call | Zero | Non-zero, to compensate for higher cost of mobile termination than fixed termination |
| Mobile competition | Mainly on prices for calling from mobiles | On total mobile package price, including receiving as well as making calls |
| Competitive pressure on mobile termination rates | Very little (mobile users unconcerned about costs of calls to them) | Roughly equal to the competitive pressure on prices for calls from mobiles |
| Need to regulate MTR | High | Low |
| Packages for high/contract users | Large numbers of inclusive minutes, and large numbers of handset types | Large numbers of inclusive minutes, and unlimited minutes for some call types |
| Effect on high/contract users | More talking to use up inclusive minutes, and greater variety of handsets | More talking, and much more talking where minutes are unlimited, leading to lower price per minute |
| Packages for low/prepaid users | High call charges but low minimum outlay | Moderate call charges, but prepaid credit expiry leads to moderate minimum outlay |
| Effect on low/prepaid users | Even the lowest users can afford a mobile phone: high mobile take-up ³² | A mobile phone is too expensive for very low users (who also don't want to risk paying for incoming calls they can't control): lower mobile take-up |

Note that the outcomes cited depend not only on the interconnection regime, but on the broader historical development of each market, such as early widespread adoption of fixed lines in North America. Also, the North American numbering plan makes it hard to warn users of large price differences between calling fixed and mobile phones, in the way that the 01/02 and 07 codes do in the UK (and distinctive codes do in most other countries).

Figure 5 below shows how each level of take-up was achieved in the US some 30 years ahead of the UK, leading to high penetration, unlimited local calls and a national habit of far greater phone use than in Europe. Before about 1995 practically all household lines in both countries were fixed; from that date onwards the US figures include some mobiles, while the UK (dotted) line is fixed phones only. Household take-up of mobiles in the UK is shown in Figure 6, along with rough figures for both fixed and mobile phones per 100 population in both countries. The lines in Figure 6 show how fixed lines are declining in both countries, while mobiles continue to grow³³.

Of particular interest are separate statistics for households with mobile phones only (now about 12% in both countries) and with no phone at all (now about 1% in the UK, 3% for the EU-27 and 2% to 5% in the US, depending on the measurement method adopted). Those without phones are the least well-off in each country, and these figures point to the mobile tariffs available in the UK and Europe having done a better job of reaching the least well-off than comparable tariffs in the US. Pre-paid tariffs in the US are also generally less well-publicised and less attractive to low user groups than in the UK, especially in relation to credit expiry³⁴.

