Mobile call termination market review 2015-18

Annexes 8,9,10

Consultation

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Contents

Annex 8

Smaller MCPs

A8.1 We conducted an analysis of all the 96 smaller MCPs[1] to whom Ofcom has allocated mobile number ranges.

A8.2 Firstly, we checked on the Companies House website[2] whether the companies were still active. We found that three MCPs were either dissolved or had been purchased by another company and therefore excluded them from our proposed market analysis[3]. These were Awayphone Ltd (dissolved); UPA Telecom Ltd (dissolved); and Cable & Wireless UK (acquired by Vodafone).

A8.3 We then gathered information from the smaller MCPs using our statutory powers under section 135 of the Act. In the information requests we asked each company:

- to list the mobile number ranges currently used for mobile call services, distinguishing between those allocated to them by Ofcom and any other mobile number ranges that have been allocated to another MCP by Ofcom but where their use has been authorised by that other MCP;
- to confirm whether the named MCP provided MCT services on the number ranges mentioned in the preceding bullet;
- for details of the total number of minutes of inbound calls to the relevant number ranges and the number of minutes of voice calls originated by the customers of the named MCP;
- to list the CPs which the named MCP interconnected with;
- the pence-per-minute (ppm) MTR they charged at the time, including any time-of-day variations and any variations by interconnecting CPs, and where these MTRs are published;
- details of the technologies which the named MCP uses to deliver voice calls to its customers, including any network infrastructure or equipment operated directly by the MCP and/or wholesale services purchased from other companies, and the proportion of mobile voice call minutes terminated using each of these different technologies;
- a brief description of the network infrastructure, including the network equipment involved in termination and a network diagram;

[1] These 96 MCPs were identified on the basis that they had been allocated mobile (07x) number ranges by Ofcom. These smaller MCPs exclude Vodafone, Telefónica, EE (the previously separate T-Mobile and Orange) and H3G.

[2] http://www.companieshouse.gov.uk/

[3] In general, when an MCP is dissolved or acquired by another company it informs Ofcom and returns the mobile number ranges that have been allocated to it. These numbers can then be reallocated following a new numbering application. If the MCP does not return its numbers, Ofcom can still withdraw them on its own initiative. The latter process, however, is lengthier and involves the publication of Ofcom's intentions for the withdrawal of these numbers. See http://stakeholders.ofcom.org.uk/telecoms/numbering/proposed-withdrawals/

- a brief overview of the business conducted by the named MCP, including the number of employees and active customers and the type of services offered by the named MCP on each of the relevant number ranges; and

- financial information related to the named MCP, including revenues and wholesale charges paid to other communication providers in relation to MCT services.

A8.4 We issued 91[4] section 135 information requests and received 86 responses. Of these, 50 said that they currently provide mobile voice call termination services on number ranges allocated to them. We therefore propose to include these MCPs in our market analysis.

A8.5 During the information gathering process, three smaller MCPs, Lifecycle Software Ltd, Teledesign Ltd and Zap Communications Ltd, informed us they had or intended to return the mobile number ranges allocated to them to Ofcom. We therefore propose to exclude these MCPs from our market analysis. We also found that one company, Interact Solutions Ltd, has been put into liquidation since responding to our information request and we therefore also propose to exclude this MCP from our market analysis.

A8.6 Some smaller MCPs that provide mobile voice call termination services on the numbers allocated to them indicated that they do not operate their own access networks and have chosen to purchase some or all of the network elements required to physically terminate the call from other companies ("hosting CPs"). We requested additional information from them in relation to their access arrangements and/or requested such information from the hosting CPs. In most cases, we found that these MCPs agree the MTR level bilaterally with the hosting CP and/or receive some of the revenues associated with them. Some [✂] said that they did not set the MTRs as these were unilaterally set by the hosting provider, and that they did not receive any revenues from call termination on the numbers allocated to them. We propose that these MCPs are included in our market analysis for the reasons outlined in paragraphs 3.45 – 3.48 of this Consultation.

A8.7 22 smaller MCPs said that they currently do not provide mobile voice call termination services on the number ranges allocated to them but plan to do so in the near future. We asked these companies if they could provide an indicative date of when they intended to launch such services on these numbers. We found that, according to their current plans, all 22 MCPs plan to provide mobile voice call termination services in the period covered by this review, i.e. April 2015 – March 2018. On this basis, we propose to include them in our market analysis and plan to ask about any updates on their plans before publishing our final statement on this market review.

A8.8 Three smaller MCPs, Lleidanetworks Serveis Telematics Ltd, Nextgen Mobile Ltd and Teleware Plc, responded to the information request saying that they do not provide mobile voice call termination services and do not have plans to do so in the future.[5] We therefore propose to provisionally exclude these MCPs from our market

[4] We issued 91 and not 93 section 135 requests (i.e. 96 MCPs – 3 dissolved MCPs) as two companies, Simwood eSMS Limited and Fogg Mobile AB, entered the market later, in March and April 2014 and we took into account the evidence submitted with their numbering application.
[5] Two of them, Lleidanetworks Serveis Telematics Ltd, Nextgen Mobile Ltd, stated that they use the mobile number ranges allocated to them to provide SMS services only.

analysis and plan to seek confirmation from them before publishing our final statement. If they start providing mobile voice call termination services before the publication of our final statement or if they plan to do so in the period covered by this review, we would expect to include their termination services within our market analysis (including market definition, designation of SMP and imposition of remedies as we have proposed for other smaller MCPs).

A8.9 Five smaller MCPs, Alliance Technologies LLC, Callax Limited, LegendTel LLC, Moonshado Inc and Test2date B.V, have not responded to our information request or to our further attempts to contact them. We thus considered alternative sources of evidence on whether they offer MCT on the mobile number ranges allocated to them by Ofcom. In particular, we looked at whether their company name or the number ranges allocated to them were listed on BT's Carrier Price List (CPL).[6] We also followed-up with their hosting CPs. We found that:

- Callax Limited is listed on BT's CPL and its two mobile number ranges allocated by Ofcom appear to be active;
- The mobile number range allocated to Alliance Technologies LLC is listed on BT's CPL Part no. B1.02 against Core Telecom Limited (who we understand to be the hosting CP) and appears to be active. We sought further information from Core Telecom Limited who confirmed to us that it is the hosting CP for this number range and that the number range is active.
- The mobile number ranges allocated to Legendtel LLC and Moonshado Inc are listed on BT's CPL Part no. B1.02 against Telecom 2 Limited (who we understand to be the hosting CP) and appear to be active. We sought further information from Telecom 2 Limited, who confirmed to us that it is the hosting CP for these number ranges and that the number ranges are active.
- The mobile number range allocated to Test2date B.V. is listed BT's CPL Part no. B1.06 and appears to be active.

A8.10 Based on the above information contained in BT's CPL, the supporting information we received from the hosting CPs and the latest information which these MCPs have provided to Ofcom (their statement of intended use of the mobile ranges in their numbering applications), we propose to include the termination services provided by these five MCPs in our market analysis.

A8.11 Ten smaller MCPs are registered in the Channel Islands or the Isle of Man. In addition to the above questions, we asked these companies whether they provide their services within the UK, within the country of their registration and/or in any other country.

A8.12 We undertook a further check with the local regulatory authorities and found that eight of these smaller MCPs are licensed to provide mobile services in their country of registration. We consider that the termination services provided by seven of these MCPs should not be included in our proposed market definition for the

[6] We considered Section B1 (Telephony) Part no. 1.02 and Part no. 1.06. Both sections can be found at: https://www.btwholesale.com/pages/static/Library/Pricing_and_Contractual_Information/carrier_price_list/cpl_sectionb1telephony.htm

reasons outlined in paragraphs 3.41 – 3.42 of this Consultation.[7] However, whilst Manx Telecom Trading Ltd holds a mobile licence for the provision of mobile services in the Isle of Man, it told us it uses all the UK mobile number ranges[8] allocated to it worldwide, including in the UK, but not in the Isle of Man. We propose to include this company as it does not appear to us that its MTRs are currently subject to local regulation. From the information we have been provided by IoM CC and Manx Telecom it is unclear whether MTRs set in relation to these UK mobile number ranges will become subject to local regulation by the time we publish our final statement. We will seek further information from the IoM CC and Manx Telecom. If these numbers will be subject to local regulation by the time we publish our final statement we propose to exclude the termination services provided by Manx Telecom from our market analysis (including market definition, designation of SMP and imposition of remedies).

A8.13 Two smaller MCPs, Marathon Telecom Ltd (registered in Jersey) and Globecom International Ltd (registered in the Isle of Man), do not hold a licence for the provision of mobile services in the country of their registration. We consider that the termination services provided by these two MCPs should be included in our proposed market analysis, because we understand that their MTRs are not subject to regulation by the national regulatory authorities of the relevant islands.

A8.14 In March and April 2014 we granted new mobile number ranges to two additional MCPs, Simwood eSMS Limited and Fogg Mobile AB. Based on the information received as part of the application process, we are aware that Simwood plans to offer MCT services and we therefore propose to include it in our market analysis, whereas Fogg Mobile plans to use the new mobile numbers for data and signalling purposes only and we therefore propose to provisionally exclude it from our market analysis and plan to seek confirmation from it about the services provided through the mobile numbers that we have recently allocated to it before publishing our final statement. If Fogg Mobile AB starts providing mobile voice call termination services before the publication of our final statement or if it plans to do so in the period covered by this review, we would expect to include its termination services within our market analysis (including market definition, designation of SMP and imposition of remedies as we have proposed for other smaller MCPs).

[7] These are Guernsey Airtel Ltd, Jersey Airtel Ltd, JT (Guernsey) Ltd, JT (Jersey) Ltd, Sure (Guernsey) Ltd, Sure (Isle of Man) Ltd and Sure (Jersey) Ltd.

[8] Manx Telecom Trading Ltd also holds an allocation of 07624 number ranges, which are designated in the National Telephone Numbering Plan as for Radiopaging Service and Mobile Services (Isle of Man Communications Commission. Calls to these numbers do not fall within our proposed market definition, because our market definition relates to calls to UK mobile numbers (i.e. 071xx to 075xx and 077xx to 079xx numbers) and not 076xx (or 070xx).

Annex 9

Analysis of the effects of the cost standard on consumer prices and usage

Introduction

A9.1 In this annex, we discuss the effects of the choice between LRIC+ and LRIC on retail prices in both the pre-pay and post-pay mobile segments and overall (e.g. over a basket of mobile services), and also for retail F2M calls. We consider what the impacts might be in principle and consider the empirical evidence based on the market developments in the retail mobile sector since the move to LRIC based MTRs.

A9.2 We recognise that the empirical evidence on retail pricing and usage may have been affected by other factors such as changes in consumer preferences (e.g. greater use of data) and reductions in network costs.[9] Moreover, the effects of the change in termination rate may be muted by the fact that MTRs were moved to LRIC over a glidepath. Nonetheless there is no evidence that suggests that overall there have been any significant adverse direct effects on prices, subscriptions or usage from the move to LRIC based MTRs; indeed there appear to have been some positive effects, particularly for post-pay consumers.

