Part A – Annexes

Contents

Annex 8

Retail experience

Introduction

A8.1 In this Annex we consider in detail the stakeholder submissions responding to our analysis in the December 2010 Consultation of the concerns that we considered arose from the current non-geographic call services regime (which was assessed in Section 4, 5 and Annex 2 of the December 2010 Consultation).

A8.2 We have considered stakeholders' arguments and the evidence put forward and, where we considered it appropriate, undertaken further analysis and collected further evidence.

A8.3 We have structured this Annex by analysing each of the market failures, and the outcomes of those market failures, that we identified in the December 2010 Consultation. Because of the complexity of this analysis, we have first provided a brief summary of our approach and conclusions.

Summary of what we concluded in the December 2010 Consultation

A8.4 In Section 4 of the December 2010 Consultation (and supported by analysis in Annex 2 of that consultation), we identified three related market failures in the provision of NGCs:

i) lack of consumer price awareness;

ii) vertical externalities; and

iii) horizontal externalities.

A8.5 We also concluded that these market failures had five harmful impacts on callers:[1]

a) a reduction in demand for non-geographic calls ('NGCs');

b) the relative price of NGCs and geographic call ('GCs') do not reflect consumer preferences;

c) loss of access to socially important services, particularly for vulnerable consumers;

d) increased risk of fraud;

[1] By consumers or callers, we refer to those on residential tariffs rather than those on business tariffs. This annex focuses on concerns related to residential callers because this is the focus of the complaints we have received. We also note that residential callers make the majority of NGCs. According to responses to the October 2011 S135 responses, the majority of mobile NGC minutes were originated by residential callers (the highest proportion of business-originated NGC minutes was on Vodafone with around 49% in Q4 2010); while over two thirds of fixed NGC minutes were originated by residential callers on BT, Talk Talk and Virgin Media (in either Q1 or Q4 of 2011). The only exception was C&W, the 'vast majority' of whose calls are originated by business callers. However, we also consider the impact on business callers in our impact assessment in Section 13.

e) consumers' loss of service diversity and innovation and service providers' ('SPs') lack of incentives to invest in the market.

A8.6 In Section 5 of the December 2010 Consultation (and supported by analysis in Annexes 2 and 3 of that consultation), we identified that SPs were adversely affected by the operation of the retail market and that OCPs did not face the correct incentives. We concluded that this was contributing to the problems faced by callers (i.e. the impact of the market failures identified above).

A8.7 Finally, in both Section 4 and 5 of the December 2010 Consultation, we considered the state of the market in the absence of ex ante regulation.

Summary of the main points raised by stakeholders

A8.8 The mobile OCPs and Virgin Media were critical of our conclusions on market failures and the outcomes of these. Broadly, their view was that we had provided insufficient evidence in the December 2010 Consultation to support our analysis and that we had overestimated the scale of consumer harm. However, they offered little new or additional evidence to challenge our conclusions.

A8.9 Fixed OCPs and TCPs were generally more supportive of our analysis although they did suggest that there were a number of specific weaknesses to our approach. In spite of this, there was consensus among them that the retail market was not functioning as effectively as it could be.

A8.10 SPs generally agreed that consumers lacked price awareness and several agreed that this was leading to suppressed consumer demand and stifling innovation. Some SPs also raised concerns about mobile retail pricing.

A8.11 Finally, consumer groups were supportive of our analysis and the CAB provided additional evidence of consumer harm, particularly to vulnerable groups.

Additional research commissioned by Ofcom

A8.12 To address some of the issues raised by certain stakeholders, we commissioned additional research to further investigate the current state of the retail market for NGCs. We have also been able to take account of other research commissioned under this review for alternative purposes (i.e. research to test the potential success of our proposed remedies) where the results have relevance to this section. New research since the December 2010 Consultation includes:

i) a survey of consumers, updating responses to some, but not all, questions asked in previous surveys as well as asking additional questions (referred to throughout this Annex as the "2011 Consumer survey")[2];

ii) a survey of SPs, updating responses to previous SP surveys;

iii) gathering further information from industry via s135 requests;

iv) statistical analysis to investigate the horizontal externality;

v) desk research into the accessibility of price information from OCPs' websites;

[2] We have been unable to update all of the responses to the 2009 and 2010 surveys. Therefore we still rely on these responses in some areas of our analysis.

vi) research produced by PhonepayPlus and Consumer Focus; and

vii) a behavioural economic experiment[3].

A8.13 In this document, we also refer to evidence which was used in the December 2010 Consultation. This includes:

- past market research on consumer understanding of NGCs (referred to throughout this Annex as the 2010 and the 2009 Consumer surveys)[4];
- analysis of the market flow of funds (referred to throughout this Annex as the '2010 Flow of Funds Study');
- stakeholder responses to our Call for Inputs on the market in May and follow-up discussions; and
- analysis of consumer complaints processed by the Ofcom Advisory Team ('OAT').

Summary of our overall conclusions on our updated analysis

A8.14 We have sought to address the criticisms made of our analysis set out in the December 2010 Consultation by investigating the issues further, where this has been possible.

A8.15 Having reviewed the new evidence, we discuss below its effect on our analysis. Some new evidence either directly or indirectly supports our original conclusions. Other new evidence is neutral. Finally, in some cases, where the new evidence pointed in another direction, our new analysis includes revisions to our original proposals. In particular, stakeholder evidence in relation to our concern about the potential for fraud showed that this was a problem confined to a small selection of number ranges including 070 and 076 but not in the number ranges under consideration in this consultation[5]. As a result, we no longer consider fraud as a harmful impact on callers resulting specifically from the three market failures identified in the provision of NGCs. Overall, we consider that, taking all of the new evidence into account, the majority of our original concerns remain valid.

A8.16 In particular, the evidence shows that consumers' poor awareness of the price of NGCs and lack of confidence in NGCs is caused by a lack of price transparency and by the vertical and horizontal externalities. This leads to several problems at the retail level, including a reduction in consumer demand for NGCs.

A8.17 The lack of price awareness also exacerbates the externalities (and vice versa). For example, the vertical externality, i.e. the fact that OCPs are currently not incentivised to take the preferences of SPs into account when they set retail prices, is made worse by poor price awareness as it means there is less downward competitive pressure on OCP prices. It also creates an incentive for OCPs to set higher NGC prices and lower prices on aspects of their retail offering that are more

[3] Full report available at: http://stakeholders.ofcom.org.uk/market-data-research/other/telecoms-research/interventions-non-geographic/. We also discuss the findings in more detail in Part B, Section 9.

[4] The 2010 and 2009 Consumer surveys asked different questions and so are used for different purposes.

[5] We will be separately consulting in the near future on the regulation of 070/076 numbers.

visible to customers. For many SPs, this results in retail prices that do not reflect their preferences.

A8.18 The lack of price awareness is also likely to be contributing to the horizontal externality. The results of our statistical analysis indicate that consumers are unlikely to distinguish between number ranges and, as a result, it seems plausible that some OCPs and SPs free-ride on the NGC brand.[6] An example of this free-riding behaviour can be seen on the 0845 number range. If all OCPs priced 0845 calls at the geographic level and then one OCP set a higher retail price, that OCP would gain all the profit associated with this price increase (indeed, we have seen that some OCPs have moved away from geographically rating 0845 calls over time). Over time, this would weaken the brand perception of the 0845 number range, making consumers less confident about what they might pay for a NGC. But whilst this may lead to a reduction in demand, the volume loss would not solely be faced by the OCP that raised its prices – it would also affect other OCPs (even if they had not raised their prices). So the OCP raising price gains all the profit increase associated with that price rise but it does not face all of the costs.

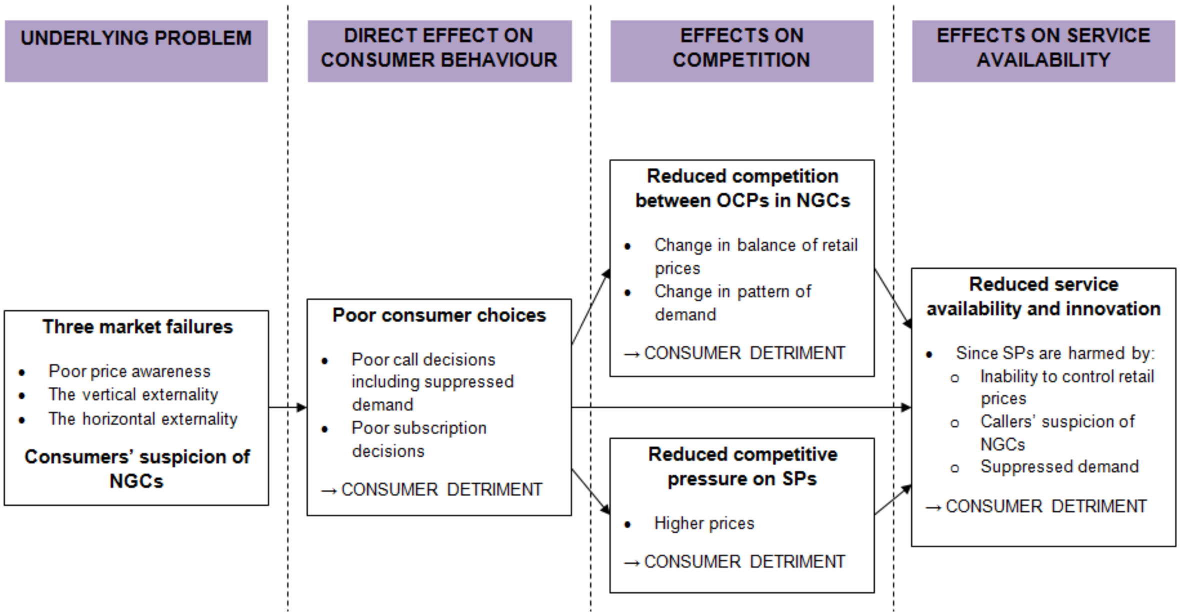
A8.19 As a consequence of the three identified market failures, we are concerned about a number of harmful outcomes on consumers. The first of these is that demand for NGCs is being suppressed as a result of consumers over-estimating the price of calls due to their lack of price awareness. We are also concerned that the relative prices of non-geographic calls and other call types do not reflect consumers' preferences. A lack of price awareness weakens competitive pressure between OCPs and between SPs and results in prices of NGCs that are higher than they would be if the market was operating efficiently. These higher prices are likely to contribute further to the suppression of demand. In addition, the differential in customers' awareness of the price of NGCs and the price of other aspects of OCPs' retail offerings creates incentives for OCPs to set higher NGC prices and lower prices on other services with more visible tariffs. This effect is referred to as the Tariff Package Effect ('TPE').

A8.20 The fact that consumers generally over-estimate the price of NGCs and consequently make fewer calls, as well as the fact that SPs do not have control over retail prices, means SPs' incentives to invest in the range and quality of services may be reduced. Consequently, compared to a situation where there were no market failures, consumers may be currently paying relatively higher prices for relatively lower quality services, and have access to a more limited range of services.

A8.21 Figure A8.1 below illustrates the interaction of these effects and the consumer detriment that arises as a result.

[6] As set out in footnote 208 of the December 2010 Consultation, while we consider that SPs have a similar incentive meaning it is possible for them to cause a similar externality, we consider that the majority of SPs have very limited influence over the retail price for calls to non-geographic numbers. Therefore, under the current regime they will have limited ability to act on this incentive. Nonetheless we consider some SPs appear to contribute to the weakening of consumer confidence by using certain number ranges in order to benefit from revenue sharing, which they might not have used under a system of greater transparency: for example, some GPs using 084X numbers (who benefit from lower costs for operating an 084 number as opposed to an 03 number for example).