Figure 5: Household take-up of phone service since 1920, US and UK

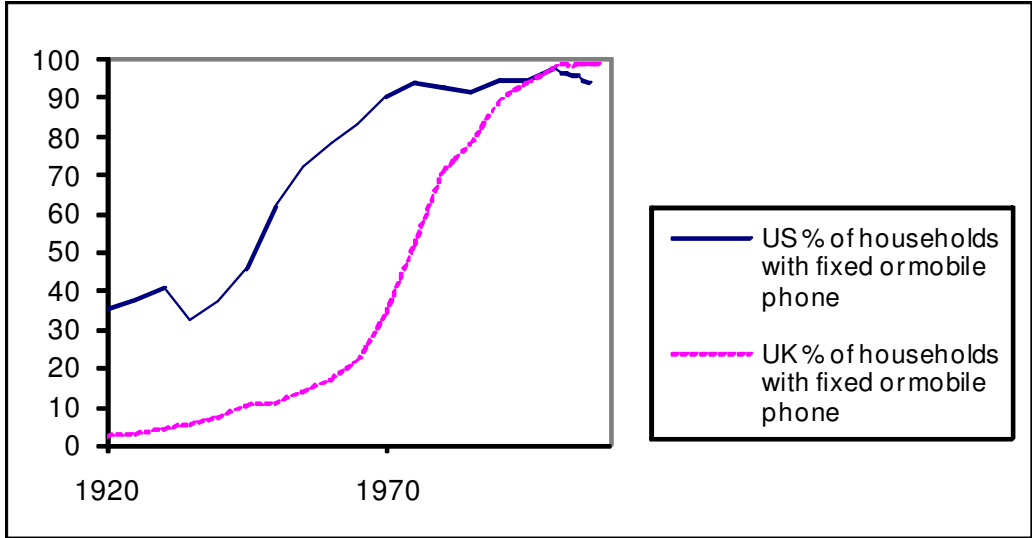


Figure 6: Fixed and mobile phones per 100 people since 2000, US and UK

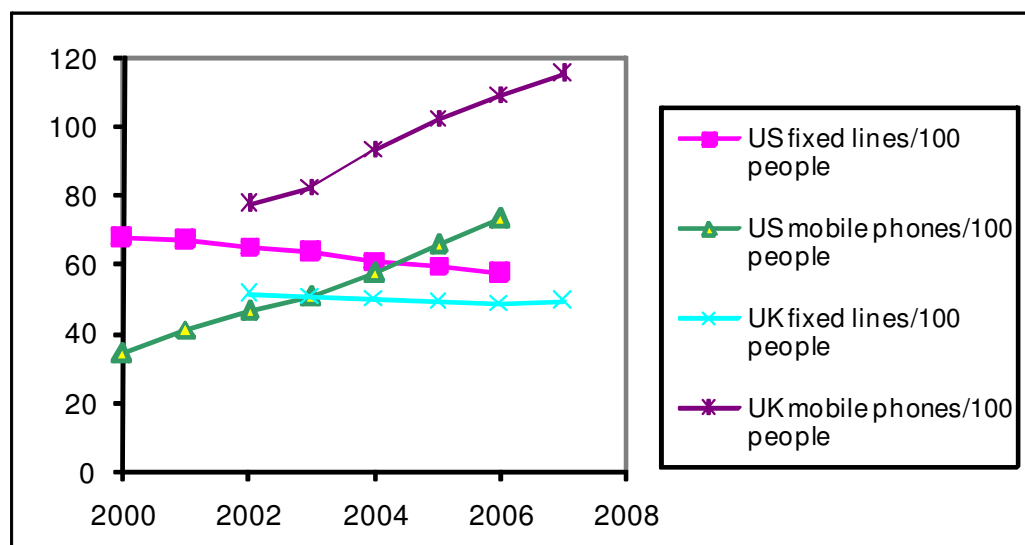


Table 2³⁵: Mobile market development in sample countries

| Country | Number of Players | Mobile phones per 100 population | Prepaid (% of Subs) | Average Minutes of Use per User ³⁶ | Revenue per Minute (\$) | Data (% of ARPU) |
|-----------------------------|-------------------|----------------------------------|---------------------|---|-------------------------|------------------|
| Receiving Party Pays | | | | | | |
| USA | 4+ | 77 | 14 | 838 (442) | 0.05 | 12 |
| Canada | 3 | 58 | 23 | 420 | 0.12 | 10 |
| Hong Kong | 5 | 108 | 76 | 460 | 0.04 | 9 |
| Singapore | 3 | 106 | 39 | 338 | 0.08 | 22 |
| Calling Party Pays | | | | | | |
| UK | 5 | 117 | 66 | 154 (185) | 0.15 | 24 |
| Germany | 4 | 104 | 53 | 94 (90) | 0.24 | 21 |
| Italy | 4 | 138 | 90 | 117 (107) | 0.22 | 19 |
| Sweden | 4 | 116 | 54 | 164 | 0.16 | 7 |
| France | 3 | 79 | 35 | 254 (249) | 0.16 | 15 |
| Finland | 3 | 114 | 19 | 304 (237) | 0.11 | 14 |
| Japan | 3 | 78 | 3 | 145 | 0.26 | 29 |
| South Korea | 3 | 83 | 3 | 316 | 0.11 | 19 |
| Australia | 4 | 98 | 50 | 193 | 0.16 | 21 |

In a country with CPP, introducing RPP might be unpopular with consumers, as operators suggest. It is unlikely to happen without regulatory intervention. Its great attraction is that this regulatory intervention might be much less complicated than that needed to calculate costs for MTRs. Its drawbacks are thought to be discouraging people from getting mobile phones (by reducing the range and subsidy of handsets), discouraging people from switching on mobile phones (for fear of having to pay for calls), and encouraging junk marketing calls.