A9.3 This annex is structured as follows:

- We first discuss the potential impact of the cost standard on mobile retail prices from first principles;
- We then consider the evidence on prices that has emerged since the last review;
- We then look at the effects on mobile usage; and
- Finally, we then look at the effects on fixed to mobile prices and usage.

Potential Impact of the cost standard on retail pricing and usage

A9.4 In this sub-section we consider how the choice between LRIC and LRIC+ could affect the pricing of retail mobile services. It is structured as follows:

- We first consider the interplay between MTRs and retail pricing, including the “waterbed effect”; and
- We then look at how changes in cost standard might, in theory, affect prices in different segments of the mobile retail market.

[9] As shown in Figure A16.2 in Annex 11, LRIC+ costs of call termination have been decreasing since 2011. Given that the different mobile services largely share the same network components, we would expect the unit cost of other services to be similarly declining.

Impact of MTRs on overall retail mobile prices

A9.5 There are two important ways in which MTRs affect retail pricing. First, they affect the marginal cost of an off-net call. Considering this effect alone, higher MTRs imply higher retail call prices. Second, MTRs represent a source of revenue and, if priced above LRIC, a source of profit margin. When MTRs are priced above LRIC, MCPs are therefore incentivised to compete for this profit, for example by offering discounts on retail prices (either usage prices or "fixed" charges, e.g. monthly rentals and/or handset prices). This second effect offsets the first, with as we explain below, the relative balance of outbound to inbound calls determining which effect will dominate (other things being equal).

A9.6 Within the UK mobile industry (i.e. considering only calls between MCPs within the UK), call termination is a 'zero-sum game'. In other words, were it not for calls from fixed and international CPs, MTRs represent transfers amongst MCPs, and an increase in MTRs would not directly lead to increased revenue being paid into the mobile industry.

A9.7 However, FCPs in the UK and overseas CPs do pay MTRs in the UK, as their customers call UK mobile numbers. Any decrease in MTRs will lead to lower payments from these CPs. UK MCPs might try to recover this 'lost' revenue (and margin) by raising various retail prices. Therefore, we might expect some retail prices to increase – or to decrease slower than they would otherwise if other factors (such as falling unit costs) caused a general trend of falling prices. Conversely if MTR margins increase, there is less need to recover common costs from the retail side of the market, and competitive pressure may force these prices down. This is known as the waterbed effect.[10]

A9.8 A waterbed effect is said to be incomplete if the impact on prices and revenues on the retail side does not fully offset the impact from changes in MTRs. There has been some empirical work by Genakos and Valletti on the extent of the waterbed effect. For example, using pre-2006 data, Genakos and Valletti (2011) found evidence of a "high" but "incomplete" waterbed effect and said that, at a disaggregated level, this effect was stronger for post-pay than for pre-pay.[11] However, further research presented in Genakos and Valletti (2014) extended the original dataset to include data up to 2011 and suggests that the waterbed effect is now weaker than previously thought.[12]

A9.9 As discussed in Section 6 lower MTRs should also increase competition, particularly in the post-pay segment, which should also act to reduce prices. This may counteract the waterbed effect to some extent.

A9.10 The developments that we present below for the UK retail market under LRIC MTRs appear to be consistent with an indiscernible waterbed effect, i.e. there is no clear evidence that, overall, retail prices have increased as MTRs have been reduced towards LRIC.

[10] The waterbed effect is where a change in one set of prices (e.g. MTRs) leads to changes in prices in a different part of the market (e.g. on the mobile retail side).
[11] See, for example, Genakos, C. and T. Valletti, '*Seesaw in the Air: Interconnection Regulation and the Structure of Mobile Tariffs*', Information Economics and Policy, 2011, 23(2), 159-170
[12] See Genakos, C. and T. Valletti, 2014, "Evaluating a decade of mobile termination rate regulation", Working paper available at: ftp://www.ceistorvergata.it/repec/rpaper/RP303.pdf

Impact of MTRs on retail prices in different customer segments

A9.11 While the presence of a waterbed effect implies that, overall, retail prices may increase to some extent if MTRs are reduced, this may not impact all customer segments equally. This is because different customer segments may have different calling patterns.

A9.12 In particular, some customer groups may tend to be net receivers of calls, and so their MCPs are net recipients of MTRs in relation to these customers. The net MTR revenue for these customers will be higher under LRIC+ compared to LRIC. Other customer segments may be net makers of calls, and so their MCPs are net payers of MTRs. These net MTR payments will be higher under LRIC+ than LRIC.

A9.13 In line with the CC's views,[13] we expect that MCPs may change retail prices in order to counterbalance, to some extent, changes in termination revenues and margins. In principle, this means that, under LRIC, we would expect lower prices for customer segments that are net makers of calls. This is because, for these customers, the net balance of MTR payments results in an outpayment, which will be lower under LRIC compared to LRIC+. Likewise, we would expect higher prices for customer segments that are net receivers of calls since they should generate lower net MTR revenue for their MCPs under LRIC compared to LRIC+.

A9.14 At the time of the previous market review (and up to the 2012 CC Determination), the evidence suggested that:

- pre-pay customers as a whole were net receivers of calls and so earn their MCPs positive net termination revenues; and
- post-pay customers as a whole were either roughly neutral or net makers of calls and so provide their MCPs with zero or negative net termination revenues[14].

A9.15 However, there was variation within both groups, and the ratio of outbound to inbound calls tended to be larger for heavy users (i.e. those who make most outgoing calls and who have the greatest monthly expenditure). Indeed, further investigation into the broad trends outlined above, suggested that low-use post-pay users had net inbound calls and high-use pre-pay users were either net makers of calls or roughly balanced.

A9.16 We have sought to establish whether these patterns still hold true by requesting traffic data from MCPs. However, as we discuss at paragraphs 6.63 in Section 6, the data provided in response to our formal information requests do not allow us to draw strong conclusions about the current balance of calls for different customer segments. We intend to investigate this further prior to the publication of our statement.

[13] 2012 CC Determination, paragraphs 2.626 - 2.627.

[14] 2012 CC Determination, paragraphs 2.34 and 2.625. Note that the CC considered the ratio of calls involving MCT: so it included off-net MTM calls, FTM calls and 'other to mobile' calls, but did not include on-net MTM, MTF or 'mobile to other' calls. See paragraph 2.27 of the 2012 CC Determination.

A9.17 Below, we consider market developments and find that they are consistent with our expectations about the impact of LRIC and LRIC+ on various customer segments, given the calling patterns which held in 2011.

Empirical evidence of the impact of the cost standard on retail pricing

Introduction and summary

A9.18 This sub-section sets out the empirical evidence on retail pricing. It explains that:

- Overall, there does not appear to have been a significant increase in average mobile retail prices as a result of the move to LRIC based MTRs.
- Post-pay consumers seem better off now than in 2011 in accordance with our expectations. In particular:
    - 3G post-pay bundles which existed in 2011 and before still exist today and their subscription prices appear to be much lower today;
    - Whilst 4G offers have appeared since 2012, and are generally more expensive than the 3G contracts available today, these are offered alongside rather than in place of the latter. Recently, some MCPs have started to upgrade customers on 3G contracts to 4G at no extra charge to the customer.
- High-use pre-pay customers also appear better off now than in 2011 in accordance with our expectations.
- In relation to low-use pre-pay customers:
    - Some of the largest MCPs have increased their entry-level pre-pay prices (e.g. per-unit prices, minimum top-ups). However, one of them (Telefónica) offers more aggressive prices for low use customer segments through its associated brands (e.g. Giffgaff which it owns and Tesco Mobile which is a joint-venture with Tesco);
    - There is still a wide range of MCPs (including H3G and many of the main smaller MCPs) offering tariffs for entry-level pre-pay plans at the same or similar prices as in 2011 (both in terms of per-unit prices and minimum top-ups).

Overall developments in average mobile retail prices

A9.19 Figure A9.1 shows the real price of a representative basket of mobile services. It is broken down into metered (i.e. out of bundle) messaging and voice, and "line rental" which refers to subscription fees. The overall price has fallen each year, including since 2011, despite the move to LRIC based MTRs.[15]

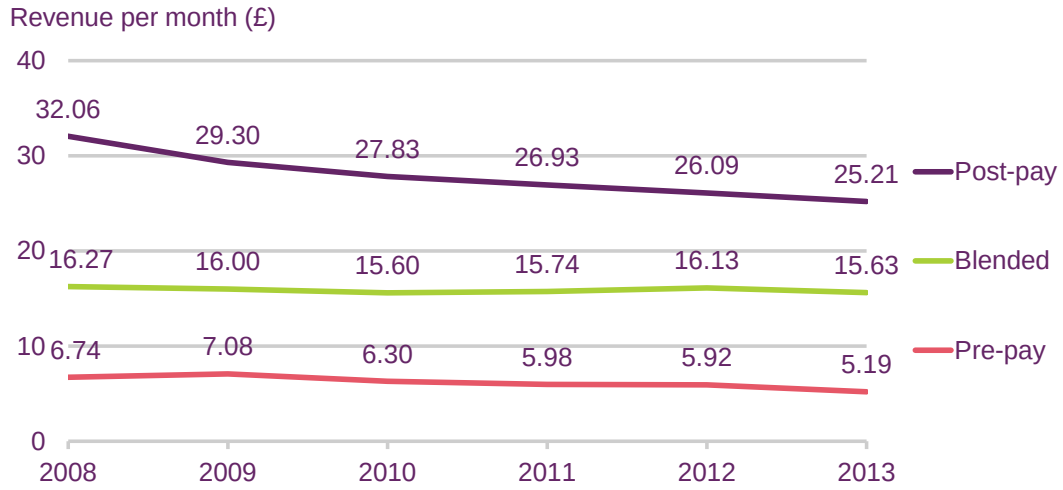
[15] Indeed, it is likely that prices for voice and SMS have fallen more than Figure A9.1 suggests. This is due to the fact that the baskets of mobile services which we use to track prices include voice and SMS but exclude data. The reported prices of the baskets are the average market prices of the services that most closely match the basket specifications. Prior to 2011 data was usually purchased

Figure A9.1: Real price of a basket of mobile services

Source: Ofcom/MCPs
Includes estimates where Ofcom does not receive data from MCPs; excludes non-geographic voice calls; adjusted for CPI; includes VAT. "Line rental" is the price of mobile service packages that include some voice, text and/or data. "Metered" is the out-of-bundle consumption, charged on per unit basis.

A9.20 Figure A9.2 below shows that nominal average revenues per user (ARPU) have been broadly flat in recent years. However, since total usage has been growing (for both voice and data – see Figure A9.10 for the voice usage profile over time and Annex 11 for the data volumes), this suggests that prices per unit of usage have decreased. Figure A9.2 also shows a clear decrease in ARPU for both post-pay and pre-pay, which would be a more pronounced decline in real terms.[16]

Figure A9.2: Mobile average retail revenue per user, by pre-pay and post-pay (nominal figures)



Source: Ofcom/MCPs
'Blended' refers to all subscribers: pre-pay and post-pay

as a separate "add-on" on voice and SMS services. However, it is increasingly bundled with the voice and SMS and this is likely to be reflected in the line rental fees, increasing average prices.

[16] The declining ARPU for both pre-pay and post-pay can be reconciled with broadly flat market-level ARPU if, as seems most likely, higher than average pre-pay ARPU customers migrate from pre-pay to post-pay, but have ARPU below the average ARPU of pre-existing post-pay customers.