Figure A8.1 – high-level diagram illustrating the main outcomes of the market failures on the retail market



A8.22 Where demand is suppressed, we are also concerned that this affects consumers trying to access socially important services. While we recognise that this may not be affecting a large number of people, we are concerned that when it does occur the social costs are high. We are particularly concerned that the current regime may be deterring or making it harder for vulnerable consumers to access services that are of social importance.

A8.23 We would also be concerned if the three market failures were increasing consumers' vulnerability to fraud. However we consider that the vast majority of examples of this have been on the 070 number range and this is because of the similarity to mobile phone numbers. This review does not contain proposals for the 070 range and therefore this concern is not directly relevant to this document.

A8.24 Finally, we remain of the view that the state of the market in the absence of ex-ante regulation remains the relevant base case against which we assess the potential outcomes of different regulatory regimes.

Structure of the rest of this Annex

A8.25 First we discuss each of the three identified market failures in turn. Secondly we discuss each of the five identified harmful impacts of these market failures. We then separately consider the experience of SPs and OCPs at the retail level (although this is closely linked with the discussions of the market failures and outcomes). Finally, we consider the state of the market in the absence of ex ante regulation.

Market failures at the retail level

A8.26 As highlighted above, in the December 2010 Consultation, we set out three related types of market failure, lack of consumer price awareness, the vertical externality and the horizontal externality.

Structure of this section

A8.27 Although they are inter-related, for convenience this section separately looks at each of the market failures in turn. Each market failure sub-section is structured as follows:

- first, we summarise our analysis of the market failure in question;
- we then summarise the comments from stakeholders made about our analysis, grouping these responses by theme;
- within each theme, we respond to stakeholders' criticisms referring, if necessary, to any additional evidence we have gathered; and
- finally, after considering all comments, we summarise our updated position on the market failure in question.

Poor consumer price awareness

A8.28 The first market failure we identified was that consumers generally have poor awareness of the price of NGCs.

Summary of Ofcom's analysis in the December 2010 Consultation

A8.29 In the December 2010 Consultation, we concluded that a significant proportion of callers do not recognise non-geographic number ranges and have a very poor understanding of NGC prices. Evidence presented in the previous consultation showed how callers lack confidence in the cost of calls to non-geographic numbers from mobile and fixed lines, with significant numbers of respondents (40-70% depending on the number range) stating that they were 'not confident'.[7] Although generally callers are marginally more confident about the prices of calling from fixed lines than from mobiles, there are significant proportions of callers of both who are not confident of the prices charged for calling different non-geographic numbers. When asked to estimate prices, a significant proportion of respondents answered simply that they "don't know".[8]

A8.30 As a result of this lack of price awareness, customers tend to be suspicious of these numbers and prefer not to make calls to NGCs. For example, in the 2010 Consumer survey when callers were asked how they felt about calling non-geographic numbers, the most common answer for landline and mobile respondents was that they felt forced to call them and would rather not.[9] Similarly, 66% of respondents to the O2 Consumer survey stated that they have to call non-geographic numbers more than they'd like.[10]

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[7] The December 2010 Consultation, table 4.2.
[8] The December 2010 Consultation, figure 4.3.
[9] The 2010 Consumer survey. Q24/28: *"How do you feel when you call these non-geographic numbers from a landline/mobile?"* 39% of landline respondents and 32% of mobile respondents said they felt forced to call them and would rather not [Base: All respondents who use a landline/mobile (except those who never call any number mentioned at Q21/25] http://stakeholders.ofcom.org.uk/binaries/consultations/simplifying-non-geo-numbers/annexes/nts.pdf
[10] O2 2010 Consumer survey. Q4: *"…and how do you feel about calling these numbers in general?"* [Base: all respondents].

A8.31 We also argued that callers may find it difficult to obtain correct pricing information, citing evidence from Consumer Focus research that investigated the efficacy of customer helplines of leading mobile OCPs. We concluded that the combination of these factors led callers generally to overestimate prices of NGCs.[11]

A8.32 We argued that this had direct impacts on consumer outcomes and behaviour as well as on OCPs' incentives to compete – that is, the lack of price awareness meant OCPs' behaviour was less constrained by competitive pressure on prices for NGCs.

Stakeholders' comments and Ofcom's response

A8.33 The mobile OCPs argued that Ofcom had overestimated the lack of consumer price awareness in the market for NGCs and raised specific questions regarding our evidence base. O2 admitted that callers' understanding of NGC prices was poor, but argued that further evidence was required to prove that point.

A8.34 Other stakeholders were broadly supportive of our conclusions in this area, including fixed OCPs and TCPs, SPs and individual respondents.

A8.35 The main challenges made by stakeholders against our analysis in the December 2010 Consultation can be described as follows:

- there are no particular difficulties in finding out the price of a NGC;
- the consumer surveys are unreliable in detecting a transparency problem and this has led to Ofcom overestimating the price transparency concern;
- there are no significant differences in terms of transparency between GCs and NGCs;
- price awareness is low because NGCs are not important to consumers;
- consumers often lack choice when making NGCs;
- the main reason for consumer dissatisfaction/confusion is excessive retail pricing; and
- higher margins on NGCs do not indicate a transparency problem.

<u>There are no particular difficulties in finding out the price of a NGC</u>

Stakeholder comments

A8.36 Vodafone argued that current information on its NGC pricing was clear and easy to find. It commented that, on its website, 08 call costs were grouped immediately under GC costs, a list of free-to-caller charity numbers, a call cost checking facility for 09 numbers and DQ services listed in a simple table. Vodafone argued that if customers did want to find out the cost of an NGC, it was simple to do this at present without new and onerous regulation.[12]

[11] The December 2010 Consultation, Figure 4.4.
[12] Vodafone, December 2010 Consultation response, page 31, paragraph 133.

A8.37 Similarly, Three commented that it provided a 'special number checker' on its website which allowed a customer to input a number range and look up the price that applied to that range.[13]

A8.38 O2, EE and Sky also commented that price awareness was sufficient at the point of sale for customers to access if they wanted to.[14]

Ofcom's response

A8.39 We recognise the efforts of some stakeholders to make prices more accessible to their customers. However our concern is that these efforts have either not been successful or have not been made consistently across the market. Consequently, we do not agree that pricing is clear and easy for all consumers. We have looked at two aspects.

A8.40 First, we do not consider current that current price transparency for consumers is sufficient. Evidence from the 2010 Consumer survey suggests around a quarter of respondents (26% for fixed callers, 24% for mobile) who have switched or considered switching in the past 12 months would have liked to have received information about 08/09 calls but did not.[15] See also the results of the 2009 Consumer survey set out at paragraph A8.46 below.

A8.41 Second, we have assessed what a consumer needs to do in order to find out the price of a NGC (other than from BT). We have undertaken desk research on how easy it is to find this information. Whilst in some cases, as highlighted by Vodafone and Three, it is relatively easy to obtain the price of calls, in other cases, consumers need to go through lengthy price lists.

A8.42 For example, Sky customers must navigate through a number of pages on Sky's website before they locate the 'Sky Talk Tariff Guide'. This is a 22 page document in 'pdf' format, of small text and tariff tables. For premium rate numbers, callers must contact a Sky number for an exact quote. For Virgin Media customers, it is necessary to look up the code for the particular non-geographic number in a 50+ page document and compare this against a separate price guide. These are just a few of the examples of pricing information, and there are many others. This type of complex pricing information has to be put in context as the search costs appear high relative to the value of the transaction.

Stakeholder comments

A8.43 Three accepted that the complex structure of non-geographic number ranges was likely to contribute to consumer confusion but questioned the extent to which there was a lack of consumer price awareness in the market for NGCs.[16] It argued that if consumers lacked confidence in NGC prices, one would expect them to look up the charges.[17]

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[13] Three, December 2010 Consultation response, page 7, paragraph 23.

[14] O2, December 2010 Consultation response, page 13, paragraph 51; Sky, December 2010 Consultation response, page 1, paragraph 1.

[15] 2010 Consumer survey Q14/19: *"Would you have liked to have received information about 08/09 calls?"* [Base: all respondents who use a landline/mobile and have switched or considered switching in the past 12 months and did not receive information about 08xx/09xx numbers]

[16] Three, December 2010 Consultation response, page 9, paragraph 27.

[17] Three, December 2010 Consultation response, page 6, paragraph 18.

A8.44 Virgin Media commented that Ofcom had overestimated the size of the price transparency problem because, as was the finding from the Ofcom survey, consumers are generally not interested in individual call costs.[18] It referred to the results of Ofcom's 2009 and 2010 Consumer surveys to support this argument. For example:

- most consumers rarely think about call costs (45% of mobile respondents never do, 15% very rarely do)[19];
- only 18% of consumers look up calls costs, and of those that do, around half (52%) do so less than 25% of the time[20];
- 58% feel fairly or very well informed about call costs[21];
- consumers usually refer to their provider's website rather than their bill to establish calls costs (51% vs. 29%)[22]; and
- most consumers do not choose to receive itemised paper bills (which would include a breakdown of NGC charges).

A8.45 Virgin Media commented that providing more information to consumers is therefore unlikely to improve price awareness as they are unlikely to take notice of it (and in the case of paper bills in particular, where these are provided, evidence suggests that they are generally not reviewed in detail, if at all). Virgin Media also commented that Ofcom's January 2009 research concludes that "Overall, the majority of consumers appeared to be in control of their call usage and expenditure and felt that increased price transparency would be unlikely to have much effect on their behaviour".

Ofcom's response

A8.46 The Consumer surveys shows there is considerable lack of awareness of NGC prices (we discuss the evidence for this in further detail below).

A8.47 There are a number of reasons why, despite this lack of awareness, customers might not look up NGC charges. According to the Consumer surveys, around four fifths of respondents have never looked up pricing information to determine the cost of a call.[23] A significant minority of these customers (29%) cited reasons relating to

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[18] Virgin Media, December 2010 Consultation response, page 6.

[19] 2009 Consumer survey. Q11: *"When making a call on your mobile, how often do you think about the cost of the call?"* [Base: All respondents who use a mobile phone].

[20] The 2009 Consumer survey. Q33: *"Have you ever looked up pricing information to determine the cost of a call?"* [Base: all respondents]; and Q34: *"How often do you look up information to determine the cost of a call?"* [Base: all respondents who have ever looked up pricing information to determine the cost of a call].

[21] The 2009 Consumer Survey. Q32: *"In general, how well informed about call costs would you say you are?"* [Base: all respondents].

[22] The 2009 Consumer Survey. Q35: *"What source of pricing information do you use?"* [Base: all respondents who have ever looked up pricing information to determine the cost of a call].

[23] The 2009 Consumer survey. Q33: *"Have you ever looked up pricing information to determine the cost of a call?"* [Base: all respondents]. 82% had not. Similar results were found in the 2011 Consumer survey. QGL09B: *"Thinking about all of the telephone numbers to which you considered making a call in the last 3 months, but were unsure of the cost to call it, please tell me which of these options best applies?* [Base: all adults 16+ who considered making a call to a number they were

pricing complexity and lack of transparency for not doing so: specifically 15% said that search costs are high relative to the associated benefits and 14% said they were not aware of where to find the information. Other reasons given included the fact that some consumers feel adequately informed about call costs (23%), consumers do not make very many NGCs (21%) and because they place limited weight on these calls compared to other types of calls (15%).[24]

A8.48 As discussed above, even if callers choose to look up charges, it is not always easy to obtain the correct price of NGCs. We also note that a large number of customers who felt confident about call costs actually over-estimated the true cost by a significant amount (see the example of consumers' expectations of the price of 080 calls from fixed lines, presented in Table A8.3 below).