2.6.2 Some other alternatives

- **Bill and Keep** (otherwise known as Sender Keeps All) in which termination rates are zero. Attractively simple, and with good competition-promoting properties, this is the potential end point of both RPP and CPP with reducing termination rates. Its downside, especially if it were introduced suddenly, could be the extreme form of the downside of

inadequate MTRs, as argued by the mobile operators. If arrived at in a measured and predictable way, it could well be the best solution for developed countries³⁷.

- **Segment pricing.** This system has been used in the multi-operator environment of Finland³⁸. In it, users are billed explicitly for both originating and terminating segments of their call. This means that the terminating prices are open and subject to competitive pressures; however, it makes bills and competitive choices more complicated for users.
- **Non-discrimination requirements,** in which (non-competitive) termination charges are limited by reference to (competitive) originating charges. For example, on-net mobile calls both originate and terminate and incur both sets of costs, so one could argue that a termination charge should be half the average price of an on-net call. Any such system would have the huge advantage of bypassing the whole costing debate. But it would still require supervision, and could create incentives to increase the relevant originating charges.
- **Fully (fixed and mobile) or partly (mobile only) unregulated.** The MSA draws attention to the attendant risks of withdrawing regulation. Ofcom is of course obliged to consider deregulation at every opportunity. However, so long as the market power conditions still hold which justified regulating interconnection in the first place – and they certainly do, in both fixed and mobile markets – it is hard to justify running these risks.

There is endless scope for debating the merits of all these, and other possible, systems. Obviously, consumer outcomes are only one aspect of a complex and not wholly predictable picture. Consumer representatives may want to leave the main debate to the regulator and industry participants, while insisting on confidence that the supposed consumer benefits of any proposed solution would actually be achieved.

3 Towards a way forward

The discussion in this paper points towards the following objectives for consumers in the MTR debate:

- Maximising competition and choice of tariffs for all types of consumers (while ensuring that people can easily find the tariff that is best for them)
- Protecting low spending and disadvantaged consumers from any adverse consequences.

This section looks at each in turn and then concludes.

3.1 Maximising choice, minimising confusion

Two kinds of simple tariff structure are especially attractive to different groups of consumers:

- For moderate to high users, flat rate “all you can eat” deals which provide confidence of not paying more than an amount known in advance, and allowing a relaxed attitude to use.
- For low users and people with tight budgets, simple usage-dependent tariffs with no fixed charge, which allow economising on expenditure, down to zero spend for no use.

In order to suit both groups, both kinds of tariff must be preserved and, where possible, improved.

Unlimited calling is already starting to make its way in to high-end mobile tariff packages, and if people respond well to this we are likely soon to see more of it (starting with off-peak on-net calls and calls to fixed lines).

Other new tariff types could also find their mark. For example, there may be latent demand in the UK for US-style mobile tariff packages in which the mobile receiver pays, wholly or partly, for incoming calls (either based on usage or included in a package). Distinctive numbers would be needed to signal to callers that they were paying less than the normal rate for calling a mobile. In principle there is nothing preventing such services being offered at present, though given current tariff structures and levels they would be of rather restricted interest. For example, at least one “0800 to mobile” service does exist³⁹; this could suit, for example, an independent tradesman wanting to attract small volumes of calls about new business at the same time as going about his work. The emergence of more such offerings could doubtless be stimulated if it is felt desirable as the market develops.

In fact, there is no end to the variety of mobile tariff offerings. However, more tariffs (even if they meet felt needs) will add to the complexity and lack of transparency among tariffs which is already a problem, particularly for disadvantaged consumers (as stressed, for example, in a recent overview of low income groups’ use of telecommunications⁴⁰). Consumers should be able easily to find packages that are right for them, with minimum anxiety and confusion⁴¹.