Post-pay consumers are better off than in 2011

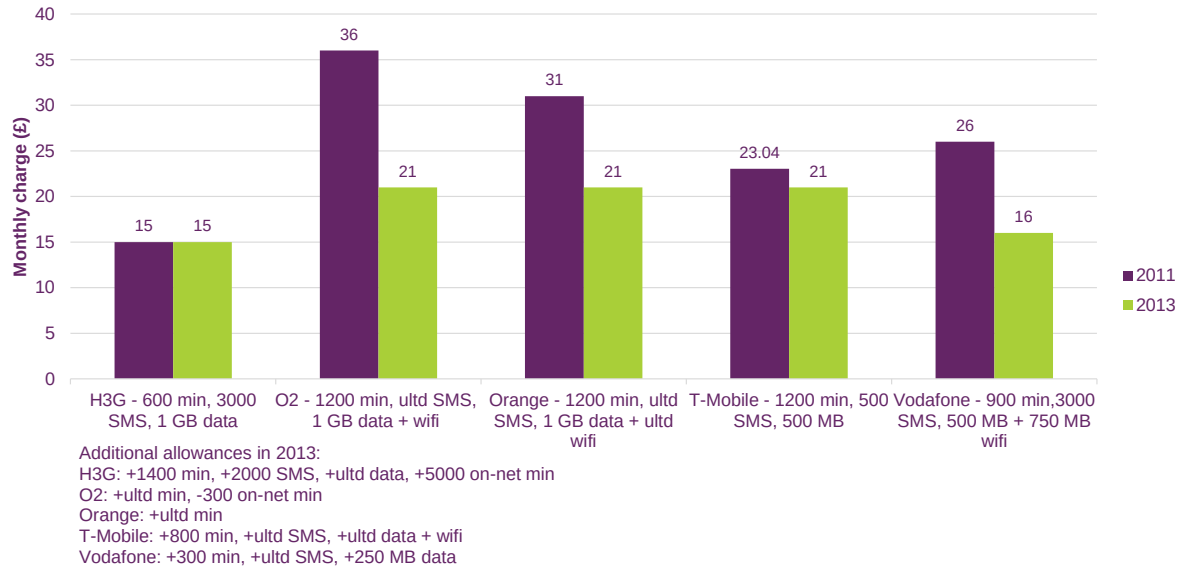
A9.21 We have considered post-pay plans available in 2011 and compared their (nominal) prices with more recent plans that offer at least as many calls, SMS and data. We considered SIM-only plans in order to exclude the effect of changes in handset prices.

A9.22 Figures A9.3 and A9.4 consider top-end SIM only plans for 12 months and 1 month contracts respectively. By top-end we mean tariffs that are at the highest pricing band and are targeting heavy users. For each MCP we picked one such tariff in 2011 and considered how much it would have cost consumers in 2013. Where an exact comparison was not possible, we picked packages in 2013 which were more generous and give details of the additional features of those packages. Figures A9.5 and A9.6 show similar data for mid-range SIM-only plans, for 12 months and 1 month contracts respectively.

A9.23 We recognise the analysis is not comprehensive. Nevertheless, in our view, it provides a good indication of the trends in retail mobile pricing.

A9.24 These charts indicate that, for a number of post-pay plans, consumers get significantly more in 2013 for the same price (or less) than at the time of the previous market review. The data is in nominal terms and the trend is re-enforced once inflation is taken into account.

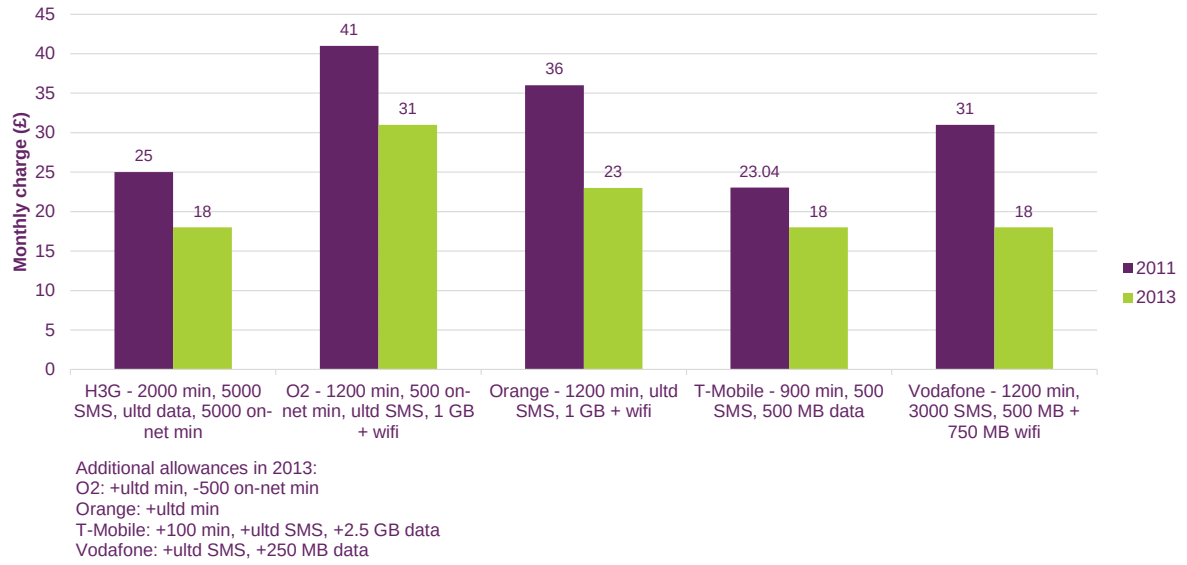
Figure A9.3: Tariff offers in 2011 and 2013: Top-end SIM-only plans, 12 months contract (£ per month)



Source: Pure Pricing reports, December 2011 and December 2013.[17]

[17] Details: H3G 2011 tariff 'Sim 600' and 2013 tariff 'The One plan'; O2 2011 tariff 'O2 1200' (£26) with 'The Works' add-on (1 GB data + unlimited wifi and 20 picture messages - £10) and 2013 tariff 'On & On 1 GB'; Orange 2011 tariff 'iPhone 31' and 2013 tariff 'Sim only 1 GB'; T-Mobile 2011 tariff 'Pay monthly 25' (includes a free booster worth £5.10, which we have assumed to be the 'Internet Booster') and 2013 tariff 'Full Monty £21'; Vodafone 2011 tariff 'Smartphone sim only' and 2013 tariff 'Vodafone 1200'. All tariffs are 12 month duration, excludes online-only and 4G tariffs.

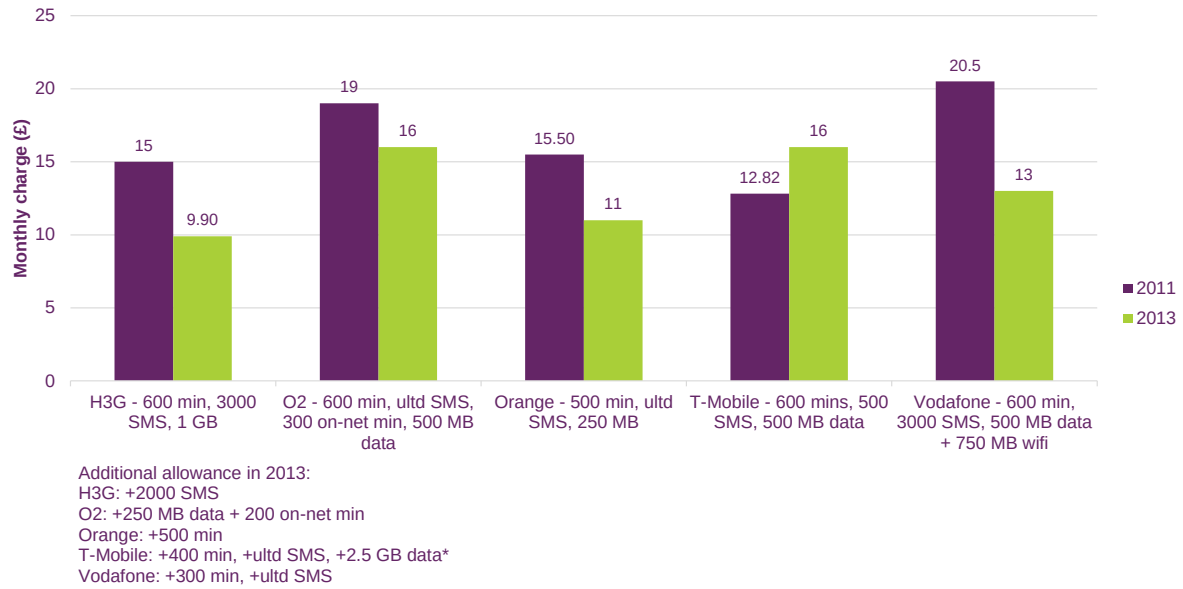
Figure A9.4: Tariff offers in 2011 and 2013: Top-end SIM-only plans, 1 month contract (£ per month)



Sources: Pure Pricing reports, December 2011 and December 2013.[18]

[18] Details: H3G 2011 tariff 'The One plan' and 2013 'The One plan'; O2 2011 tariff 'O2 1200' (£31) with 'The Works' add-on (1 GB data + unlimited wifi and 20 picture messages - £10) and 2013 tariff 'On & On 1 GB'; Orange 2011 tariff 'iPhone 36' and 2013 tariff 'Sim Only 1 GB'; T-Mobile 2011 tariff 'Pay monthly 25' (includes a free booster worth £5.10, which we have assumed to be the 'Internet Booster') and 2013 tariff 'Sim Only 3 GB'; Vodafone 2011 tariff 'Sim only £31' and 2013 tariff 'Vodafone 1200'. All tariffs are 1 month duration, excludes online-only and 4G tariffs.