A8.49 We acknowledge that the majority of consumers do not try to look up the price of NGCs, either pre-call (on OCP websites) or post-call (on customer bills). We also accept that one reason for this is that some consumers do not place much importance on knowing the price of making these calls. However, another reason for this is high search costs and a lack of awareness of where to find information. As set out above, these factors contribute to poor price awareness. We also note that whilst the majority of consumers felt that they were well informed about call costs and that they were in control of their call usage and expenditure, this confidence appears to be misplaced given the number of consumers who do not know the correct price of making NGCs (see Table A8.10 below).We agree that providing more information to consumers via websites or paper bills is unlikely to improve price awareness. However, we consider that more information at the point of call is likely to improve price awareness and help consumers to make better call decisions. Indeed, the results of the London Economic Experiment show that consumers make better decisions about NGCs when they have more information at the point of call.[25]

Stakeholder comments

A8.50 Virgin Media argued that the consumer issues stemmed from a lack of "understanding and appreciation" of non-geographic calls (the function they serve, the uses of different number ranges, the nature of different services) rather than a lack of price transparency or difficulties in obtaining price information.[26]

Ofcom's response

A8.51 We are inclined to agree with Virgin Media that there are limits in consumers' understanding and appreciation of NGCs, which may contribute to a lack of consumer confidence or a suspicion about NGCs. However, we consider this factor operates in conjunction with poor price awareness, and that an increase in price transparency would therefore help to reduce customer suspicion. Both callers' suspicion and lack of price awareness tend to suppress demand and adversely affect service availability and innovation.

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unsure of the cost of]. 77% stated that they had never looked up pricing information to find out the cost of a call.

[24] The 2009 Consumer survey. Q37: *"What is the reason you have never looked up call costs?"* [Base: All respondents who have never looked up pricing information to determine the cost of a call].

[25] http://stakeholders.ofcom.org.uk/market-data-research/other/telecoms-research/interventions-non-geographic/

[26] Virgin Media, December 2010 Consultation response, page 3, 7 and 19.

Ofcom's consumer surveys are unreliable in detecting a transparency problem

Initial Ofcom comments on the 2009 Consumer survey

A8.52 Before we set out and respond to comments made by stakeholders, we have considered the validity of using the 2009 Consumer survey, and whether it is still appropriate to rely on in 2012. Where possible, we have updated our evidence base with more recent research. However, in some cases this has not been possible and thus, given that the results are three years old at the time of publication, we want to be confident that the 2009 research is still broadly representative of the current market.

A8.53 Ideally we would have directly compared the results of the 2009 Consumer survey against more recently collected data. However, in the absence of more recent surveys that share the same methodology, order of questioning and sample size, we were unable to do this. Therefore we have compared the results of the Ofcom Tracker Survey across a three year time period. This survey is run annually and allows for a consistent comparison of trends across time. The results of the 2009, 2010 and 2011 Ofcom Tracker, which asked questions about 0870 numbers, is presented in Table A8.2 below.

Table A8.2: Consumers' expectations about the price of fixed and mobile calls to 0870 numbers over time

	Landline calls to 0870 numbers			Mobile calls to 0870 numbers		
	2009 survey	**2010 survey**	**2011 survey**	**2009 survey**	**2010 survey**	**2011 survey**
Free	5%	6%	6%	2%	2%	4%†
1-5ppm	7%	2%	1%	2%	0%	0%
6-10ppm	7%	6%	4%†	6%	2%	2%
11-25ppm	10%	7%	7%	12%	6%	6%
26-50ppm	5%	12%	11%	10%	12%	11%
51p-£1pm	2%	8%	8%	4%	14%	10%†
>£1	0%	12%	2%	1%	5%	6%
It depends	2%	0%	1%	1%	0%	1%
Don't know	60%	59%	60%	62%	59%	60%

Source: 2009/10/11 Ofcom Tracker. QC6b (QK1B): *"And how much do you think it costs, per minute, to call phone numbers that begin 0870 from your landline phone at home during the daytime on a weekday?"* & QD7b (QK5b): *"And how much do you think it costs, per minute, to call phone numbers that begin 0870 from your mobile phone at home during the daytime on a weekday?"*
Note: %s in green denote figures that are significantly lower than 2009. %s in blue denote figures that are significantly higher than 2009. † denotes that figures are significantly different to 2010.

A8.54 The data in the table shows that the changes over the three year period have not been large in percentage terms, but some of the changes have been statistically significant. The pattern of change seems to suggest that respondents think the prices of calls to 0870 numbers have marginally increased, but overall the situation has remained relatively constant over time.

A8.55 We are interested in the extent to which we can rely on the results of the 2009 Consumer Survey, which covered all non-geographic numbers, to draw conclusions about the current NGC system. However, we only have comparable survey evidence over the period 2009-2011 for 0870 numbers. Our comparison of results for these numbers suggests that perceptions of prices of calls to 0870 numbers have remained very similar over this period. We note that there has been some improvement in this period in the alignment of 0870 prices with geographic prices on landlines (following new regulation in 2009 including removal of support for revenue share), but this does not seem to be reflected in improvements in consumers' price awareness. If anything there has been less improvement in prices on other NG ranges. It therefore seems reasonable to believe that the 2009 survey is unlikely to overstate concerns about all NG ranges.

A8.56 In summary, we consider that the 2009 Consumer survey remains relevant to this review.

Stakeholder comments

A8.57 Vodafone raised two interrelated points. First, it questioned how relevant it was to ask a consumer to guess how much it would cost to call a certain number completely out of context. Vodafone agreed that consumers might overestimate the absolute price of NGCs but commented that they were good at understanding relative prices of different call types, which call types were within/outside their call packages and differences between fixed line and pre/post pay mobile. It cited evidence of this from Ofcom's consumer surveys as well as a report of research findings commissioned for Ofcom's strategic numbering review.[27]

A8.58 Second, Vodafone disagreed with Ofcom's assumption that price transparency and spontaneous price awareness were the same thing. It stated that prices were transparent if they were published and reasonably easy to discover when the need arose but that did not require consumers to carry an accurate view of the price of calling many different types of NGC number around in their heads. Vodafone argued that one could no more expect consumers to have an accurate view on the precise cost of call types in which they have little interest than for an occasional traveller to be able to recite train or rail fares to multiple destinations from memory.[28]

Ofcom's response

A8.59 With regards to Vodafone's first point, we agree that most consumers are not expected to recall the exact price of NGCs on specific number ranges. On Vodafone's second point, we agree that price transparency and spontaneous awareness are not the same thing and highlight that this is not what we argued in the December 2010 Consultation (see paragraph 4.21 of the December 2010 Consultation). Indeed, we would be surprised if, to use Vodafone's example, an occasional traveller would be able to recall the exact price of a rail ticket from memory.

[27] Vodafone, December 2010 Consultation response, page 19, paragraph 80.
[28] Vodafone, December 2010 Consultation response, page 21, paragraph 84.

A8.60 We acknowledge that it is possible to have a situation where price transparency at the point of purchase is good while spontaneous price awareness is poor (the case of rail tickets). However, it is also possible to have a situation where both price transparency at the point of purchase is poor and spontaneous price awareness is also poor. We consider the latter to be the case for NGCs. We consider that this is because, unlike prices for rail tickets, information about the price of non-geographic calls is not always easily accessible at the point of call (although we note that this is not necessarily true for all OCPs as some, including Vodafone, have reasonable price list transparency). As discussed above, our desk research found that customers of certain OCPs currently face significant search costs when trying to obtain the price of NGCs, which will limit their ability to obtain information at the point of making their call. Our survey evidence also supported the existence of significant search costs (see paragraph A8.47), with 15% of respondents who had never looked up the cost of an NGC saying they had not done so because the costs were high relative to the benefits. A further 14% said it was because they did not know where to look.

A8.61 Our concern is that a significant number of callers are over-estimating the price of NGCs as a result of this lack of price awareness and this, in turn, is causing callers to make fewer calls. Indeed, according to the 2010 Consumer survey, 29% of landline users and 42% of mobile users who rarely/never call non-geographic numbers say the reason for this is because they are expensive.[29]

A8.62 Price over-estimation is caused by two factors. First, price transparency for the customers of most OCPs is poor with the result that many callers struggle to obtain the correct price of NGCs at the point of call. Second, as discussed above, only a minority of callers have ever tried to look up the price of NGCs so even where OCPs have made efforts to improve price transparency, it is unlikely that this has improved consumers' awareness of prices.

A8.63 Evidence of price over-estimation can be seen in the results of the 2011 Consumer survey (see Tables A8.3 & A8.4 below). These results confirm that relatively few consumers are confident that they know how much it costs to make an NGC. In addition, a significant number do not know the exact price but think that prices are expensive. For example, only around 10% of fixed and mobile consumers were confident they knew the price of calls to 0845 and 0870 numbers, whilst over a third (and in some cases around half) of consumers did not know the exact price of fixed and mobile calls to these numbers but believed they were expensive, despite the fact that the price of calls to these numbers are generally inexpensive.[30] Our concern is that consumers' general tendency to over-estimate the price of NGCs means that they are not confident about making these calls without the fear of incurring substantial charges.

A8.64 The 2011 Consumer survey is consistent with evidence from the 2009 Consumer survey, presented in Figure 4.4 of the December 2010 Consultation, indicating that

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[29] 2010 Consumer survey. Q23/27: *"Why do you not call these numbers more frequently than rarely or never from your landline/mobile phone?* [Base: all respondents who use a mobile phone and rarely/never call any number mentioned at Q25].
http://stakeholders.ofcom.org.uk/binaries/consultations/wmctr/annexes/transparency.pdf

[30] And in some cases, cheaper than calls to fixed lines – for example, according to BT's tariff guide, 'out of allowance' calls to 0845 numbers from a fixed BT line during peak time during the week cost 2.042ppm; compared to a cost of 7.95ppm for calls to geographic numbers. Similarly, O2 charges 20.4ppm for 'out of allowance' calls to 0870 numbers; compared to 35ppm for calls to geographic numbers.

the majority of callers do not know the price of NGCs and those that think they do, on average, over-estimate prices.

Table A8.3: Consumers' beliefs about calls to non-geographic numbers from fixed lines

	Fixed 01/02	Fixed 07	Fixed 080	Fixed 0845	Fixed 0870
I have never heard of [those] numbers	9%	11%	9%	7%	17%
I know how much it costs per minute	23%	12%	29%	14%	7%
I do not know how much it costs per minute but think it's expensive	17%	43%	23%	39%	37%
I do not know how much it costs per minute but do not think it's expensive	23%	9%	15%	15%	7%
I do not know how much it costs per minute and don't know whether it's expensive	29%	26%	25%	24%	32%

Source: 2011 Consumer Research. QGL01X: "Which of the following statements best describes what you know about the cost of calling a number starting with xxx from your landline?" Base: all adults aged 16+ who use the landline phone for personal use to make calls.

Table A8.4: Consumers' beliefs about calls to non-geographic numbers from mobile lines

	Mobile 01/02	Mobile 07	Mobile 080	Mobile 0845	Mobile 0870
I have never heard of [those] numbers	6%	6%	6%	4%	11%
I know how much it costs per minute	20%	20%	13%	10%	7%
I do not know how much it costs per minute but think it's expensive	29%	33%	42%	51%	46%
I do not know how much it costs per minute but do not think it's expensive	20%	15%	11%	8%	5%
I do not know how much it costs per minute and don't know whether it's expensive	25%	26%	29%	27%	30%

Source: 2011 Consumer Research. QGL01Y: "Which of the following statements best describes what you know about the cost of calling a number starting with xxx from your mobile?" Base: all adults aged 16+ who use the mobile phone for personal use to make calls.