3.2 Protecting low spending and disadvantaged groups

This paper does not suggest that possible changes in the MTR level or regime are likely to be detrimental to vulnerable groups. However, this risk cannot be ruled out. A “safety net” approach, sometimes suggested in the broader contexts of mobile sector development and universal service, could provide extra assurance that vulnerable groups would not suffer from any changes in the MTR level or regime.

The 2003 CC report considered in depth the risks of marginal users being forced off the network. The following extract is of particular interest:

8.196. An important determinant of whether marginal current subscribers would leave the network if call termination revenue to the MNO was reduced is how willing the MNOs are to maintain them on their networks. One determinant of this is the incremental cost to the MNO of maintaining on the network customers who use their mobile very little or not at all. [Redacted] told us this cost is ‘a few pence a month’ and is the cost of maintaining them on the MNO’s Home Location Register system, ie the cost of part of that capacity.

There is no reason to expect that the cost of retaining low users on the network has increased in the past five years. Therefore, we can probably assume that an “emergencies only” pre-paid user who makes only enough calls to keep his or her pre-paid account live⁴² is at least covering direct service costs, and the service provider does not have an incentive to disconnect him or her. However, service providers might well make it less attractive for such users to join their networks in the first place.

Obviously, it would be foolish to impose “protections” that increase service providers’ costs so as to incentivise them to shed the very customers who are meant to benefit. But, building on service features that are already available in the UK or elsewhere, it should be feasible for all mobile service providers to offer without loss at least one “no frills” pre-paid package designed for affordability. In the 2003 CC enquiry, service providers resisted suggestions that they should introduce “no frills” packages for marginal users, arguing that it was impossible to target this segment accurately and that non-marginal users would take advantage of the package, thereby cannibalising revenues. Since then, ever cleverer phones and new value-

added services have become increasingly popular. Making these unavailable with a “no frills” package should make accurate targeting easier.

3.3 Summary of conclusions

From this brief overview of a large field the following conclusions emerge:

- Participants in the debate often appeal to the consumer interest in justification of their own positions. In fact, their own interests are the ones at stake and consumer implications are easily over-stated.
- This is not to say that different interconnection arrangements could not benefit the generality of consumers. However, the detail and complexity of the arrangements is such that it is hard to predict outcomes of changes with confidence.
- Mobile phone costs should fall considerably in coming years, and could ultimately become lower than fixed phone costs.
- The generality of consumers could benefit from changes in interconnection arrangements that Ofcom believes will lead to intensified competition. Very low users who could risk getting worse deals could be protected by special safeguards such as “no-frills” tariffs.
- Measures are needed to enable consumers to choose with confidence among the increasing variety of market offerings.

Endnotes

¹ *Mobile citizens, mobile consumers* at <http://www.ofcom.org.uk/consult/condocs/msa08/>

² There are links to the draft Recommendation and explanatory memorandum, together with about 50 non-confidential responses, at http://ec.europa.eu/information_society/policy/ecomms/library/public_consult/termination_rates/index_en.htm

³ Actual MTRs may vary by time of day or day of the week (eg peak and off-peak). Regulated rates apply to the traffic-weighted average of these; operators are free to agree on variations so long as the average does not exceed the regulated rate.

⁴ The examples below are representative of the lowest available in today’s market.

⁵ <http://callchecker.moneysavingexpert.com/ukcallchecker/mobile-numbers/weekday>

⁶ 4.3p is of course less than the regulated MTR: the tariff rests on the safe assumption that on average people making this many calls will make a sufficient proportion to fixed numbers, or to other people connected to the same network, that the average termination rate payable per call will be under 4.3p.

⁷ Lycamobile is an MVNO reselling Orange network capacity which launched in September 2008, targeting immigrant communities. Like its older rival Lebara Mobile, and several recent entrants, it offers the great majority of international calls (including, in many cases, calls to mobiles) for less than the equivalent domestic UK calls.

⁸ Mobile operators also pay the same, or similar, call termination rates to each other. But usually their traffic streams and rates in each direction are roughly balanced, so interconnection does not lead to large revenue transfers. New mobile operators may have difficulties while interconnection still accounts for a very high proportion of their total traffic.