Figure A9.5: Tariff offers in 2011 and 2013: Mid-range SIM Only plans, 12 months contract (£ per month)

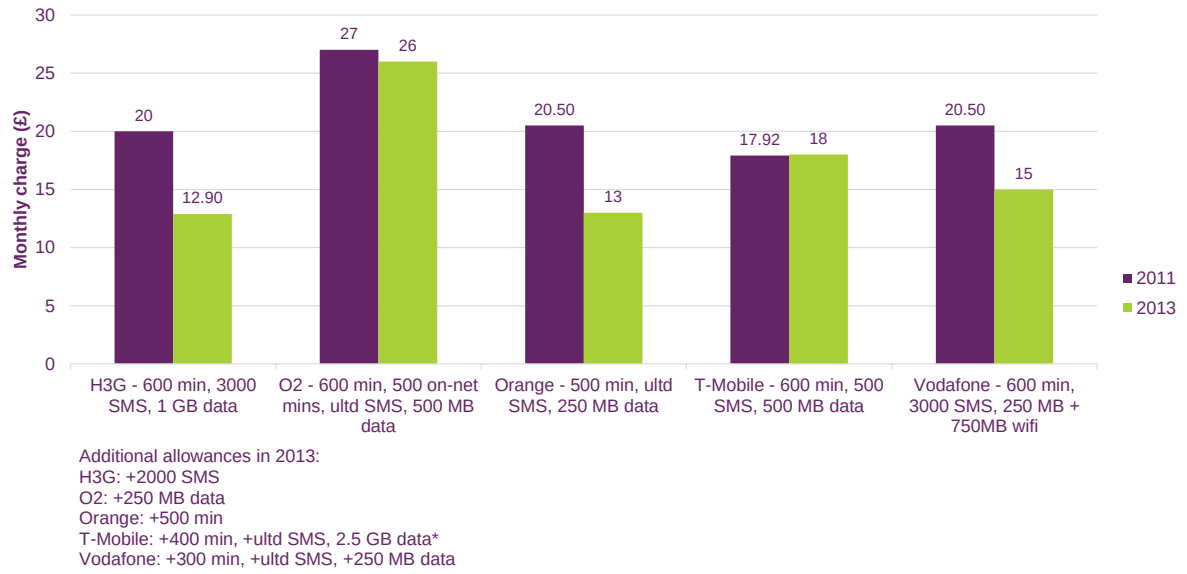


Additional allowance in 2013:
H3G: +2000 SMS
O2: +250 MB data + 200 on-net min
Orange: +500 min
T-Mobile: +400 min, +ultd SMS, +2.5 GB data*
Vodafone: +300 min, +ultd SMS

Source: Pure Pricing reports, December 2011 and December 2013.[19]
*To select a 2013 T-Mobile offer that is at least as generous as 2011, we have had to select a more expensive tariff that has significantly higher allowances. An alternative comparator is the 'SIM Only 1GB' plan, which provides 500 minutes, unlimited SMS and 1GB data for £11.

[19] Details: H3G 2011 tariff 'SIM 600' and 2013 'Essential SIM 600'; O2 2011 tariff 'O2 600' (£15.50) with 'The All Rounder' add-on (500 MB, ultd wifi + 20 picture messages - £6) and £5 off for the first 6 months discount, and 2013 tariff 'O2 600'; Orange 2011 tariff 'Dolphin 15.5' and 2013 tariff 'Sim Only 250 MB'; 2011 T-Mobile tariff 'Pay monthly 15' (includes a free booster worth £5.10, which we have assumed to be the 'Internet Booster') and 2013 tariff 'Sim Only 1GB'; Vodafone 2011 tariff 'Sim only £15.5' with 'Standard pack' add-on (500 MB and 100 picture messages - £5) and 2013 tariff 'Vodafone 900'. All tariffs are 12 month duration, excludes online-only and 4G tariffs.

Figure A9.6: Tariff offers in 2011 and 2013: Mid-range SIM Only plans, 1 month contract (£ per month)



Additional allowances in 2013:
H3G: +2000 SMS
O2: +250 MB data
Orange: +500 min
T-Mobile: +400 min, +ultd SMS, 2.5 GB data*
Vodafone: +300 min, +ultd SMS, +250 MB data

Sources: Pure Pricing reports, December 2011 and December 2013[20]
*To select a 2013 T-Mobile offer that is at least as generous as 2011, we have had to select a more expensive tariff that has significantly higher allowances. It may be that a more appropriate comparator is the 'SIM Only 1GB' plan, which provides 500 minutes, unlimited SMS and 1GB data for £13.

A9.25 We have not plotted similar charts for 'entry-level' plans. This is because presenting a comparison between 2011 and 2013 in this form was challenging because of the increasing tendency for data to be bundled with voice and text.[21] This means that there are some entry-level post-pay plans today that are apparently more expensive than entry level plans in 2011, but the higher charge comes with a data allowance either not previously available and/or with a greater voice usage allowance. Therefore, whether consumers with a preference for these "entry-level" plans are better or worse off than in 2011, depends on their preference for voice relative to data services. This can be illustrated by the following examples (all data are from *Pure Pricing* referenced above):

- In December 2011, Orange offered 'Canary 10.5' (100min, unlimited SMS, no data allowance, on a one-month SIM-only contract) at £10.50 per month. Data could be added at a minimum of £5/month for 500MB. In December 2013, Orange's entry level (i.e. lowest minutes) SIM-only one-month contract with unlimited SMS had 1000 min, was bundled with 250MB of data and priced at £13 per month. The addition of 500 MB of data to the 2011 plan would have cost an additional minimum of £5 per month, or an implied monthly subscription of £15.50 per month which would have been £2.50 per

[20] Details: H3G 2011 tariff 'SIM 600' and 2013 tariff 'Essential SIM 600'; O2 2011 tariff 'O2 600' (£21) with 'The All Rounder" add-on (500 MB, ultd wifi + 20 picture messages - £6) and 2013 tariff 'O2 600'; Orange 2011 tariff 'Dolphin £20.5' and 2013 tariff 'SIM Only 250 MB'; T-Mobile 2011 tariff 'Pay Monthly 20' (includes a free booster worth £5.10, which we have assumed to be the 'Internet Booster') and 2013 tariff 'Sim only 1GB'; Vodafone 2011 tariff 'SIM only £20.5' and 2013 tariff 'Vodafone 900'. All tariffs are 1 month duration, excludes online-only and 4G tariffs.
[21] Ofcom's 2013 Consumer Experience Report (page 94) states that the majority of post-pay tariffs now include an element of bundled data use as internet access on mobile devices becomes more widespread. In contrast, in 2011, many of these plans were offered with data priced as an 'add-on' for an extra fixed monthly fee (with different fees for different data allowances).

month more expensive than the 2013 plan (albeit with 250MB more data but 900 fewer minutes than the 2013 plan).

- H3G's one-month SIM-only entry level plan in December 2011 ('SIM 100', with 100min, 3000 SMS and 1GB of data) was priced at £10 per month. By December 2013 this had been replaced by a plan at £9.90 per month ('Essential SIM 200') with 200min, 5000 SMS, but 500MB of data. In this case, customers with a low willingness to pay for data but a high valuation for voice and/or SMS would be better off, while those who would still want 1GB of data would have the next-best choice of the 'Essential SIM 600' tariff (600 min, 5000 SMS and 1GB of data) on either a 12 month contract priced at £9.90 per month or a one month contract at £12.90 per month

A9.26 Another noticeable development in the post-pay segment is the appearance of '4G' plans. These often offer unlimited calls and SMS, with data being the main variable of price differentiation. These bundles are in general offered at a higher subscription price than 3G plans available in 2011. However, they are offered alongside 3G plans as an alternative rather than in place of the latter. Thus the existence of more expensive 4G plans cannot imply consumers are worse off – it simply means that consumers have more choice now than in 2011.

'High use' pre-pay customers are also better off than in 2011

A9.27 Pre-pay plans have evolved since 2011 and some pre-pay plans now resemble post-pay plans. In some cases, for example, consumers buy credit which they can use to either purchase 'packages' which, similar to post-pay plans, offer inclusive allowances for calls, SMS, and/or data that expire at the end of a given period (usually 30 days). There may also be rewards for pre-pay customers to incentivise them to top-up regularly.[22]

A9.28 For the same top-up amount (in nominal terms), pre-pay plans generally appear to offer higher usage today than the usage on pre-pay tariffs at the time of the previous review (and a better deal if inflation is taken into account). Table A9.1 below provides examples of usage available for a £10 top-up in 2011 and compares this with the usage available for a £10 pre-pay plan today. Higher allowances are shown in bold and lower allowances in italics. It shows that consumers buying these plans today are able to achieve the same or higher usage than in 2011. The only exception is O2 where £10 buys 25 more minutes and 200 more SMS but 250MB less data.

[22] For example, Telefónica doubles the allowances on its O2 'Pay & Go Go Go' tariffs after three months, and adds unlimited SMS after 9 months. Available at: http://www.o2.co.uk/help/pay-and-go/pay-and-go-go-go, correct as of 29 May 2014.

Table A9.1: Bundles available for a £10 pre-pay monthly package, 2011 and 2013[23]

	Dec 2011			Dec 2013		
O2	40 min	300 SMS	500 MB	**75 min**	**500 SMS**	*250 MB*
H3G	100 min	3000 SMS	650 MB	100 min	3000 SMS	650 MB
Orange	40 min	400 SMS	100 MB	**108 min**	400 SMS	**1 GB**
T-Mobile	100 min	41 SMS	500 MB	100 min	**400 SMS**	**1 GB**
Vodafone	100 min	300 SMS	50 MB	**150 min**	**Ultd SMS**	**250 MB**
Tesco	50 min	5000 SMS	33 MB	**150 min**	5000 SMS	**200 MB**
Virgin	19 min	300 SMS	1 GB	**28 min**	**Ultd SMS**	1 GB

Note: Increased allowances shown in **bold**, decreases shown in *italics*
Source: PurePricing reports[24]

[23] This is calculated assuming a consecutive monthly £10 top-up throughout an entire year. Where 2013 packages with at least as much of each component are not readily available, we have constructed comparable packages at £10 using the following process. We first consider packages with at least as much of two components (usually SMS and data). Then, using per-unit prices, we calculate how much of the third component (usually calls) could be purchased with the money remaining (out of £10) after purchasing the package. For example, the table shows that in Dec 2011 £10 on Orange bought a package of 40 minutes of calls, 400 SMS and 100 MB of data. In October 2013, a £10 top-up with Orange provided a package with 400 SMS and 1GB, and an allowance of additional £10 to spend at pre-pay per-unit prices. Spending this allowance on minutes alone would provide 108 minutes, 400 SMS and 1GB.

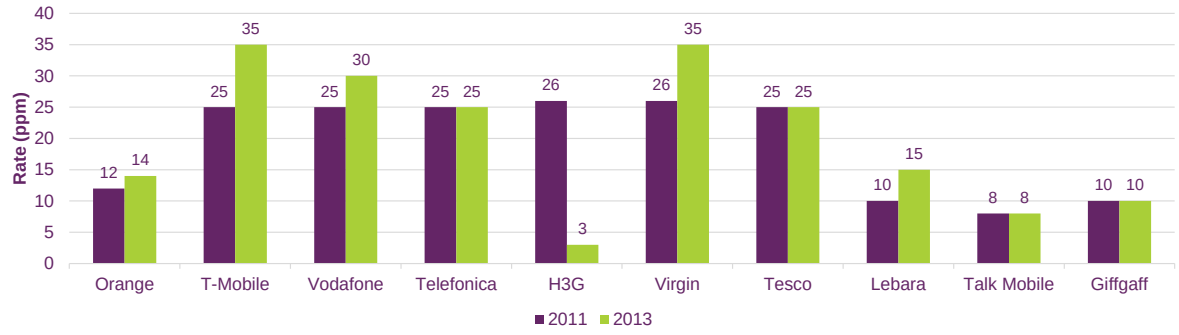
[24] Details: O2 'Text and Web' rewards plan with £10 top-up balance spent on other network calls (charged at 25ppm) in 2011. O2 '3G Pay and Go Go Go' in 2013, note that we have not included loyalty benefits (after 3 months allowances are doubled and after 9 months text allowance is increased to unlimited). H3G 'All in one 10' add-on plus 150MB free data reward for every top up, in 2011 and 2013. Orange 'Dolphin' rewards plan with £10 top-up balance spent on calls (charged at 25ppm) in 2011. Orange 'Dolphin' rewards plan with a '100 minutes, 1 month' add-on (£7.50) and remaining £2.50 top-up balance spent on calls (charged at 30ppm) in 2013. T-Mobile 'Talk Plan' rewards plan with a £5 'Internet Booster' (unlimited browsing and email + 500 MB allowance for downloading, uploading and streaming) and remaining £5 top-up balance spent on SMS (charged at 12p) in 2011. The 'Talk Plan' gives 100 any network anytime minutes the following month when you top-up £10 (+25 minutes with first £10 top up). T-Mobile 'Smart pack 1GB' add-on in 2013. Vodafone 'Freedom Freebee' add-on in 2011 and 'Red Freedom Freebee' add-on in 2013. Tesco Mobile £30 credit when you top up £10 reward, with £10 top-up credit used to purchase 50 minute call bundle (£5) and 5000 text bundle (£5), and free credit spent on data (charged at 60p per MB) in 2011. Tesco Mobile £20 free credit when you top up £10 reward, with £10 top-up credit used to purchase 150 minute call bundle (£5) and 5000 text bundle (£5), and free credit spent on data (charged at 10p per MB) in 2013. Virgin 'Addict' tariff with300 texts reward and 'Mobile internet add-on' (1 GB - £5), with remaining £5 top-up balance spent on calls (charged at 26 ppm) in 2011. Note the 'Addict Extra' tariff offers richer rewards (100 min and ultd SMS), but has been excluded as it is available only to Virgin