Stakeholder comments

A8.65 EE highlighted that the conclusion that call awareness is low is based on survey responses both from consumers who do and do not make NGCs regularly. The lack of price awareness is consequently overestimated because the consumers in the latter category are bound to have poor awareness.[31]

Ofcom's response

A8.66 We attempted to investigate this by analysing the relevant cross-tabulations from the consumer surveys (to distinguish these two groups) but the results were not statistically significant. Responses to questions in the 2010 Consumer survey indicated that the number of callers who make NGCs regularly is small.[32]

A8.67 The fact that most consumers do not make NGCs regularly could be a contributory factor to consumers' poor price awareness, as EE suggests. But this does not make the lack of price awareness an artefact – the evidence suggests it is a real feature of the current market. Furthermore, the evidence suggests that the causality runs in the other direction as well- i.e. from poor price awareness and consequent over-estimation of prices to infrequent use of NGCs. As outlined above, the Consumer survey shows considerable over-estimation of prices in some number ranges in particular (see A8.63) and also shows that a significant proportion of fixed and mobile users who rarely or never make NGCs cite the price of these calls as the reason (see A8.61).

Stakeholder comments

A8.68 EE also noted that Ofcom considered it both "striking" and "surprising" that only 46% of respondents were confident of the price of a 0800 call from a landline. EE argued that this was merely consistent with the fact that, in compliance with Ofcom's National Telecoms Numbering Plan, both fixed and mobile OCPs were entitled to, and in some cases perfectly legitimately, did charge differing amounts for these calls upon warning the customer of this fact with a pre-call announcement. EE also argued that the decreasing percentages of customers being confident of the price of an 0800 call in fact demonstrates that customers are becoming more astute and having a growing awareness of the actual difference / potential difference of charges for calls to 0800 numbers out there in the market, rather than continuing under the false understanding that these calls must always be provided free of charge.[33]

Ofcom's response

A8.69 We disagree with EE's suggestion that reduced levels of confidence suggests that consumers are becoming more astute. If anything, it suggests that they are becoming more confused by differences in pricing. The price for callers to call a 0800 number from a landline is zero and has always been so. Therefore, we still believe that callers calling from fixed lines should be more confident about the cost of a call to a 0800 number than it would appear from the survey responses.

Stakeholder comments

[31] EE, December 2010 Consultation response, page 15, paragraph 12.b; page 17, paragraph 5; page 18, paragraph 7.a, page 18, paragraph 9; and annex 1, page 93, paragraphs 28-31.

[32] The 2010 Consumer survey, Q21/25: *"How often do you make calls to the following numbers from your own landline/mobile?"* Only 11% of fixed and 1% of mobile callers stated that they call 080 numbers regularly; only 3% of fixed and 1% of mobile callers stated that they call 0844/0871 numbers regularly; and only 6% of fixed and 2% of mobile callers stated that they call 0845/0870 numbers regularly.

[33] EE, December 2010 Consultation response, page 18, paragraph 7b.

A8.70 EE also raised two related concerns over Figure 4.4 in the December 2010 Consultation. The first issue was that 'the impact of the price under-estimation by customers of the cost of calls to 0800 calls…may not be that (or at all) significant'.

A8.71 The second concern it raised was that it had doubts as to the significance of the stated price over-estimations. EE believed those doubts were reinforced by Ofcom's conclusions regarding customers' relative price awareness of NGC prices in paragraph A5.41 of the December 2010 Consultation. In this paragraph, EE argued that Ofcom concluded that callers seemed to be able to form a view on the relative price of mobile and fixed calls (notwithstanding their general poor price awareness).[34]

Ofcom's response

A8.72 Regarding EE's criticism of Figure 4.4. and specifically concerning price under-estimation by customers of the cost of 0800 calls, Table A2.5 of the December 2010 Consultation indicated that while 0800 calls can cost up to 40ppm, the price is generally lower. Therefore consumers' mean predicted price of 29ppm for 080 calls, as presented in Figure 4.4 of the December 2010 Consultation, is actually more likely to constitute an over-estimation. This is in line with consumers' general tendency to over-estimate prices on other non-geographic number ranges.

A8.73 With respect to EE's second concern, EE seems to be suggesting that if callers have a good understanding of relative prices of mobile and fixed calls, they will not over-estimate the price of NGCs. While callers may be aware that mobile calls to non-geographic number ranges are more expensive than fixed calls, this tells us nothing about the callers' awareness of absolute prices of fixed and mobile calls. Just because consumers are aware that the price of mobile calls can be more expensive than fixed calls does not mean they do not separately over-estimate the price of NGCs from both mobile and fixed lines. We consider that the available evidence suggests this is the case and consequently that demand for NGCs is suppressed.

Other stakeholder comments

A8.74 Contrary to arguments made by the above stakeholders, BT stated that Ofcom had gathered "unequivocal evidence" of serious market failure.[35] BT argued that the NGCS regime was failing to deliver either industry stability or consumer satisfaction.[36] It highlighted the wide range of retail charges in the marketplace for the same number and noted the establishment of organisations such as "Say No to 0870" as emphasising that consumers are dissatisfied with many NGC services.[37] Finally, it commented that a lack of pricing transparency was still a significant issue which previous reviews of NGCs had not adequately addressed.[38]

A8.75 Magrathea agreed that a lack of price awareness is one of the main sources of consumer detriment while TalkTalk agreed that pricing was confusing to consumers. Generally, most individual respondents and SPs (Hospedia, DWP, CMA, DMA, FSB, the Advertising Association, Lexgreen Services, AIME, ITV plc, 4D Interactive and PowWow Now) were supportive of our conclusions and

[34] EE, December 2010 Consultation response, page 19 and 20, paragraph 11.
[35] BT, December 2010 Consultation response, page 3, paragraph 1.1.
[36] BT, December 2010 Consultation response, page 5, paragraph 2.
[37] BT, December 2010 Consultation response, page 5, paragraph 2.1.
[38] BT, December 2010 Consultation response, page 22, paragraph 7.

commented on the confusing and complex nature of the current non-geographic calls system as well as the need for greater openness regarding the cost of calls.

A8.76 PhonepayPlus (‘PPP’) agreed that, in order for consumers to make choices that were in their best interest, they needed to have sufficient understanding of the prices involved. It argued that at present, the ability of most premium-rate SPs to provide consumers with the required information was undermined by the way the tariffs are structured and determined by originating networks, which meant they had no control over prices.

There are no significant differences in terms of transparency between GCs and NGCs

Stakeholder comments

A8.77 EE and C&W argued that while knowledge of costs to non-geographic numbers was not particularly high, knowledge of costs to 01, 02 and 07 mobile numbers was not especially high either.[39] Vodafone argued that most customers called non-geographic numbers infrequently and were more concerned with the cost of majority call types that they made more frequently, e.g. geographic numbers.[40] However, even with these types of calls, Vodafone commented that research commissioned for previous rounds of NGC reviews revealed that consumers overestimated the price of calling geographic numbers by almost five times.[41]

Ofcom’s response

A8.78 As discussed above we agree that there may be difficulties for consumers to exactly recall prices to individual number ranges. It is possible, as argued by respondents, that some consumers cannot accurately recall charges for both geographic and non-geographic calls. However, as we will set out below, we consider there to be a significant difference in the accuracy of consumers’ expectations about the price of NGCs and other types of calls. We also explain why we consider that EE’s and Vodafone’s analysis is not convincing.

A8.79 EE uses Figure 4.3 from the December 2010 Consultation to compare the number of respondents calling non-geographic, geographic and mobile numbers who do not know the actual price of calls. While there does not seem to be a major difference between respondents’ awareness of the price of calls to all numbers, we disagree that this is a reliable measure of consumer price awareness. While consumers do not know the exact price of calls, they have a rough idea of the relative cost of calls to different numbers and these perceptions can influence their calling decisions.

A8.80 This is illustrated by the results of the 2011 Consumer survey (see Table A8.5, A8.6, A8.7 and A8.8 below).

A8.81 First of all, we note that the proportion of respondents who are confident they know how much it costs to call non-geographic numbers tends to be significantly lower than the proportion that are confident about knowing the price of calls to geographic and mobile numbers. There is one exception to this. A higher proportion of consumers are confident they know the price of fixed calls to 080 numbers than

[39] EE, December 2010 Consultation response, page 15, paragraph 12.a and page 18, paragraph 8; and C&W, December 2010 Consultation response, page 9.
[40] Vodafone, December 2010 Consultation response, page 29, paragraph 114.
[41] Vodafone, December 2010 Consultation response, page 20, paragraph 81.

those that are confident they know the price of fixed calls to geographic numbers (see Table A8.5). We do not consider this surprising, however, as “free 080 calls from landlines” is an easier pricing message to remember, compared to the price of calls to geographic and other non-geographic numbers. Therefore, with this exception, the evidence suggests that price awareness for geographic calls is generally better than for non-geographic calls.

A8.82 Secondly, we note that a significantly higher proportion of callers tend to believe that calls to 0800, 0845 and 0870 numbers are relatively expensive, compared to the proportion of consumers who think the price of calls to geographic and mobile numbers are expensive (again, see Table A8.5, A8.6, A8.7 and A8.8).

A8.83 The exception to this is consumers’ expectations of the price of landline calls to mobile numbers (see Table A8.6). This is in spite of the fact that consumers tend to think the price of mobile calls to mobile numbers is cheap relative to mobile calls to non-geographic numbers (see Table A8.8).

A8.84 We consider that consumers’ expectations about the price of landline calls to mobile numbers are likely to be influenced by high historic prices. However, we expect the price of fixed to mobile calls to fall in the future. As set out in the recent MCT statement[42] (paragraphs 7.189 – 7.198), we expect fixed call providers in the competitive fixed voice market will reduce their prices to their customers as mobile termination rates decrease (all other things being equal).[43] This view was largely supported by the Competition Commission (‘CC’) in its determination, which found it likely that cost savings from lower mobile termination rates would be passed onto consumers, at least to some extent, in the form of lower retail prices (although not necessarily in full).[44] Over time, these lower prices are likely to alter consumers’ perceptions of the price of fixed to mobile calls, reducing the amount by which they over-estimate the price of these calls.

[42] Ofcom Statement: Wholesale Mobile Voice Call Termination, published 15th March 2011. Available at: http://stakeholders.ofcom.org.uk/binaries/consultations/mtr/statement/MCT_statement.pdf

[43] As set out in the MCT statement, it is difficult to predict what form these price reductions will take (as fixed services are increasingly bundled together). However, there seems to be a trend towards FCPs introducing add-on bundles which reduce the cost of fixed to mobile calls to consumers.

[44] CC, Wholesale mobile voice call termination price control appeal determination, 9 February 2012,, page 2.146-2.147, paragraphs 2.789-2.798. Available at: http://www.competition-commission.org.uk/assets/bispartners/competitioncommission/docs/appeals/telecommunications-price-control-appeals/final_determination.pdf.

Table A8.5: Comparison between consumers' expectations of the price of landline calls to geographic numbers and landline calls to 0800, 0845 and 0870 numbers.