⁹ http://www.competition-commission.org.uk/rep_pub/reports/1999/421cellnet.htm#summary

¹⁰ http://www.competition-commission.org.uk/rep_pub/reports/2003/475mobilephones.htm#summary

¹¹ http://www.ofcom.org.uk/consult/condocs/mobile_call_term/

¹² See for example the latest overview of each country’s rates at http://erg.eu.int/doc/publications/erg_08_41_final_mtr_snapshot_081017.pdf, and the Common Position on symmetry of fixed call termination rates and symmetry of fixed mobile termination rates at http://erg.eu.int/doc/publications/erg_07_83_mtr_ftr_cp_12_03_08.pdf

¹³ For example, there is comprehensive documentation of the New Zealand Commerce Commission investigation at

<http://www.comcom.govt.nz/IndustryRegulation/Telecommunications/Investigations/MobileTerminationRates/reportsandsubmissions.aspx>

¹⁴ Wider effects are well discussed in *How mobile termination charges shape the dynamics of the telecom sector*, by Olivier Bomsel, Martin Cave, Gilles Le Blanc, and Karl-Heinz Neumann, 2003 at http://www2.warwick.ac.uk/fac/soc/wbs/research/cmur/pubs/research_papers/2003/2003_mobile_termination.pdf (report supported by fixed network operators Colt and Cable and Wireless).

¹⁵ The Analysys Mason report was commissioned by Ofcom to support the MSA and is available at <http://www.ofcom.org.uk/consult/condocs/msa08/msaanalysys.pdf>. See p 124 for revenue projections.

¹⁶ Mobile call termination – proposal for consultation, Ofcom, 13 September 2006, Figure 3.1, at http://www.ofcom.org.uk/consult/condocs/mobile_call_term/new_mobile.pdf (based on February 2005 survey, base: adults aged 16+, mobile phone users and choosing network provider themselves (1,413). Customers of 3 were under-represented on this survey and were surveyed later; the results are in Mobile call termination – research annex, 27 March 2007, at

http://www.ofcom.org.uk/consult/condocs/mobile_call_term/annex.pdf. There too, “cheaper for others to call me” was given as a reason for choosing the current network by only 1% to 2% of respondents).

¹⁷ BMRB report, pricing structures, July 2002, provided as Appendix 6.2 to Competition Commission report of 2003, at http://www.competition-commission.org.uk/rep_pub/reports/2003/fulltext/475a6.2.pdf

¹⁸ Section 6.230, at

http://www.competition-commission.org.uk/rep_pub/reports/2003/475mobilephones.htm#full

(NOPV refers to a survey carried out by NOP for Vodafone in Spring 2001).

¹⁹ Frontier Economics, *Assessing the impact of lowering mobile termination rates*, a report prepared for Deutsche Telekom, Orange, Telecom Italia, Telefonica, and Vodafone, July 2008, at

http://www.frontier-economics.com/library/publications/Frontier%20publication_MTRImpact.pdf

²⁰ Recent academic research (sponsored by Vodafone) has found, based on figures from more than 20 countries over a decade, that the waterbed effect is “strong, but not full”. See: Christos Genakos and Tommaso Valletti, *Testing the “Waterbed” Effect in Mobile Telephony*, January 2008, at <http://ssrn.com/abstract=1114856>

²¹ This is because 10% of 15% is the same as 1.8% of 85% (1.5% in each case).

²² Marginal non-mobile users who currently have no mobile phone might also be more likely to remain non-mobile users. But Ofcom’s consumer research for the 2006-7 MTR review (at http://www.ofcom.org.uk/consult/condocs/mobile_call_term/marketresearch/) shows that the great majority of non-mobile users now choose not to have a mobile phone.

²³ Ofcom’s MSA and the Analysys Mason report include evidence of how in the UK higher spenders on mobile services have done better than lower spenders over the last few years.

²⁴ The Analysys Mason report estimates mobile network costs at only 11% to 18% of revenues.