A wide range of MCPs still offer the same or similar tariffs for PAYG pre-pay plans as in 2011

A9.29 Above we have discussed how some pre-pay plans are sold as "packages" resembling post-pay plans, and shown how such plans compare to 2011 offers in Table A9.1. However, other pre-pay plans are still priced on a more traditional pay-as-you-go (PAYG) basis, i.e. are charged on the basis of usage according to per-unit charges. These generally have the highest per unit prices as they do not include discounts given in return for spending commitments.

A9.30 Figures A9.7 and A9.8 provide nominal per-usage prices for PAYG pre-pay for off-net calls and on-net calls for 2011 and 2013.

Figure A9.7: PAYG off-net call prices, excluding "rewards", 2011 and 2013

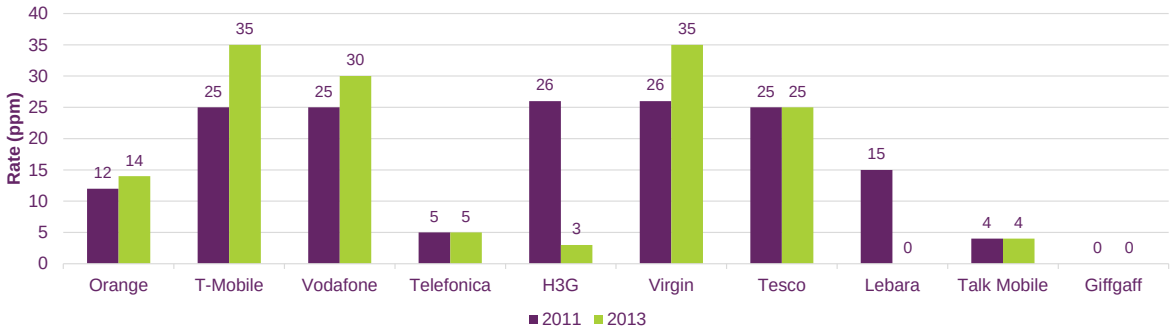


Source: Pure Pricing reports, December 2011 and December 2013[25]

Media customers. Virgin unlimited SMS and 1 GB when you top up £10 reward, with £10 top-up balance spent on calls (charged at 35ppm) in 2013.

[25] Multiple call prices were listed for some operators. For Orange, we have used the 'Racoon' tariff for both years; alternate tariffs are 'Camel' (20ppm in 2011, 25ppm in 2013) and 'Dolphin', 'Canary' and 'Monkey' (25ppm in 2011, 30ppm in 2013 – Monkey tariff is 2011 only). For T-Mobile, we have used the 'Everyday' plan for both years; in 2011 the 'Talk plan' had a rate of 20ppm and in 2013 plans with top-up rewards ('Text plan' and 'International plan') had a rate of 30ppm. For Vodafone, in 2013 there was a different rate of 35ppm if out of bundle on a 'Freedom Freebee' package. For Telefónica, the alternative 'Simplicity on Pay & Go' tariff had a rate of 35ppm. In 2013, monthly charge plans (i.e. '3G Pay and Go Go Go' and 'Simplicity on Pay & Go' are charged at 35ppm. For Virgin, we have used the 'Addict tariff'; in 2011 the 'Simply 8p' tariff had a rate of 8ppm but was exclusive to Virgin Media customers. Talk Mobile rates are based on the 'Talk Mobile PAYG Essentials'/'Talk Mobile Essential' tariff; the 'Talk Mobile Pay as you Go Rewards'/'Talk Mobile Rewards' tariff had a rate of 25ppm (2011 and 2013).

Figure A9.8: PAYG on-net call prices, excluding "rewards", 2011 and 2013



Source: Pure Pricing reports, December 2011 and December 2013[26]

A9.31 The charts show that several larger MCPs have increased pre-pay pay as you go prices. As discussed in the Ofcom '2012 Consumer Experience Report'[27], some larger MCPs have sought to incentivise consumers to switch from pre-pay tariffs to monthly contract services, which has been achieved by increasing pre-pay pricing or making subsidised smartphones available only on post-pay packages. In its response to the January 2014 workshop, EE also noted that it had adjusted pre-pay prices, which it said was a response to the announced change to LRIC in the March 2011 Statement in order to support overall cost recovery. EE further argued that pre-pay price rises appear to have occurred across the market. We do not believe that this latter statement is supported by the market developments presented in this annex.

A9.32 H3G, in particular, is now offering the lowest pre-pay per-unit prices for off-net calls at 3 pence per minute. We are not aware of any MCP having offered lower prices previously (including at the time of the previous market review).[28] Moreover, the

[26] The Telefónica rate of 5ppm applies after the first three minutes of the day, which are charged at 25ppm. On Lebara, free on-net calls are subject to minimum £5 top-up, valid for 30 days. Fair use of 3000 minutes applies. On Giffgaff, free on-net calls are subject to top-up every three months and maximum 60 minutes per call. Multiple call prices were listed for some operators. For Orange, we have used the 'Racoon' tariff for both years; alternate tariffs are 'Camel' (20ppm in 2011, 25ppm in 2013) and 'Dolphin', 'Canary' and 'Monkey' (25ppm in 2011, 30ppm in 2013 – Monkey tariff is 2011 only). For T-Mobile, we have used the 'Everyday' plan for both years; in 2011 the 'Talk plan' had a rate of 20ppm and in 2013 plans with top-up rewards ('Text plan' and 'International plan') a rate of 30ppm. For Vodafone, in 2013 there was a different rate of 35ppm if out of bundle on a 'Freedom Freebee' package. For Telefónica, in 2011 the alternative 'Simplicity on Pay & Go' tariff had a rate of 35ppm. In 2013, monthly charge plans (i.e. '3G Pay and Go Go Go' and 'Simplicity on Pay & Go' are charged at 35ppm. For Virgin, we have used the 'Addict tariff'; in 2011 the 'Simply 8p' tariff had a rate of 8ppm but was exclusive to Virgin Media customers. Talk Mobile rates are based on the 'Talk Mobile PAYG Essentials'/'Talk Mobile Essential' tariff; the 'Talk Mobile Pay as you Go Rewards'/'Talk Mobile Rewards' tariff had a rate of 10ppm (2011 and 2013).

[27] See page 54 of Ofcom, *The Consumer Experience of 2012, Telecoms, internet, digital broadcasting and post,* Policy Evaluation Report, 8 January 2013. http://stakeholders.ofcom.org.uk/binaries/research/consumer-experience/tce-12/Consumer_Experience_Policy_1.pdf

[28] We note that if minimum top ups had increased, this could be seen as a form of price increase for very low usage customers. However, our understanding is that only Telefónica discontinued £5 top ups in 2011, so £5 and £10 top-ups are still prevalent and some MCPs even offer top-ups starting from 10p. This is the case with Orange SIM cards, in EE shops. Available at: http://more-from.orange.co.uk/activate/tiny-top-ups/ accessed on 30 May 2014.

charts show that with the exception of Virgin Media and Lebara, almost all the smaller MCPs shown (e.g. Giffgaff, Talk Mobile, Tesco Mobile) have maintained their nominal per-unit usage prices at a constant level since the previous market review (which represents a reduction in real terms). This means that customers who want to pay on a per-unit basis (rather than purchasing pre-pay "packages") still have access to a range of MCPs offering the same call prices as in 2011.

Proposed view on the impact of the cost standard on retail pricing

A9.33 Compared to 2011, post-pay customers and high-usage pre-pay customers appear to be better off. Low-usage pre-pay customers of some MCPs also appear to be better off (e.g. customers of H3G) or unaffected (e.g. customers of most smaller MCPs), while low usage customers of other MCPs (e.g. Vodafone, EE) might be worse off.

A9.34 Although these trends may also be affected by other factors, such as falling costs and broader trends in the provision of mobile services generally, the evidence suggests that the choice of cost standard does not seem to have resulted in higher retail prices overall.

A9.35 We would expect that, going forward, segments that are net makers of calls would be potentially better off price-wise under LRIC than under LRIC+. For segments that are net receivers of calls, prices may be slightly higher under LRIC. However, it seems likely that this impact would be more limited in this review period because the difference between the projected LRIC+ and projected LRIC is now around 0.5ppm (in 2015/2016 and reducing slightly over the control period), whereas between 2011 (when MTRs were first capped at LRIC) and 2013, MTRs fell by around 2.5ppm in 2012/13 prices (taking a calendar year average of the MTRs).

Impact of the cost standard on mobile usage and subscription

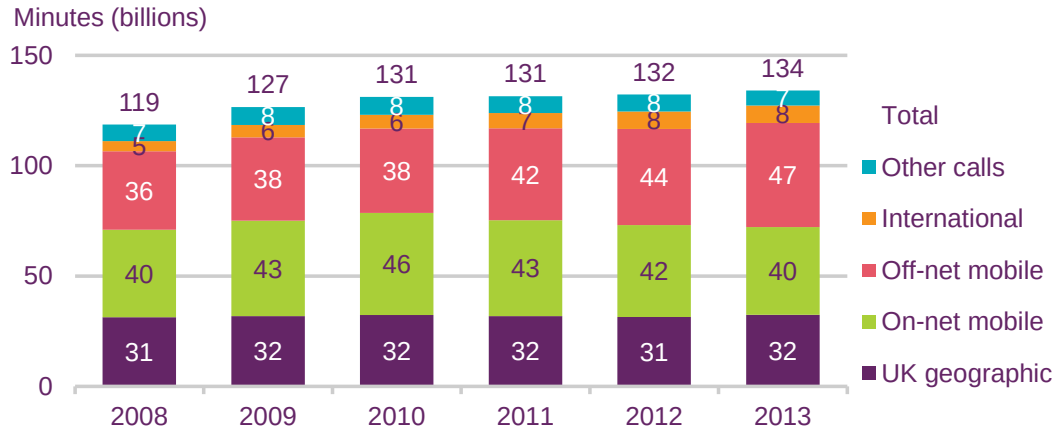
Impact on mobile usage

A9.36 There are two conflicting impacts on overall mobile usage under each cost standard. Under a LRIC cost standard (relative to LRIC+), those customers who face reduced prices for usage (or larger call allowances for the same price) would be expected to increase their usage. On the other hand, those consumers who might face an increase in usage prices under LRIC relative to LRIC+ would be expected to reduce their usage. Overall, the net effect is difficult to predict. In the 2012 CC Determination, the CC said it found it difficult to be confident of the effects on mobile usage of moving from LRIC+ to LRIC for these same reasons[29] but did not see any strong evidence that usage would decrease.[30]

A9.37 As Figure A9.10 shows, overall, mobile voice call usage has increased since 2011. In particular, total mobile to mobile traffic increased by just over 1% per year between 2011 and 2013. In addition, outgoing off-net mobile to mobile calls (which are those calls subject to MTRs) have grown significantly year on year (roughly 6% per annum on average over the two years) and have also grown as a proportion of both total outgoing mobile to mobile calls (from 49% in 2011 to 54% in 2013) and overall total outgoing calls (from 32% in 2011 to 35% in 2013).