	Fixed 01/02	Fixed 080	Fixed 0845	Fixed 0870
I have never heard of [those] numbers	9%	9%	7%	17%
I know how much it costs per minute	23%	29%	14%	7%
I do not know how much it costs per minute but think it's expensive	17%	23%	39%	37%
I do not know how much it costs per minute but do not think it's expensive	23%	15%	15%	7%
I do not know how much it costs per minute and don't know whether it's expensive	29%	25%	24%	32%

Source: 2011 Consumer survey. QGL01X: "Which of the following statements best describes what you know about the cost of calling a number starting with xxx from your landline?" Base: all adults aged 16+ who use the mobile phone for personal use to make calls.[45]
Note: %s in green denote figures that are significantly lower than fixed 01/02. %s in blue denote figures that are significantly higher than fixed 01/02.

Table A8.6: Comparison between consumers' expectations of the price of landline calls to mobile numbers and landline calls to 0800, 0845 and 0870 numbers.

	Fixed 07	Fixed 080	Fixed 0845	Fixed 0870
I have never heard of [those] numbers	11%	9%	7%	17%
I know how much it costs per minute	12%	29%	14%	7%
I do not know how much it costs per minute but think it's expensive	43%	23%	39%	37%
I do not know how much it costs per minute but do not think it's expensive	9%	15%	15%	7%
I do not know how much it costs per minute and don't know whether it's expensive	26%	25%	24%	32%

Source: 2011 Consumer Research. QGL01X: "Which of the following statements best describes what you know about the cost of calling a number starting with xxx from your landline?" Base: all adults aged 16+ who use the mobile phone for personal use to make calls.
Note: %s in green denote figures that are significantly lower than fixed 07. %s in blue denote figures that are significantly higher than fixed 07.

[45] http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/omnibus-survey.pdf

Table A8.7: Comparison between consumers' expectations of the price of mobile calls to geographic numbers and mobile calls to 0800, 0845 and 0870 numbers.

	Mobile 01/02	Mobile 080	Mobile 0845	Mobile 0870
I have never heard of [those] numbers	6%	6%	4%	11%
I know how much it costs per minute	20%	13%	10%	7%
I do not know how much it costs per minute but think it's expensive	29%	42%	51%	46%
I do not know how much it costs per minute but do not think it's expensive	20%	11%	8%	5%
I do not know how much it costs per minute and don't know whether it's expensive	26%	29%	27%	30%

Source: 2011 Consumer Research. QGL01Y: "Which of the following statements best describes what you know about the cost of calling a number starting with xxx from your landline?" Base: all adults aged 16+ who use the mobile phone for personal use to make calls.
Note: %s in green denote figures that are significantly lower than mobile 01/02. %s in blue denote figures that are significantly higher than mobile 01/02.

Table A8.8: Comparison between consumers' expectations of the price of mobile calls to mobile numbers and mobile calls to 0800, 0845 and 0870 numbers.

	Mobile 07	Mobile 080	Mobile 0845	Mobile 0870
I have never heard of [those] numbers	6%	6%	4%	11%
I know how much it costs per minute	20%	13%	10%	7%
I do not know how much it costs per minute but think it's expensive	33%	42%	51%	46%
I do not know how much it costs per minute but do not think it's expensive	15%	11%	8%	5%
I do not know how much it costs per minute and don't know whether it's expensive	26%	29%	27%	30%

Source: 2011 Consumer Research. QGL01Y: "Which of the following statements best describes what you know about the cost of calling a number starting with xxx from your landline?" Base: all adults aged 16+ who use the mobile phone for personal use to make calls.
Note: %s in green denote figures that are significantly lower than mobile 07. %s in blue denote figures that are significantly higher than mobile 07.

A8.85 With reference to Vodafone's comments that previous Ofcom research indicated that consumers overestimate the price of calling geographic numbers by almost five times, we question the relevance of these results given that it refers to research findings in a consultation document published in February 2006[46], when more up-to-date evidence is available. We also question Vodafone's interpretation of the 2006 study. In particular, while the mean expected price of calls to geographic numbers was 14ppm (compared to the actual price of 3ppm), the median expected price was 5ppm, suggesting the high mean figure was influenced by a small number of respondents with disproportionately high price expectations. In contrast, the

46 http://stakeholders.ofcom.org.uk/binaries/consultations/numberingreview/annexes/marketresearch.pdf

median expected price of calls to 0845 numbers was 16ppm compared to an actual price of 3ppm and the median expected price of calls to 0870 numbers was 20ppm compared to an actual price of 7.5ppm. This shows that the results of this study in fact indicate that the scale of consumer price over-estimation in 2006 was significantly higher for non-geographic calls than geographic calls.

A8.86 Tables A8.9 and A8.10 below present more up-to-date data on consumers' mean and median expected prices compared to actual prices. There are a number of problems in interpreting these responses and in obtaining an appropriate actual price for geographic calls to be meaningfully compared with these average expected prices. Most OCPs offer these calls free in bundles, and so the true price is likely to be substantially lower than tariff for calls made outside of inclusive minutes (and there is an important difference between the price at the margin - zero within a bundle - and the price on average). However we believe that some consumers may have interpreted the question to mean the price of daytime calls outside of included minutes. A closer look at the wording of the Consumer survey question indicates that there is no mention of whether the call is included in the consumers' tariff bundle. Thus, for some consumers, it may not be clear whether they are being asked to state their own expected price of making the call (i.e. the price of making the call within their own tariff package) or the out-of-bundle price or the average market rate consumers generally expect to pay for making these calls. Relatively few fixed and mobile respondents thought calls to 01/02 numbers were free (14% and 7% respectively)[47], despite the fact that most OCPs offer free bundled minutes to these numbers. We note this problem does not apply to the NGC ranges, which are not included in bundled minutes by the majority of OCPs.

A8.87 We also recognise that there are other possible reasons for relatively few respondents thinking calls to 01/02 numbers were free. Some respondents may have factored in the monthly charge they pay into their cost estimate. For example, a consumer paying £10 a month and making 100 minutes worth of calls per month within their bundled allowance might say it costs 10 pence per minute to make a call. It may also be the case that some respondents do not understand what is included in their monthly package or pay close attention to their bills.

A8.88 A further difficulty with this exercise is that available estimates of the average price of geographic calls are based on total call volumes and so cannot distinguish between the price of daytime and evening/weekend calls. As a result, as a guide to actual prices we have used a range of prices based on quoted tariffs at the time of publication which includes free bundled minutes. We recognise that a more appropriate comparison would be quoted tariffs in 2009 but given the relative stability in the price of calls to these numbers since 2009 we nonetheless consider current tariffs to be useful for our purposes.

A8.89 The limitations discussed above reduce the extent to which this analysis can be used to draw conclusions about geographic calls. However, the results do suggest that the difference between consumers' expectations about the price of non-geographic calls and the actual price tends to be substantial for some number ranges (up to 31ppm for calls to 0870 numbers from fixed lines). For 080 numbers, the problem of over-estimation does not appear to be as widespread as the median expected value is very similar to the true cost. However, the mean expected price of calls from both fixed and mobile lines is still high relative to the true value,

[47] The 2009 Consumer survey. Q43/44: "How much do you think it costs to call the following types of telephone numbers from your landline/mobile phone at home during the daytime on a weekday?" [Base: all respondents with a landline/mobile phone].

suggesting that some customers over-estimate the cost of calls by a significant amount. In contrast, to the extent that the comparison is meaningful for geographic calls, expectations of prices of calls to geographic numbers appear to be relatively more accurate and in all cases both mean and median expected prices fall within the range of actual prices.[48]

A8.90 Figures in Table A8.9 give some indication that consumers over-estimate the price of fixed to mobile calls, as expected prices are to the upper end of the range of actual prices. However, as discussed above, we are less concerned about this because of the changes that we expect in these prices. As noted above, the extent to which we can use this evidence to compare the relative degree of over-estimation of GC and NGC prices is limited by the problems some consumers may have had in interpreting the question relating to expectations of GC prices. However we do not think the same problems are likely to have applied to the question for NGC prices because these calls are not typically included within bundled minutes. As a result, we do place weight on the fact that consumers appear to over-estimate the cost of calls to these number ranges, and in particular to 0845 and 0870. We also consider the survey evidence in Tables A8.5, A8.6, A8.7 and A8.8 provides a more accurate guide to comparative levels of consumer confidence in geographic and non-geographic numbers because the question does not suffer the same possible problems of interpretation.

Table A8.9: Consumers' average expected prices for calls to geographic and mobile numbers, according to the 2009 Consumer survey, compared with actual prices

	01/02	07
Mean expected price from landlines, ppm [median expected price] (range of actual prices)	8 [3] (0-10)	29 [18] (0-32)
Mean expected price from mobiles, ppm [median expected price] (range of actual prices)	18[18] (0-35)	24 [18] (0-40)

Source: Expected prices are from the 2009 Consumer survey. Q43/44: "How much do you think it costs to call the following types of telephone numbers from your landline/mobile phone at home during the daytime on a weekday?" [Base: all respondents with a landline/mobile phone]. Retail prices for calls to 01/02 and 07 numbers from landlines are from fixed line operators' price lists at the time of publication and do not include any set-up charges. Retail prices for calls to 01/02 numbers from mobiles are from Table 16.3 in Part C, Section 16 of this document; retail prices for calls to 07 numbers from mobiles are from mobile OCP price lists at the time of publication.

[48] Note that we present data from the 2009 Consumer survey in spite of the fact that we asked similar questions in both this survey and the more recent 2011 Consumer survey. The reason for using evidence from the former is because the question in each survey was asked to different bases. In the 2009 survey, *all* respondents with a landline/mobile phone were asked about their price expectations. In contrast, in the 2011 research, only those who had responded to a previous question asking whether they were aware of prices were asked about their price expectations. Therefore, answers to the 2009 research are more likely to be representative of all consumers whereas answers to the 2011 research are more likely to represent consumers with more confidence in their awareness of prices.

Table A8.10: Consumers' average expected prices for calls to non-geographic numbers, according to the 2009 Consumer survey, compared with actual prices

	080	0845	0870
Mean expected price from landlines, ppm [median expected price] (average actual residential price)	6 [0] (0)	30 [18] (5)	39 [38] (8)
Mean expected price from mobiles, ppm [median expected price] (average actual residential price)	29 [18] (20)	46 [38] (22)	51 [38] (20)

Source: Expected prices are from the 2009 Consumer survey. Q43/44: "How much do you think it costs to call the following types of telephone numbers from your landline/mobile phone at home during the daytime on a weekday?" [Base: all respondents with a landline/mobile phone]. Actual prices taken from 2010 Flow of Funds (FoF) study with an estimated uplift to account for the fact that the FoF data includes business calls as well as residential calls (for further explanation of this, see Part B, Annex 16). Actual prices are also adjusted to reflect VAT.

A8.91 Overall, we believe the evidence supports our view that consumers tend to expect the price of calls to non-geographic numbers to be relatively high, thereby over-estimating prices and having less confidence to make these calls. In contrast, consumers are likely to have more accurate expectations of the price of calls to geographic and mobile numbers (with the exceptions, discussed above, of 080 and landline calls to mobile).

Price awareness is low because NGCs are not a point of concern or interest to consumers

Stakeholder comments

A8.92 O2 argued that the fact that consumers do not tend to take NGC charges into account when selecting an OCP at the point of subscription suggested that customers did not value NGC services to the same extent that they did other mobile services.[49] Similarly, Sky concluded that for most consumers the charges for NGCs, their cognisance of the price, and the impact of the price to them was of little importance. Vodafone highlighted the fact that Ofcom's consumer survey evidence showed that NGCs were a low engagement area for consumers. Vodafone commented that it was rational for consumers to attach less weight to the cost of minority call types they make infrequently than majority call types they make more often and which were more important in budgetary terms.[50] Therefore, Vodafone argued that concluding that a lack of engagement leads to market failure was inappropriate.