²⁵ Ministry of Transport and Communications, Finland, *A phone for everyone – from fixed to mobile services*, January 2008, at <http://www.lvm.fi/filesserver/a%20phone%20for%20everyone%20-%20from%20fixed%20to%20mobile%20services.pdf>

²⁶ Mobile is also a more economical solution than fixed in most of the developing world, where fixed networks have never become widespread. New wireless technologies have the potential to be much more economical again than GSM and other current cellular technologies.

²⁷ Network externalities are benefits of a larger network, enabling existing subscribers to call new ones and new more all-embracing applications to be introduced.

²⁸ Source: 2008 Eurobarometer e-communications household survey,

http://ec.europa.eu/public_opinion/archives/ebs/ebs_293_full_en.pdf

²⁹ S. C Littlechild, *Mobile termination charges: Calling Party Pays versus Receiving Party Pays*, *Telecommunications Policy* 30 (2006) 242-277 provides a very useful discussion of the advantages of RPP and of the relevance of RPP to Europe and, in particular, the UK. Professor Stephen Littlechild is an academic economist, author of an early standard text on telecommunications economics and, among other things, a former head of Ofgem.

³⁰ Several emerging countries, especially in Latin America, in recent years have switched from RPP to CPP, because their mass markets consist of poorer people who do not want to risk having to pay for calls that they cannot control receiving.

³¹ Scott Marcus, *Call Termination Fees: The U.S. in global perspective* at ftp://ftp.zew.de/pub/zew-docs/div/IKT04/Paper_Marcus_Parallel_Session.pdf provides a helpful introduction to the North American approach and comparison between it and the European approach.

³² “Mobile take-up” here means at least one mobile phone in the household. Comparative studies of international experience often use the term “penetration” to mean the number of active mobile phones (or, often, SIM cards) per hundred population. This is a poor measure of the actual reach of mobiles, because often one individual has more than one SIM card, and many households have multiple mobiles. This topic is explored in detail in Ewan Sutherland’s report at <http://lirne.net/2008/05/sutherland-sim-card-study/>

³³ US and UK statistics are not directly comparable. Operators count mobile subscriptions in different ways (for example, they may be disconnected for inactivity after different lengths of time). Mobile phones per 100 people do not translate easily into the percentage of people with a mobile, because some people have more than one mobile. The translation into households with at least one mobile is even harder, because a single household can have several mobiles. However, as Figure 5 shows, higher household take-up of mobiles in the UK more than compensates for lower household take-up of fixed lines.

³⁴ See for example Figure 11 and accompanying commentary in the Frontier Economics report (reference in endnote 19).

³⁵ Source: Table 16 from Federal Communication Commission’s 12th Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, drawing on Merrill Lynch’s *Interactive Global Wireless Matrix 4Q06*, http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-08-28A1.pdf

³⁶ The figures in brackets are provided by Frontier Economics, based on the 4Q07 Merrill Lynch data and adjusted to exclude billed non-conversation time.

³⁷ Another set of arguments applies in developing countries, whose mobile operators may use revenues from incoming calls (especially international ones) to help to fund rural network coverage. India, for example, has some of the world’s lowest mobile tariffs, and mobile termination rates that are not much higher than fixed ones, but is facing problems in getting mobile networks to all parts of the country.

³⁸ See the Ministry of Transport and Communications report *Mobile pricing and interconnection regimes*, May 2004, at <http://www.lvm.fi/fileserver/mobile%20pricing%20and%20interconnection%20regimes.pdf>

³⁹ See <http://www.08-numbers.co.uk>

⁴⁰ Mike George and Linda Lennard, *Telecommunications*, chapter 4, pp 123-150 of Poor Choices: the limits of competitive markets in the provision of essential services to low-income consumers, Energywatch, September 2008

⁴¹ How to do this is another major topic. A useful tool may be getting service providers to price published representative usage “baskets” or profiles (the three pre-paid usage profiles provided in Ofcom’s MSA are examples). This approach is elaborated in a response by the present author to Ofcom’s 2006 consultation on consumer policy, at http://www.ofcom.org.uk/consult/condocs/ocp/responses/antelope_consulting.pdf

⁴² Typically, at least one paid call every three months or every six months is required to keep pre-paid credit accessible.