[29] See paragraph 2.759
[30] See paragraph 2.765

Figure A9.10: Volume of outgoing mobile calls, by type of call

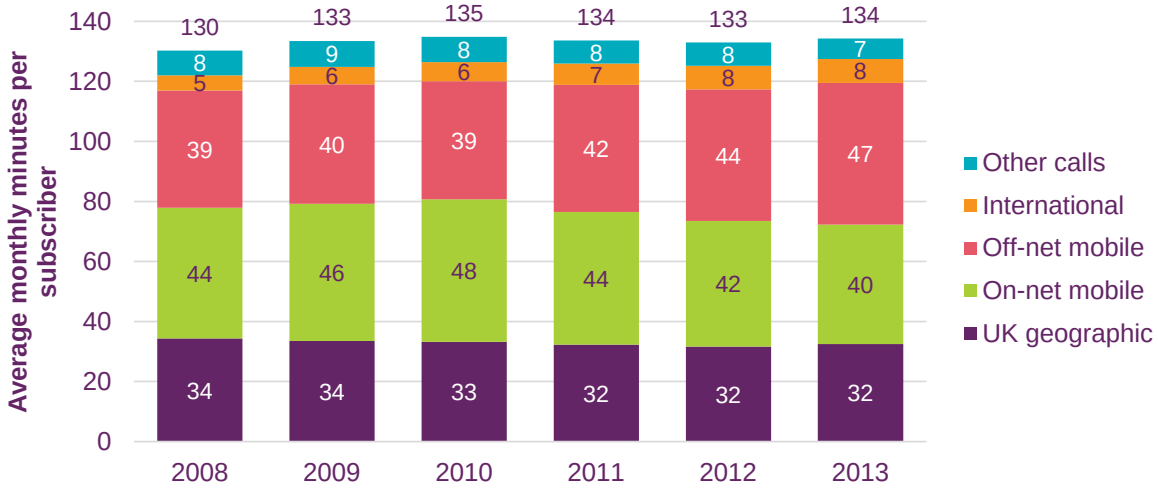


Source: Ofcom Telecoms Tables compiled using data from Ofcom / Operators

A9.38 In response to our January 2014 workshop, EE suggested that there were dips in usage seen in 2011 and 2012 which it considered were the results of the switch to LRIC MTRs. The data which EE refers to was previously published by Ofcom[31], but has recently been restated as the quality of the data which Ofcom collects from MCPs has improved and data is collected from a larger number of MCPs. Figure A9.10 reflects the most up-to-date developments since 2011.

A9.39 When considering voice usage per subscriber, the trend since 2011 is flatter with a small reduction in 2012 as shown in Figure A9.11. This can be reconciled with the growth in total voice call usage shown in Figure A9.10 above because ownership and subscription levels both increased since 2011 (see Figure A9.14 below for ownership levels and Figure A11.4 for handset SIM penetration). However, off-net mobile minutes per subscriber showed a clear increase from 2011, primarily at the expense of on-net minutes.

Figure A9.11: Volume of average monthly outgoing mobile calls per subscriber, by type of call



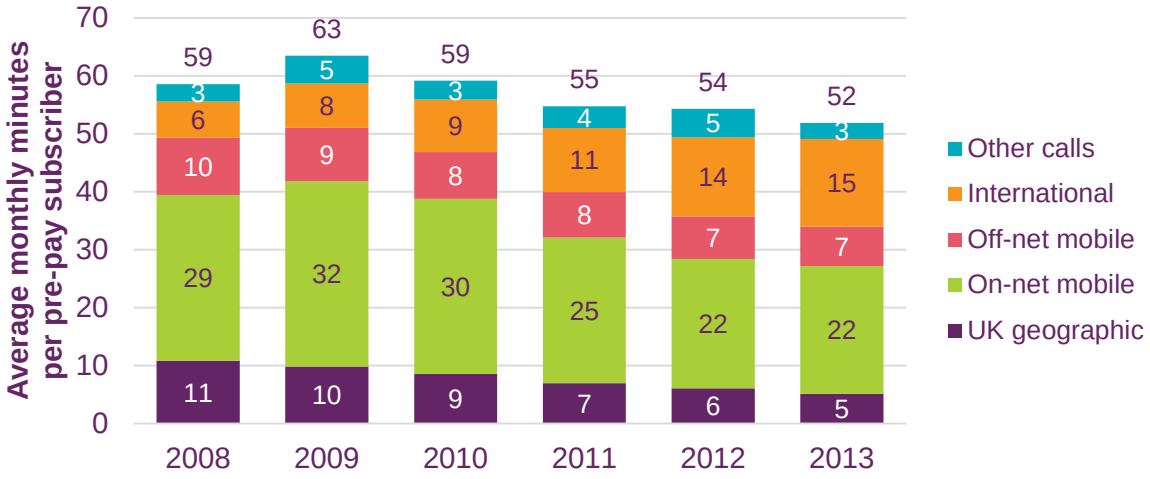
Source: Ofcom / MCPs

[31] See e.g. 2013 CMR, or Telecom Tables published prior to Q1 2013.

A9.40 Figure A9.12 and Figure A9.13 show average monthly use of pre-pay and post-pay have declined. Set against this, the fact that overall voice usage per subscriber was flat between 2011 and 2013 (see Figure A9.11) is likely to have been driven by migration from pre-pay to post-pay - the proportion of mobile users who are on a post-pay contract has grown substantially in the past two years and is at a significantly higher level of 65% compared to 49% in 2011.[32] This may, in part, have been a response to retail price changes under LRIC MTRs.

A9.41 It seems likely that the higher-use pre-pay customers migrated to post-pay, dragging down average usage on pre-pay a little. These new post-pay customers also appear to make fewer calls than the existing post-pay base, dragging down the average post-pay usage. This is consistent with the data on call balances (see 6.61 - 6.63) which suggests that, on average, post-pay customers, who were roughly neutral or net makers of callers in 2011,[33] may now be net receivers of calls, although the data we have for 2013 is incomplete.[34]

Figure A9.12: Volume of average monthly outgoing mobile calls per pre-pay subscriber, by type of call



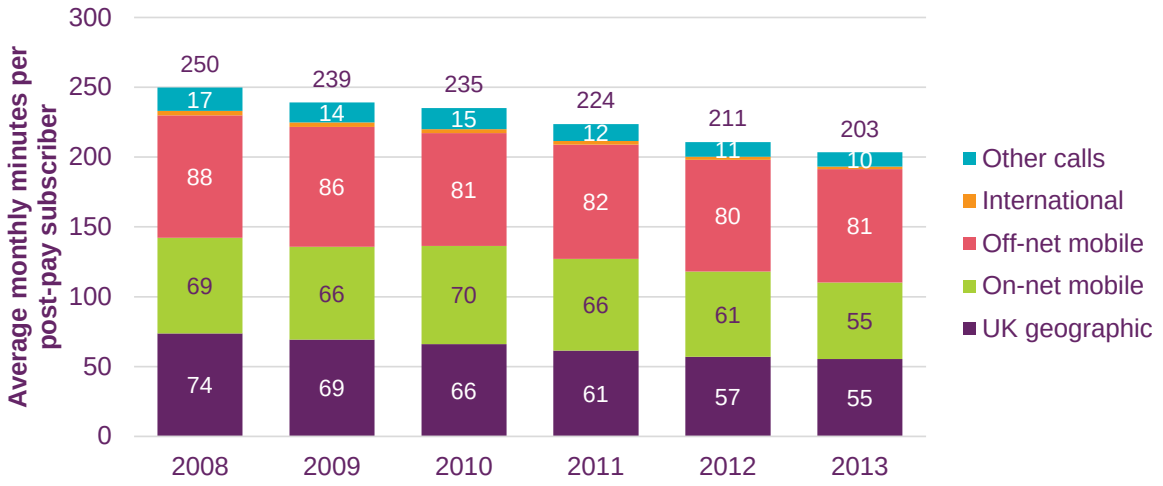
Source: Ofcom / Operators

[32] Ofcom, *Ofcom Technology Tracker data tables Wave 1 2014*, published April 2014. http://stakeholders.ofcom.org.uk/binaries/research/statistics/2014apr/2014w1.pdf and Ofcom, *Ofcom Technology Tracker Wave 1 2011 – Main Set*, published 5 May 2011. http://www.ofcom.org.uk/static/marketdataresearch/statistics/main_set.pdf

[33] 2012 CC Determination, paragraphs 2.34 and 2.625

[34] Note that, because incoming calls from fixed and other networks are included in the data on calling patterns but outgoing calls to those networks are not included, mobile customers as a whole have net incoming calls, so the resulting ratio of outbound:inbound calls on this measure is less than 1.

Figure A9.13 Volume of average monthly outgoing mobile calls per post-pay subscriber, by type of call



Source: Ofcom / Operators

A9.42 Overall, the data suggests that the move to LRIC has not adversely affected overall usage and may have led to a substitution from on-net to off-net calls across all subscribers (i.e. both pre-pay and post-pay), and may have contributed to the substitution from pre-pay to post-pay. For the review period to 2018, the effects from LRIC MTRs on usage may be slightly different if it turns out that calling patterns have changed and more post-pay customers are now net receivers of calls. It is possible that this subset of post pay customers may experience slightly higher prices under LRIC than LRIC+ and so their usage could be lower under LRIC MTRs. However, if this were the case, it is far from discernible in the available pricing data for contracts which exclude the price of a handset (ie SIM only top end and mid end contracts shown earlier in this annex). Moreover, given the limited evidence on calling patterns that we were able to obtain from the largest MCPs, it is not possible to draw a firm conclusion on calling patterns for post-pay.

Evolution of mobile subscription and ownership

A9.43 It is important to distinguish between numbers of mobile subscriptions and mobile ownership. Mobile subscription rates are higher than mobile ownership in the UK (and across Europe) because some consumers choose to have multiple subscriptions. Subscription figures also include dormant SIMs not regarded by consumers as still in use.