Ofcom's response

A8.93 We accept that not all consumers would place significant weight on the price of NGCs at the point of subscription, even if they had good information. We recognise it is rational for consumers to place more weight on the types of calls they expect to make more of when making their subscription decision. Indeed, only 11% of

[49] O2, December 2010 Consultation response, page 13, paragraph 50.
[50] Vodafone, December 2010 Consultation response, page 20, paragraph 82.

landline callers and 9% of mobile callers stated that the cost of calls to 08xx/09 numbers would be important to them when choosing a new supplier.[51]

A8.94 However, we note that a significant minority of callers do place weight on information about the price of calls to non-geographic numbers at the point of subscription. For example, the 2010 Consumer survey asked landline and mobile consumers whether they had switched, or considered switching, landline/mobile providers in the past 12 months.[52] Of those that had, only 29% of landline and 11% of mobile respondents received any information about calls to 08 or 09 numbers.[53] Of those respondents, 37% and 29% stated that receiving this information from their respective chosen landline and mobile provider made that provider more attractive.[54] Furthermore, of those respondents who switched or considered switching and did not receive information about calls to 08 or 09 numbers, 25% of landline and 24% of mobile respondents stated that they would have liked to have received this information.[55] This shows that a significant minority of consumers do place weight on obtaining the price of NGCs at the point of subscription and that they would benefit from clearer price information. We consider these numbers are likely to be higher for the sub-set of consumers who switched or considered switching than for all landline and mobile users because the former are likely to be more price sensitive in general. In a well-functioning market, it is these so-called marginal customers who exert the competitive pressure on retailers' prices by switching between providers in response to changes in relative prices. The fact that a significant minority of these marginal customers would have liked information on the price of NGCs suggest that the current lack of price transparency is reducing competitive pressure on the price of NGCs.

A8.95 Furthermore, once consumers have made their subscription decision, they may find they need to make more NGCs than they were initially expecting. It is likely that consumers underestimate the number of NGCs they need to make at the point of subscription given that only a small number place any weight on the cost of NGCs at the point of subscription, focussing instead on the packages' headline offers.[56]

A8.96 We also consider it likely that the decision whether or not to make a call could be influenced favourably by making price information easily available at the point of call. This is because reducing uncertainty is likely to reduce consumer suspicion,

[51] 2010 Consumer Survey. Q5/6: *"If you were considering switching your landline/mobile supplier, what elements would be important when choosing a new supplier?"* (Spontaneous) [Base: all respondents who use a landline].
[52] 2010 Consumer survey. Q11/16: *"Have you switched, or considered switching your landline provider/mobile phone network operator in the past 12 months?"* [Base: all respondents who use a landline].
[53] 2010 Consumer survey. Q12/17: *"When switching or considering switching, did you receive any information about calls to 08xx or 09xx numbers, e.g. costs of calls to 0800, 0845, 0870 numbers from any landline provider/mobile phone network operator?"* [Base: All respondents who use a landline/mobile and have switched or considered switching in the past 12 months].
[54] 2010 Consumer survey. Q13/18: *"Did receiving this information about these calls make any difference to your choice of provider?* [Base: All respondents who use a landline/mobile phone and have switched or considered switching in the past 12 months and received information about calls to 08xx/09xx numbers].
[55] 2010 Consumer survey. Q14/19: *"Would you have liked to have received information about 08/09 calls?"* [Base: All respondents who use a landline/mobile phone and have switched or considered switching in the past 12 months and did not receive information about calls to 08xx/09xx numbers].
[56] According to Q5/6 of the 2010 Consumer Survey, 65% (the most popular response) of landline customers considered the monthly cost of the package to be important when choosing a new supplier, whilst 65% (again, the most popular response) of mobile customers considered the cost of calls/text was important.

increasing the likelihood that a call is made. Indeed, our experimental research provides support for this view, which suggests that the current lack of consumer focus on of NGC calls is a function of the lack of price transparency.

A8.97 Similarly, we note that the relative lack of importance of these calls to the subscription decision reflects in part the fact that a lack of pricing awareness is leading to customers over-estimating the costs of NGCs, and making too few NGCs as a result. As noted in paragraph A8.61above, the main reason given by mobile users who rarely or never make NGCs for their low level of usage is their perception of the price of these calls.

A8.98 The fact that more consumers do not take into account the prices of NGCs when making their subscription decisions could stem from a number of reasons, of which lack of interest is only one. Other reasons include the fact that information can be so costly to obtain that it is not worth looking for or considering it. As set out above, customers of certain OCPs would have to search through large pdf documents in order to obtain the correct price of calling certain non-geographic numbers. When making a subscription decision, tariffs would have to be compared between multiple OCPs. This could considerably increase search costs of obtaining information if neither of the OCPs had made their list prices transparent to customers. Even potential customers of OCPs with transparent list prices may not be interested in viewing these prices if they have not been able to obtain readily a comparable set of prices from the other OCPs they are considering.

Consumers often lack choice when calling NGCs

Stakeholder comments

A8.99 The Consumer Advice Bureau ('CAB') agreed that a lack of consumer price awareness was weakening competitive pressure and therefore pushing up prices. However, the CAB argued that a lack of consumer choice was also contributing to this and it was the absolute cost of NGC numbers which was a greater problem for the CAB's clients, particularly those on low incomes. The CAB argued that, in many cases, consumers were not able to choose whether or not to contact the SP, nor could they choose the method of contact – i.e. these were unavoidable calls. Furthermore, the consumer often could not choose which SP to use. In addition, the CAB argued that it seemed highly unlikely that consumers would base their decision of communications provider upon the type of telephone number they would need to use to contact a specific SP. Therefore, many consumers are 'locked in' and suffer harm as a result.[57]

Ofcom's response

A8.100 As we noted in the December 2010 Consultation, the fact that some consumers do not have easy alternatives to make NGCs may lead to high charges. Currently SPs have a choice among different number ranges that provide them with termination revenues. However, they have little or no control of the retail price. We consider that if price awareness was improved, the concerns identified by the CAB would be lessened. If SPs of, for example, socially important services, choose a number range that uses revenue sharing and the price they charge is visible to the caller, that in itself could provide pressure in the form of, for example, negative publicity. This could deter the SP from using a number range which is not appropriate for the type of service it is offering.

[57] CAB, December 2010 Consultation response, page 7.

A8.101 This on its own, may not, however, be sufficient and it is possible that vulnerable consumers that are making 'locked-in' calls may face high charges. This relates to non-premium services especially. We note that we expect the number of truly 'locked-in' calls to be low. Even those customers who have no control over which SP to call and are thus 'locked-in' in this sense may still be able to vary the frequency with which they call. They are also likely to be able to vary the duration of these calls, for example by hanging up if placed in a long queue and calling back at a less busy time.

A8.102 Indeed, our Consumer Survey results suggest this is the case. For example, according to the 2011 Consumer survey, 33% of customers said they tried to keep the length of calls to 08 numbers as short as possible.[58] In addition, according to the 2009 Consumer survey, when calling a number that respondents knew was not contained in their package and they also did not know the cost of, 78% said they would spend less time on the call, at least some of the time.[59]

A8.103 However, despite the fact that we expect instances of truly locked in calls to be relatively few, our view is that when vulnerable customers do face high charges for locked-in calls, particularly when accessing socially important services, the social costs of such calls being deterred are high. Accordingly we address this source of consumer harm as a standalone outcome in paragraphs A8.380 - A8.422.

The main reason for consumer dissatisfaction/confusion is excessive retail pricing

Stakeholder comments

A8.104 C&W, TalkTalk and a number of SPs (Performance Telecom, Premium Rate Association, Lexgreen services, 24 Seven Communications) argued that the cause of consumer disquiet in the market for NGCs was not a lack of price transparency but the level of prices, especially from mobile OCPs. C&W argued that consumers did not regard such levels of mobile pricing as legitimate, which was evidenced by consumer avoidance tactics and lower mobile OCP generated call origination volumes.[60] It highlighted that the volume data provided by Ofcom in its December 2010 Consultation showed that a low proportion of non-geographic calls were made from mobiles. C&W provided quotes from one of its SP customers, who stated their objection to mobile OCPs' margins.[61]

A8.105 The FCS commented that it was clear from Ofcom's research that the fundamental issue faced by the consumer when calling NGCs numbers was the "free riding" and high level of charges levied by mobile OCPs. The FCS argued that this was the point of origin for consumer dissatisfaction and the subsequent breakdown of NGCs as a whole, rather than the lack of consumer price awareness (and other market failures) identified by Ofcom.[62]

Ofcom's response

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[58] 2011 Consumer survey. QGL08: *"And looking at the options on this screen, which of the following did you do?"* [Base: all adults 16+ who made or considered making a call to an 08 number]
[59] 2009 Consumer survey. Q41: "When calling a number that you know is not contained in your package and you also don't know the cost (for example, calling a number beginning 0871), how often do you spend less time on the call?" [Base: all respondents who would make the call].
[60] C&W, December 2010 Consultation response, page 9.
[61] C&W, December 2010 Consultation response, page 10.
[62] FCS, December 2010 Consultation response, page 6.

A8.106 We are aware that the level of pricing of mobile originated NGCs is often substantially higher than for fixed originated NGCs, and that these high prices are the source of considerable customer dissatisfaction. We argue that better transparency and increased consumer price awareness should lead to greater downward competitive pressure on retail prices. This would result in more efficient price-setting by both fixed and mobile OCPs.

Stakeholder comments

A8.107 O2 argued that Ofcom appeared to be seeking to lay the blame of confusion at the door of mobile CPs' retail prices without being able to produce any reliable source of evidence.[63] Three argued that OCPs were not solely responsible for poor price awareness and some mobile operators had made efforts to improve price transparency via their websites.[64] In spite of numerous price points for terminating NGCs at the wholesale level, Three highlighted that it aimed to reduce the number of price points for consumers (e.g. consumers are not charged different prices for daytime and evening NGCs).[65]

Ofcom's response

A8.108 We acknowledge that there are a substantial number of price points for terminating NGCs at the wholesale level. Indeed, In June 2011, BT had over 40 different price codes for 0843/4 calls (and within price codes, prices may also vary by time of day). As set out above, we note the efforts some stakeholders have made to facilitate better price transparency but for customers of other stakeholders, it remains difficult to easily obtain the correct price of making NGCs. Consequently, and as shown by our consumer survey evidence, price awareness is still poor.

A8.109 Fixed retail prices reflect termination rates and this means there are lots of different price points. On the other hand, mobile retail prices do not generally reflect differences in termination rates so there are fewer price points. Yet, as set out above, in both cases there are problems with the functioning of the retail market. Therefore fewer price points are not enough to ensure that the current problems will go away.

Higher margins on NGCs do not indicate a transparency problem

Stakeholder comments

A8.110 Vodafone argued that evidence of higher unit retentions on NGCs than GCs and other services was not in itself evidence of a transparency problem – even with 'perfect' transparency one would expect prices to reflect the revealed pattern of consumers in a competitive market (relatively lower prices on majority call types and relatively higher prices on minority call types).[66] In addition, Vodafone commented that there were extra costs involved for OCPs where termination charges embodied an uplift to fund revenue share with SPs.[67]

Ofcom's response

[63] O2, December 2010 Consultation response, page 18, paragraphs 66-68; and page 23, paragraphs 88-89.
[64] Three, December 2010 Consultation response, page 6, paragraphs 19.
[65] Three, December 2010 Consultation response, page 7, paragraphs 23.
[66] Vodafone, December 2010 Consultation response, page 22, paragraph 86.
[67] Vodafone, December 2010 Consultation response, page 20, paragraph 82.