A9.44 We would be more concerned if consumers are unable to afford or use mobile services at all than if they face decisions to rationalise multiple subscriptions. This may mean, for example, that vulnerable consumers no longer had access to mobile services (see Section 6). Moreover, the marginal benefit of an additional subscription is likely to be lower than that of an initial subscription, so reductions in additional subscriptions are likely to have a lesser impact on allocative efficiency.

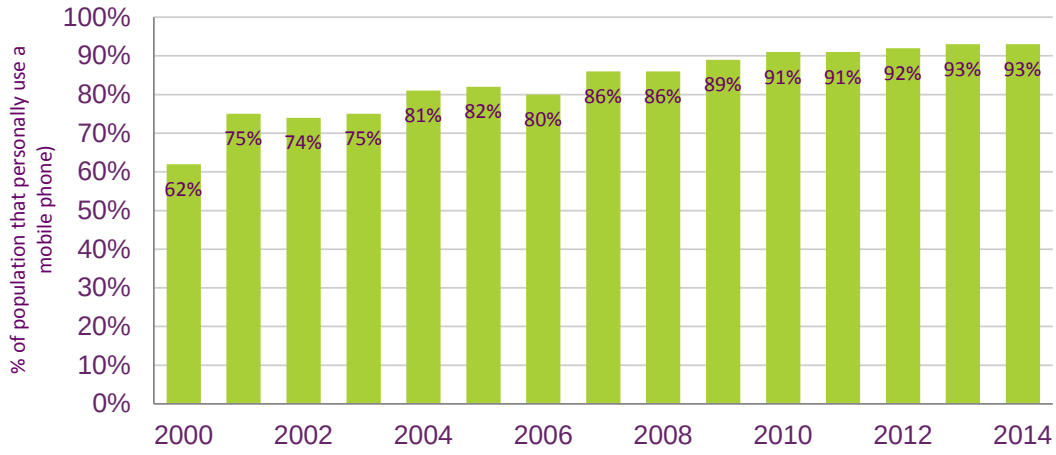
A9.45 As noted above, it appears that post-pay customers have faced lower prices under LRIC than LRIC+. It therefore seems unlikely that post-pay customers will have given up their mobile devices in response to the move to LRIC. Indeed, the proportion of consumers who are on a post-pay contract has grown substantially in the past two years and is at a significantly higher level of 65% compared to 49% in

2011.[35] Even in the event that post-pay prices were higher under LRIC MTRs, post-pay customers are unlikely to give up owning a mobile device, rather than trade-down to a package with a cheaper handset or smaller bundle.

A9.46 However, as discussed above (paragraph A9.18 to A9.35), LRIC MTRs could potentially lead to some rise in pre-pay prices, particularly for low use customers. This could influence subscription decisions if these customers are particularly price-sensitive. However, we believe this impact is unlikely to be significant. First, to the extent that prices are higher for these consumers under LRIC MTRs, the difference is likely to be very modest (see paragraph A9.30 et seq.) and a number of pre-pay packages are available at the same or similar prices to 2010 or 2011 (when MTRs were capped on a LRIC+ basis). Second, if the difference in prices is mainly through usage prices, then it is unlikely that there would be any significant difference in the number of subscribers for the pre-pay segment under the two cost standards. This is in line with the CC's views in 2012.[36]

A9.47 The above means it is unlikely that ownership levels would be significantly different under the two cost standards, if at all. This is supported by Figure A9.14 which shows that mobile ownership has increased by one percentage point each year between 2011 and 2013. The percentage of mobile subscribers among the UK adult population was 93% in 2013, an increase of two percentage points compared to the 2011 levels of 91%, although we recognise the data for 2014 shows that ownership could be tapering off.

Figure A9.14: Mobile Ownership



Source: Ofcom / Operators

A9.48 More generally, ownership amongst pre-pay subscribers is also likely to be influenced by the price of handsets, not just for usage. But as shown in Table 12 of Section 6, the price of basic handsets in 2013 is no more than it was in 2011.

A9.49 Based on the above, the data does not suggest the move to LRIC MTRs had a significant impact on ownership levels.

A9.50 We believe that this is also likely to hold true over the next review period. As noted in paragraph A9.35 the difference between the MTR in the calendar years 2011 and 2013 (around 2.5ppm in 2012/13 prices) is greater than the difference between

[35] Ofcom Technology Tracker data tables, see footnote 32.
[36] 2012 CC Determination, paragraph 2.742

LRIC+ and LRIC now projected for this control period (around 0.5ppm in 2015/16 in 2012/13 prices). Since there did not appear to be a significant impact on ownership between 2011 and 2013, it seems unlikely that the choice of cost standard will lead to any significant impact over the next review period.

Impact of the cost standard on Fixed to Mobile (F2M) prices and usage

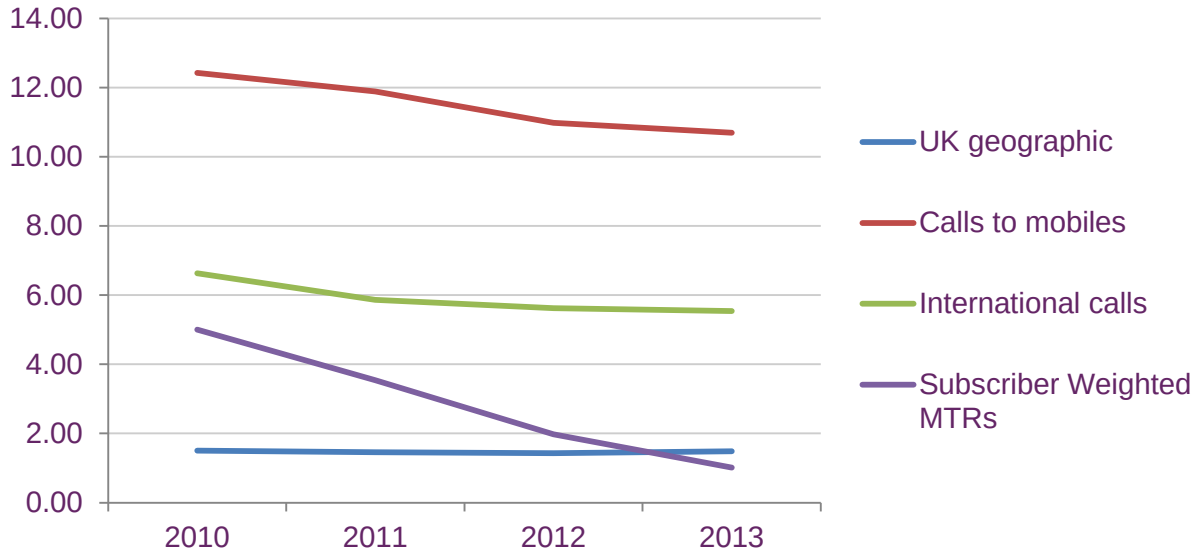
A9.51 As noted in Section 6, if MTRs fall, we would expect this to be reflected in lower prices for F2M calls and bundles including F2M calls, or fixed tariffs more generally where these include, as is invariably the case, the option to make F2M calls.

A9.52 We would therefore expect fixed line consumers to benefit to some extent from MTRs at LRIC rather than LRIC+. Historically, reductions in MTRs have not always been passed through fully to retail prices for fixed calls to mobiles.[37] However, as shown in Figure A9.15 below, the average price of fixed to mobile voice calls has been decreasing since 2010. Since MTRs were moved to LRIC on a glide path from 2011, the average real pence-per-minute price for fixed-to-mobile calls fell by 1.2ppm (from 11.9ppm in 2011 to 10.7ppm in 2013). Over the same period, the regulated MTRs fell by 2.53ppm in real terms (from 3.54ppm in 2011 to 1.01ppm in 2013). The 1.2ppm average decrease in the F2M retail call price does not fully reflect the decrease in the average MTRs. Nevertheless, it suggests a significant level of pass-through (47%). In any case, as noted in Section 6, if each FCP faces a downwards sloping demand curve for F2M calls, economic theory suggests that pass-through is unlikely to be 100%.

A9.53 As also noted in Section 6, it is possible that fixed line consumers have benefited by other means. In theory, FCPs could have decreased line rental charges to attract more customers given the profit margins on calls to mobiles have increased. However, it is particularly difficult to disentangle such indirect effects of reductions in MTRs from other factors that affect line rental charges. Indeed, the 2013 Consumer Market Report notes that line rental revenues per fixed line have been increasing since 2009 as these increasingly include a bundled call allowance or 'bolt-on'.[38]

[37] CC 2012 Determination, paragraphs 2.791 and 2.794
[38] 2013 CMR, page 336.

Figure A9.15: Average revenue per fixed-voice call minute (ppm in 2013 prices)



Source: Ofcom / Operators

Note: Includes estimates where Ofcom does not receive data from MCPs; excludes line rental revenues; excludes non-geographic voice calls; adjusted for CPI; excludes VAT; Revenue includes both metered and bundled minutes.

A9.54 At the time of the March 2011 Statement, some FCPs had indicated their intention to include F2M calls in bundles following our proposals to set LRIC based MTRs.[39] As Table A9.2 below shows, this seems to have happened with a number of FCPs now offering bundles that include calls to mobiles.

[39] March 2011 Statement, see paragraph 7.198

Table A9.2: FCPs' bundles that include F2M calls in March 2011 and May 2014

	Inclusive mobile minutes	Monthly fee March 2011	Monthly fee May 2014
Talk Talk	100 F2M add-on	£2.99	£3
	200 F2M add-on	£4.99	N/A
	Unlimited F2M add-on	N/A	£5
Virgin	XXL Talk Unlimited Extra (includes F2M, and other features)	N/A	£30.99
EE/Orange	1000 F2M add-on	N/A	£5
Plusnet	100 F2M add-on	N/A	£3
Post Office	100 F2M add-on	N/A	£2.50
	500 F2M add-on	N/A	£7.50
	Unlimited weekend F2M calls (and other features)	£12.25*	£1.25 add-on
BT, Sky		N/A	N/A

Source: CPs' websites accessed 28-30 May 2014, using WayBack internet archive for 2011 bundles (except TalkTalk where we have used a 2011 press release from their website).[40]

[40] *WayBack did not have a March 2011 entry for the Post Office - pricing is from a page archived on 27 December 2010. 2014 details: TalkTalk 100 Mobile Minutes Boost - £3 per month on Essentials and Plus http://sales.talktalk.co.uk/product/boost/11719/100-mobile-minutes-boost; TalkTalk Unlimited Mobile Minutes Boost - £5 per month (fair use policy of 2000 minutes a month applies) on Essentials and Plus http://sales.talktalk.co.uk/product/boost/11746/unlimited-mobile-minutes-boost; Virgin XXL Talk Unlimited Extra - £30.99 unlimited calls to UK mobiles (Cost inclusive of line rental. Also provides unlimited calls to UK landlines, unlimited calls to Virgin Mobile and 0870 numbers, unlimited calls to 0845 numbers, free calls to Virgin Media Directory Enquiries on 118 180) http://store.virginmedia.com/phone/about-virgin-media-fibre-optic/index.html; EE 'Anytime Plus Mobile' - £5 more a month to call UK mobiles (1,000 minutes), unlimited 30 countries landlines, unlimited UK landlines and 0870/0845 numbers https://broadband.ee.co.uk/home.do; Plusnet 100 inclusive minutes to UK mobiles - £3 per month (for packages taken on or after 8th May 2013) http://www.plus.net/home-broadband/tariffs/; Post Office 'Mobile 100' option (100 anytime minutes to UK mobiles) - £2.50 per month and 'Mobile 500' option (500 anytime minutes to UK mobiles) – £7.50 per month. Also Anytime Calls option (weekend calls to UK mobiles, as well as anytime calls to UK landlines and 0845/0870 numbers, and weekend calls to landlines in 40 international destinations) - £5.75 a month or Evening & Weekend Calls option (Weekend calls to UK mobiles as well as evening and weekend calls to UK landlines and 0845/0870 numbers, weekend calls to landlines in 40 international destinations) - £1.25 a month http://www.postoffice.co.uk/home-phone; BT http://www.productsandservices.bt.com/products/landline/packages, Sky http://www.sky.com/products/broadband-talk/talk/features/. 2011 details: TalkTalk http://www.talktalkgroup.com/press/press-releases/2011/15-03-2011.aspx; Virgin Media http://web.archive.org/web/20110314162017/http://shop.virginmedia.com/phone.html [14 March 2011]; Orange http://web.archive.org/web/20110314133157/http://shop.orange.co.uk/broadband/# [14

A9.55 In light of the above, we consider that fixed-line consumers will experience lower prices when MTRs are at LRIC rather than LRIC+ MTRs.

March 2011]; Plusnet http://web.archive.org/web/20110308145537/http://www.plus.net/residential/bundles.shtml [8 March 2011]; Post Office http://web.archive.org/web/20101227005332/http://www2.postoffice.co.uk/broadband-phone/home-phone-broadband/home-phone [27 December 2010]; BT http://web.archive.org/web/20110322030855/http://www.productsandservices.bt.com/consumerProducts/displayTopic.do?topicId=31678 [22 March 2011]; Sky http://web.archive.org/web/20110312095648/http://www.sky.com/shop/broadband-talk/ [12 March 2011].

Annex 10

Equality impact assessment

Introduction

A10.1 Ofcom is required by statute to assess the potential impact of all our functions, policies, projects and practices on the following equality groups: age, disability, gender, gender reassignment, pregnancy and maternity, race, religion or belief and sexual orientation.[41] We refer to groups of people with these protected characteristics as Equality groups.

A10.2 We fulfil these obligations by carrying out an Equality Impact Assessment (EIA), which examines the potential impact our proposed policy is likely to have on people, depending on their personal circumstances. EIAs also assist us in making sure that we are meeting our principal duty of furthering the interests of citizens and consumers, regardless of their background or identity.

A10.3 We have not considered it necessary to carry out separate EIAs in relation to the additional equality groups in Northern Ireland: political opinion and dependants. This is because we anticipate that our proposals would not have a differential impact in Northern Ireland compared to consumers in general.

The aim of our MCT market review

A10.4 The purpose of this market review is to analyse the state of competition in the provision of MCT and to consider the appropriate form of ex ante regulation, if any, that should be imposed in the relevant market to promote competition and to protect consumers.

A10.5 The main stages in developing the proposed regulatory obligations were:

- conducting research and data collection to inform our analysis;
- proposed definition of the wholesale MCT markets;
- proposed assessment of SMP in the relevant markets; and
- proposed determination of the appropriate remedies to address the harm arising from SMP.

Equality impact assessment

A10.6 Based on the analysis undertaken for this consultation, we have set out in this consultation our proposals to:

- Define 82 separate markets, each corresponding to an MCP able to set an MTR for calls to the UK mobile numbers allocated by Ofcom to that MCP.

[41] As defined in the Equality Act 2010.

- Designate each undertaking holding UK mobile numbers as having SMP with respect to the (wholesale) market for terminating calls to such numbers.

- Regulate the MTRs of all the MCPs with SMP by imposing a symmetric charge control capping the maximum MTR. This represents a change from the previous market review where the charge control only applied to the four largest MCPs.

- Impose on all MCPs an obligation to provide network access on fair and reasonable terms and an obligation of price transparency.

- Impose an additional obligation only on the four largest MCPs not to unduly discriminate in relation to the provision of network access for MCT.

- Use LRIC to set the charge control.

A10.7 These proposals would have an effect on consumers at the retail level. As part of this EIA, it is important to determine whether or not the impact of our proposals falls disproportionately on particular groups of consumers.

What effect would these proposals have on retail prices overall?

A10.8 As set out in Section 5, we believe that, without regulation, MTRs are likely to be set at excessively high rates. Our proposed regulation would be expected to reduce MTRs, significantly relative to the levels expected without regulation. This may impact on the prices of fixed and mobile calls. In particular, we would expect it to:

- decrease the costs of providing fixed to mobile calls, resulting in a decrease in the price of these calls or of bundles including these calls;

- potentially increase prices to mobile users overall, depending on the extent of the waterbed effect. However, on the other hand, we would expect competition to be increased which would tend to mitigate this effect and also have a positive effect on other factors such as innovation and service quality;

- potentially result in price increases focused on those consumers that are net receivers of calls. As discussed in Section 6, these consumers tend to be pre-pay consumers, or low use post-pay consumers. Those consumers that are net makers of calls (which may be high-end post-pay customers) may experience price decreases.

A10.9 As set out in Section 6, similar, if less pronounced, results would occur if we chose LRIC cost standard rather than LRIC+.[42]

A10.10 Our proposal to charge control all MCPs, not just the four largest ones, also has implications for retail prices. In Section 5 we explained how, with no charge control imposed, some smaller MCPs have set MTRs that are higher than the benchmark rate, and some larger MCPs have responded by excluding calls to these numbers from their retail bundles. This has resulted in consumer harm through bill shock or from consumers avoiding calling smaller MCPs, as well as an uneven playing field

[42] The results being less pronounced than compared to unregulated MTRs since we would expect the projected LRIC+ of MCT to be below the rate that MCPs would set if unconstrained by regulation, or the threat of regulation.

which may distort competition as these smaller MCPs may subsidise their retail businesses with higher termination revenue. As discussed in Section 5 we believe that a charge control would be more effective than a fair and reasonable condition in reducing the level of MTRs that smaller MCPs charge.

Use of Mobile Phones amongst Equality Groups

A10.11 Table A10.3 provides information about the mobile phone use of the wider UK population and in the equality groups for which we have data, namely older consumers (aged 65 or over), disabled consumers, minority and ethnic groups (MEG) and females. We do not have data on the use of mobile phones by pregnant women or those on maternity leave so have instead relied on data for the female population more generally. We also do not have data on the use of mobile phones by those consumers whose gender has been reassigned, according to religion/belief or sexual orientation. However, we have no reason to believe that these equality groups are likely to be differentially affected by our proposals.

A10.12 Table A10.1 shows take-up rates of mobile phones, and the proportion of these that are post-pay and pre-pay. The table also shows the proportion of each group with a fixed-line, including those that also have a mobile, as well as those that are fixed only.

A10.13 The data shows older people and disabled people are less likely than average to own a mobile phone, in particular a post-pay phone. On the other hand they are more likely to own a pre-pay phone, use a fixed line or to be fixed-only. Those in minority and ethnic groups are slightly more likely to use a mobile phone, and more likely to use a post-pay. Very few in this equality group are fixed-only. Women show very little difference from the wider population.

Table A10.3: Proportion equality groups in different customer groups

	UK	Aged 65+	Disab.	MEG	Female
Use a mobile	93%	72%	81%	96%	93%
Post-pay	65%	29%	46%	69%	65%
Pre-pay	35%	70%	53%	31%	35%
Fixed (household)	84%	95%	83%	82%	85%
Fixed-only (household)	4%	21%	13%	1%	5%

Source: Ofcom Technology Tracker, Q1/2014.

Assessment

A10.14 We consider that, based on the evidence outlined above, it is difficult to draw any firm conclusions as to the likely impact of our proposal to impose a charge control on MTRs based on LRIC on older people and disabled groups. These consumers appear to be more likely to own a fixed line, and so would be likely to experience lower fixed to mobile call prices (although as set out in Annex 9, the lower MTRs may not be reflected in full in the price of these calls). On the other hand, these equality groups appear to be more likely to use pre-pay mobiles, and prices to these

consumers could, in theory, be higher under LRIC based MTRs. However, as discussed in Annex 9, it is not likely that the effect would be very significant.

A10.15 The converse is true for minority and ethnic groups. These groups appear to be less likely to benefit from lower fixed to mobile calls, but also appear to be slightly more likely to be post-pay which we consider may be more likely to experience price decreases under our proposed regulation.

A10.16 It is possible that some equality groups may also be affected by our proposal to impose a charge control on smaller MCPs as well as larger MCPs. This is because a number of smaller MCPs make the focus of their business proposition low-priced international calls to certain countries and target specific ethnic communities in the UK. Others focus on pre-pay, which older and disabled people appear to be more likely to use.

A10.17 Therefore, any relevant equality groups subscribing to mobile services with these smaller MCPs may face higher prices from these MCPs as a result of these MCPs being unable to subsidise their retail business through higher MTRs than the benchmark MTR (or at least not to the same extent as today).

A10.18 However, if the proposed charge control substantially affects the business model of these smaller MCPs, we consider that customers facing higher retail prices on their existing mobile subscriptions would be able to choose alternative services from several providers offering similar services at similar prices. These are, for example, other MCPs, including the four largest ones, who offer pre-pay and international calls as bundles or add-ons on top of existing pre-pay and post-pay contracts.[43] In addition international calling card providers compete to provide international calls. We therefore believe that any relevant equality groups would not be unduly affected by our proposal to extend the charge control to smaller MCPs.

A10.19 In any case, even if customers of smaller MCPs belonging to particular equality groups were to face price increases and could not obtain an equivalent deal from an alternative provider, we still consider that it would be appropriate to impose a charge control on smaller MCPs for the reasons set out in Section 5 (see paragraphs 5.98 to 5.119) In particular, we believe that a charge control would be more effective than a fair and reasonable condition in reducing the level of MTRs that smaller MCPs charge. As discussed in Section 5, where smaller MCPs charge MTRs above the benchmark MTR and their efficiently incurred costs, this may result in consumer harm including bill shock, reduced call volumes to these numbers and distortions to competition (which ultimately affect consumers). This would affect all consumers, including many consumers in equality groups and therefore, overall, we consider that consumers will benefit from the proposed charge control, including those in equality groups.

A10.20 We also consider that reducing MTRs to LRIC would tend to encourage competition. This would be of benefit to all consumers, including those of equality groups that own a mobile phone, as it would tend to lower prices across the board, as well as increase choice and innovation. Excessive MTRs would also decrease economic efficiency, typically at the expense of consumers more generally..

[43] For example Telefónica's £5 monthly add-on for 60 minutes to Pakistan or £10 for 3000 minutes to India for both pre-pay and post-pay customers.

A10.21 From the data in Table 12, women would not seem to be affected differently from the rest of the population. We also infer that this would be likely to be the case for pregnant women or those on maternity leave

Conclusion

A10.22 Considering the available evidence, we do not believe that our proposals would have a material negative impact on the relevant equality groups.