A8.111 If price transparency were perfect it is not clear why an efficient structure of prices would involve relatively higher prices on minority call types as opposed to, for example, reflecting differences in (market) elasticities of demand (we discuss this point in further detail below with respect to the tariff package effect). However, as discussed above, price transparency is far from perfect for consumers wishing to make NGCs. As set out above, we have used various other sources of evidence to show that consumers have difficulty obtaining the price of NGCs, including consumer research and desk research. Therefore we are not basing our argument solely on the fact that higher unit retention on NGCs is evidence of a transparency problem.

A8.112 Whilst termination charges which include revenue share do increase costs for OCPs, the pattern of termination charges does not account for the much higher unit retention, on average, of mobile OCPs on NGCs compared to GCs.

Other comments and issues raised

Stakeholder comments

A8.113 O2 argued that for those ranges which most frequently carry 'locked in' services, there are no regulatory requirements to provide pricing information.[68] O2 suggested that a lack of consumer trust was, in part, caused by a lack of proper enforcement of PPP pricing regulations.[69]

Ofcom's response

A8.114 In relation to O2's comments, there is a distinction to be made between whether we need better enforcement of existing PPP pricing regulations or whether we need new regulations. We believe the latter is the case, and specifically that moving to a more transparent system where the number range itself carries some information on the likely price would help to alleviate potential concerns about the cost of 'locked-in' calls. This is because, in some cases, customers will be reassured that calls are not as expensive as they thought and not be anxious about making the call. In other cases, it will become more obvious that SPs are using number ranges that charge a higher price in order to generate more revenue. This may put pressure on SPs to move to cheaper number ranges, particularly for SPs with locked-in customers.

A8.115 If O2 has concerns about PPP enforcement of its 'Code of Practice', it would be helpful for O2 to take it up with PPP directly.

Comments made in relation to our consumer detriment calculations

A8.116 In the December 2010 Consultation, we set out the results of calculations estimating the potential magnitude of current consumer detriment. We have adopted a similar methodology for calculations used to inform our impact assessment in this document. The responses from stakeholders and our updated analysis are set out in a separate Annex (Part B, Annex 16).

[68] O2, December 2010 Consultation response, page 15, paragraphs 60-61.
[69] O2, December 2010 Consultation response, page 16, paragraphs 62-63.

Summary of Ofcom's position on consumer price awareness

A8.117 Today consumers do not have easy access to information on the price of NGCs from all call providers. Some mobile OCPs such as Vodafone and Three have actively taken steps to improve price transparency, but others have not and so price information is not consistently accessible for consumers across the market. Furthermore, easy access to online price lists does not seem to provide customers with the information they need at the point of making a call or a subscription decision.

A8.118 We accept that not all consumers may care about making NGCs. However, many do care and those consumers generally cannot easily find out prices either at the point of subscription or at the point of call. Our objective is not necessarily to achieve perfect price transparency but to allow those who want to know the price of these calls to be able to do so in an easy way when they make call and subscription decisions.

A8.119 The impact of poor price transparency is that callers' general awareness of prices is poor. This poor awareness leads many consumers to overestimate the price of making NGCs. This makes the situation with NGCs different compared to calling geographic numbers or, using the example discussed above, purchasing rail tickets. While consumer awareness of the actual price of calls to geographic numbers, or the occasional traveller's awareness of the actual price of rail tickets, may be poor, these consumers are either sufficiently confident of the relative price of the product or they have access to sufficient price information at the point of purchase to ensure that their demand for the product is not deterred. On the contrary, consumers generally overestimate the price of making NGCs, thinking that making these calls will result in them incurring substantial charges. We discuss our concerns about the impact price overestimation has on the retail market in the 'Outcomes of the market failures' section below.

The vertical externality

A8.120 As set out above, the second market failure we identified was the vertical externality.

Summary of Ofcom's analysis in the December 2010 Consultation

A8.121 In the December 2010 Consultation, we defined the vertical externality as arising from the fact that OCPs are not sufficiently motivated by the preferences of SPs of NGC services and thus generally do not take the impact of their call pricing decisions on SPs into account when setting their retail prices.

A8.122 We argued that while an SP may prefer a particular retail price for calls to its service, it has no control over the actual price charged. When OCPs set their retail NGC prices, they may not have the incentive to fully account for the preferences of SPs or the impact the chosen price has on SPs because OCPs are only interested in their own profits/objectives. Therefore, they could increase NGC prices, given the lack of price awareness, without fully taking into account the impact this has on SPs' call volumes and/or customer satisfaction.

A8.123 We also argued that the vertical externalities were likely to be exacerbated by a lack of price awareness because mobile, and to a lesser extent fixed OCPs, have an incentive to charge higher mark-ups on NGCs and lower prices for services in their retail offerings which are more visible to customers. This behaviour maximises

OCPs' profits but leads to a reduction in call volumes (and therefore long-term revenues) for SPs.

Stakeholders' comments and Ofcom's response

A8.124 The mobile OCPs questioned the existence of the vertical externality while Virgin Media, although acknowledging that some problems existed, argued that the strength of the vertical externality was not as substantial as Ofcom had made out. On the other hand, there was support for our conclusions, in particular from a number of fixed OCPs and SPs.

A8.125 Stakeholders raised a number of comments on our analysis and conclusions on the vertical externality. We have grouped them into the following themes:

- there is no vertical externality market failure and the evidence used by Ofcom to support it is weak;
- SPs have a choice of price points to choose from;
- large SPs and TCPs have countervailing buyer power;
- mobile shortcodes would allow internalisation if SPs cared about it; and
- vertical integration between OCPs and TCPs is increasing and allows internalisation.

<u>There is no vertical externality market failure and the evidence used by Ofcom to support it is weak</u>

Stakeholder comments

A8.126 EE and Vodafone highlighted the DWP example as proof that if the vertical externality existed, there would be ways to internalise it.[70] They argued that the fact that other, similar, negotiations had not been pursued suggested that the vertical externality did not exist. EE argued that SPs were able to directly contract with mobile OCPs, if they so wished (e.g. the DWP example)[71], but it had received almost no requests for this type of commercial negotiation.[72] In addition, EE argued that market mechanisms had evolved to reduce transaction costs between OCPs and SPs to a workable level so that those commercial arrangements are now more feasible.[73]

A8.127 Similarly, O2 argued that while the results of the SP survey suggested that SPs were unable to negotiate with OCPs, it has rarely been approached with proposals from SPs.[74]

A8.128 Vodafone argued that the fact that commercially negotiated solutions, as in the case of the DWP, had not been pursued more widely by SPs was a reflection of the fact that not all 080 calls fall into the same 'socially important' category and that not all

[70] EE, December 2010 Consultation response, page 19, paragraph 12. Vodafone, December 2010 Consultation response, page 5, paragraph 17.
[71] EE, December 2010 Consultation response, page 19, paragraph 12.
[72] EE, December 2010 Consultation response, page 34, paragraph 7.
[73] EE, December 2010 Consultation response, page 10, paragraph 34.
[74] O2, December 2010 Consultation response, page 20, paragraphs 74.

SPs cared to the same extent about the retail charges faced by the caller.[75] Vodafone commented that where SPs were willing and able to pay to have calls to them zero rated, mobile OCPs had taken that into account and responded accordingly. It argued that the fact that mobile OCPs did not spontaneously extend the voluntary Telephone Helpline Association ('THA') scheme generally to all public and private sector commercial organisations for free was not a market failure in any recognised economic sense.[76]

A8.129 Contrary to the arguments put forward by a number of mobile OCPs above, BT and a number of SPs agreed with Ofcom's vertical externality argument. BT commented that SPs could not control how their service was provided compared to their competitors and highlighted how this had an impact on their ability to position their service and their brand.[77] Magrathea agreed that the vertical externality was one of the main sources of consumer detriment.

Ofcom's response

A8.130 We think it reasonable to take the view that OCPs and SPs are likely to have different preferences for the retail prices of NGCs because each has their own independent objectives to pursue. Under the current system, OCPs have incentives to set mark-ups on these calls relatively high in order to set lower prices for the more visible aspects of their retail offering. Many SPs, on the other hand, would like OCPs to reduce retail prices of NGCs in order to grow demand for their services and/or to improve customer satisfaction for existing users.

A8.131 This misalignment of incentives will create a vertical externality unless SPs are able to contract with OCPs to set a retail price that takes into account their objectives. The evidence we have seen suggests that transaction costs (and/or origination payments set by the mobile OCPs) are too high for SPs to be able to contract with OCPs in this way in almost all cases.

A8.132 In countering our analysis of the vertical externality, mobile stakeholders have particularly focused on the DWP example. The DWP is one of a small number of examples of successfully negotiated deals within the 080 number range where an SP has been able to contract with OCPs to provide the service free to callers in return for a fee per call paid by the SP (others examples of zero-rated calls include calls to THA and other charities as well as to a small number of other SPs). In our December 2010 Consultation we identified the vertical externality as a concern that related to all non-geographic number ranges.

A8.133 We consider the fact that stakeholders could only point to a small number of examples of successfully negotiated deals between SPs and OCPs on a single number range suggests that such agreements are very rare across the whole NGC range. Hence, we are not convinced that the presence of a single agreement on a specific number range involving a Government Department provides the basis for the inferences that EE and Vodafone seek to make. Instead, we would argue the opposite, namely the fact there are so few examples of this behaviour despite a clear misalignment of incentives supports the proposition that there are material barriers to SPs contracting with OCPs in this way. The inferences one can draw from the DWP example are discussed further in Annex 20. We accept that not all 080 calls fall into the same 'socially important' category. However, Vodafone seems

[75] O2, December 2010 Consultation response, page 10, paragraph 40.
[76] Vodafone, December 2010 Consultation response, page 11, paragraph 41.
[77] BT, December 2010 Consultation response, page 6, paragraph 2.2.

to be implying that the reason why other deals between OCPs and SPs have not been agreed is because they do not concern services with an equivalent social value. We do not accept that this is true. As can be seen in Annex 20, some attempts to negotiate deals have failed even when the service concerned is important for people’s safety. For example, the National Grid failed to successfully negotiate zero-rating calls to their ‘0800 Smell Gas’ number.

A8.134 In addition, as set out in paragraph A7.64 in the December 2010 Consultation, the potential for bilateral agreements does not change our view that a non-geographic number range which is “free to caller” from all OCPs is unlikely to arise absent regulatory intervention. We set out two reasons for this:

- there are transaction costs to reaching such agreements, particularly given the number of OCPs. Indeed, while the DWP’s January 2010 agreement covered six major mobile OCPs, it did not apply to all mobile OCPs. As set out in the 080 Dispute Determination, mobile OCPs agreed that transaction costs exist. The DWP is a large SP and the transaction costs for smaller SPs are likely to be significantly higher (e.g. relative to the volume of calls they expect to receive); and

- OCPs may be in a position to demand an above-cost and consequently high origination payment from SPs. In particular, in order for an OCP to agree not to charge for a call, it might require that any additional origination payment from the SP would not only cover its costs of origination but also cover, or maybe even exceed, the profits that OCP is currently making by charging for calls. The profits an OCP could make by charging for calls are likely to be inflated since poor consumer awareness is likely to weaken competitive constraints on call prices.

A8.135 Regarding the first point about transaction costs, as set out above, stakeholders argued that the lack of agreements does not reflect the presence of transaction costs or the existence of a market failure. Mobile stakeholders have argued instead that the lack of deals between OCPs and SPs to make 080 calls free to callers reflects a lack of demand on the part of the SPs. We note that this is in spite of them previously acknowledging transaction costs do exist.[78]

A8.136 On the second point about the terms demanded by OCPs, specific evidence for high origination payments demanded by OCPs has been obtained from the October 2011 S135 information request**.** [✂].[79] Moreover, even for a large SP which is also a Government Department offering a socially important service, the DWP agrees to pay an origination charge of [✂] in exchange for the zero-rating of these calls, which is [✂] our Impact Assessment Range for the cost of this call (see Part C, Annex 23).

[78] In the 080 Dispute Determination, http://stakeholders.ofcom.org.uk/binaries/consultations/draft_deter_bt_tmobile_vodafone/nonconf.pdf, T-Mobile acknowledged the potentially high overhead involved for 080 SPs to negotiate such agreements given the large number of OCPs. Three said that the commercial and legal resources required to negotiate agreements with individual SPs would likely be prohibitive for all but the largest of SPs. Similarly O2 stated that its experience of negotiating terms had been time consuming, and it expected the arrangements for invoicing and collecting payments to be relatively labour intensive. It therefore concluded that, although this is unlikely to cause problems for a small number of individual agreements, it would not be practicable to use such arrangements for large numbers of 080 SPs (see paragraphs A4.60 to A4.65).

[79] O2 and EE’s responses to the October 2011 S135 information request.

A8.137 Further evidence from the information request suggests that some OCPs will only consider a deal like the DWP agreement if they think it will increase their revenues.[80] This shows that in some cases, some OCPs will ignore the preferences of others, i.e. SPs, for their own benefit (reflecting the vertical externality).

A8.138 In addition, we do not accept that there is a lack of demand for bilateral deals between OCPs and SPs. This is for two reasons.

A8.139 First, Annex 20 highlights the difficulties some SPs have had in negotiating deals with OCPs in terms of time taken (in some cases several years) and resources required. In some cases, SPs have not even been given the opportunity to negotiate. Consequently, a lack of requests from SPs could be because they are put off as they feel they have insufficient resources to negotiate for a significant period of time and/or because they do not want to waste resources on negotiations that might ultimately be onerous or unsuccessful potentially with a large number of OCPs.

A8.140 Second, according to the 2011 SPs survey, nearly two thirds of SPs answered that, if they could change only one thing about 0845 numbers, it would be that callers are charged the same amount as for a call to a normal landline.[81] It is striking that no bilateral deals to geographically rate the price of calls to 0845, and indeed 0870, numbers have been agreed between OCPs and SPs, given the clear desire to do so among some SPs. This evidence is consistent with our analysis of the existence of significant barriers to an SP concluding the necessary deals with all (or the most important) OCPs.

Stakeholder comments

A8.141 Vodafone argued that Ofcom's anecdotal evidence of SPs 'expressing a preference' for lower rather than higher call costs was not the same as economic demand expressed as willingness and ability to pay - where SPs genuinely place a value on the price faced by the caller, one would expect OCPs to take this into account, as mobile OCPs have done in relation to the DWP.[82]

Ofcom's response

A8.142 In light of Vodafone's response to the 2010 Consultation, we asked a number of questions in the 2011 SP survey that explored the trade off for SPs between higher costs and a particular price for the call. Our interpretation of the responses to these questions is discussed in further detail in sections 11 and 16 and Annex 23. In summary, whilst the responses are mixed, we find that a significant number of SPs using 080 and 0845 numbers would be willing to pay higher hosting fees in order to secure a particular retail price for calls to their number.

A8.143 In particular, we note that of the two options for intervention that we asked about, 52% of 0845 SPs preferred all callers paying the same as for calls to a "normal landline" even though this option also involve a 1.5ppm increase in the cost of operating the number for the SP.[83] Similarly, we asked 080 SPs about the impact

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[80] [✂]

[81] 2011 SPs Survey. Q.30: *"If you could change only one of the following aspects of 0845 numbers, which one would it be?"* [Base: all SPs who operate an 0845 number]. 65% of respondents chose: "*That callers are charged the same amount as for a call to a normal landline".*

[82] Vodafone, December 2010 Consultation response, page 29, paragraphs 116-119.

[83] The 2011 SP Survey. Q.31 "So would you prefer the first option or the second option? Option 1..that the cost to you of operating an 0845 number will increase by 1.5 pence-per-minute, and the

of mobile 080 callers being charged and, for those SPs that felt they were disadvantaged, we then asked how much they would be willing to pay in order to secure for free mobile 080 calls. 17% of all 080 SPs were disadvantaged by mobile 080 call charges and gave a ppm figure for how much they would be willing to pay to those charges (a further 14% were disadvantaged but did not know how much they were willing to pay). [84]

A8.144 We discuss above the barriers to SPs concluding deals with OCPs where they are willing to pay, and the limitations in reading across the DWP agreement to other SPs and number ranges other than 080.

Stakeholder comments

A8.145 O2 criticised the sources of Ofcom's evidence of the vertical externality and how Ofcom has used it.

A8.146 First, O2 commented on the Analysys Mason study for PhonepayPlus from 2008.[85] O2 acknowledged that the results of this study suggested that high prices from mobile OCPs were responsible for the lack of price transparency which was having a negative impact on consumer perceptions of phone-paid services. However, O2 also argued that Ofcom had failed to take into account other factors mentioned in the report which also contributed to the declining demand for PRS and a lack of pricing clarity, e.g. the negative tone of announcements by Ofcom and PhonepayPlus (giving consumers the impression that the industry was highly suspect and did little to promote confidence) and consumer confusion on pricing, exacerbated by recent changes in number ranges and codes of practice. O2 argued that failing to account for all potential causes for the lack of pricing transparency resulted in Ofcom giving undue weight to the SPs' opinion.

A8.147 Second, O2 commented on submissions from the Number UK Limited and responses from the 2010 SPs survey. O2 argued that Ofcom had accepted the opinions of SPs that they were unable to negotiate with OCPs, whereas, as mentioned above, O2 had rarely been approached with proposals from an SP.

A8.148 Third, O2 commented that the existence of different retail prices was merely an example of price differentiation.[86]

Ofcom's response

A8.149 On O2's first point, we accept that other factors have contributed to the lack of price transparency which has had a negative impact on consumers' perceptions of

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cost to callers (from fixed or mobile lines) of calling your 0845 number(s) will be the same as calls to a normal landline number. Option 2..that neither the cost to your organisation of operating your 0845 number nor the price paid by callers will change, but when you show your number, for example in advertising, it will state that the call charge is split, with 2 pence-per-minute going to you and the rest going to the phone company" Base: All 0845.

[84] The 2011 SP Survey. Q.14 "How do you feel about the impact of these mobile charges on the total number of calls that you receive? Would you say that to your organisation the charge for mobile phone calls to your Freephone number is..." Base: All 080. Q16. "By how much would you be willing to increase the pence-per-minute amount that you pay to receive calls on your freephone number(s) in return for the charge to mobile callers being reduced to zero? Base: All 080 that stated "disadvantage" at Q.14

[85] *UK Phone-paid services market: current conditions and future trends*, Analysys Mason for PhonepayPlus, December 2008.

[86] O2, December 2010 Consultation response, page 19-20, paragraphs 69-75.

phone-paid services. However, we remain of the view that high mobile OCP prices are a significant contributor to customer mistrust of NGCs. We have not placed undue weight on SP opinions in reaching this conclusion, but instead have formed this view based on a range of evidence including results from our Consumer survey and desk research into pricing complexity. These and other pieces of evidence in relation to the lack of pricing transparency and resulting consumer mistrust are considered in more detail in paragraphs A8.28 - A8.119.

A8.150 On the second point, submissions from the Number UK and responses from the 2011 SPs survey highlight the vertical coordination problems that SPs face. As set out above, and discussed in further detail in Annex 20, there is evidence to suggest that some SPs would like to negotiate deals with OCPs and that some have tried but, through no fault of their own, failed to negotiate successfully.

A8.151 Finally on the third point, we agree that the existence of different retail prices is an example of price differentiation. However we also argue, as we did in Annex 2 of the December 2010 Consultation, that this, as well as the nature of the supply chain, gives rise to particular incentives which may not be in the interests of all parties involved in the provision and use of NGCs (e.g. SPs). These incentives are exacerbated by poor price awareness.

Stakeholder comments

A8.152 Virgin Media were of the view that while some limited external effects may exist in the NGCs value chain, they were not as acute, and certainly not as skewed towards the benefit of OCPs, as Ofcom had portrayed. Rather, to the extent that market failures do exist, it argued that they were principally to be found at the wholesale level. Rather than OCPs realising the majority of any advantage incumbent in the externalities, Virgin Media believed that TCPs and SPs could derive key benefits from the current regime – a fact which it considered Ofcom had seemingly not taken full account of. It argued that the lack of constraints on TCPs, and the inability of OCPs to exercise any appreciable countervailing buyer power, afforded OCPs/SPs a significant advantage and actually lead to perverse incentivises at the other end of the value chain.[87]

Ofcom's response

A8.153 In Figure 5.1 of the December 2010 Consultation, we illustrated the division of retail revenues from NGCs.[88] This indicated that in 2009, roughly 49% of retail revenues generated by NGCs were retained by the OCP whilst 27% were retained by the TCP and 23% were retained by the SP. This suggests that current arrangements are in fact skewed towards OCPs.

A8.154 We have not sought to quantify the size of the impact of the vertical externality. However, as discussed above, we have not seen compelling arguments or evidence suggesting that these externalities are being internalised except in a very small number of cases and only on one number range (080). We accept that there may be more than one cause of the vertical externality. Some concerns relate to the OCPs setting retail prices that fail to reflect SPs preferences. Others, as Virgin

[87] Virgin Media, December 2010 Consultation response, page 8.
[88] This is based on 2009 data from the 2010 Flow of Funds Study.

Media argues, may relate to SPs selecting termination rates at a level that does not reflect OCPs and consumers preferences.[89]

Stakeholder comments

A8.155 Virgin Media also argued that Ofcom had overstated the impact of retail issues on SPs – in fact, service provision was "thriving" and generated multi millions of pounds of revenue annually.[90] If SPs did not consider that business to be viable, there would have been mass exit from the market – and that was clearly not evident.[91]

Ofcom's response

A8.156 We do not accept that the sector is thriving. We do not believe information about the size of the market is relevant or instructive for assessing the health of the sector – the more relevant question is how large it could be if it were a well-functioning market. We consider the problems laid out in this annex, i.e. the three market failures, indicate that the market is not operating well at the retail level. In fact, as we argued in the December 2010 Consultation, the overall volume of NGCs is in decline.[92] In addition, we are arguing that the situation for SPs could be better than it is now, which is the relevant comparison. Our analysis is that currently demand is suppressed (see discussion in paragraphs A8.230 - A8.308 below) and if demand were to increase, SPs would benefit from a greater number of customers and consequently higher revenue.

Stakeholder comments

A8.157 EE argued that Ofcom presented evidence that suggested that SPs had more control over retail pricing in non-geographic number ranges than they did over retail pricing in geographic and mobile number ranges. EE commented that, according to a quote from the 2010 SPs survey, the Number UK (which operates 118 118) indicated that it "had more control over the retail price of calls charged to end customers than most other IPs, but that this varies from one OCP to the next. With BT it was able to directly select the price charged to the consumer, and with VM the situation is similar."[93]

Ofcom's response

A8.158 The example presented by EE is restricted to just one number range and relates to a subset of OCPs (which, in particular, excludes EE and other mobile OCPs).

A8.159 Overall, we do not accept that SPs have a great deal of control over retail prices. To take a particularly stark example, Figure 5.3 from the December 2010 Consultation

[89] In paragraph 4.32 and footnote 50 of the December 2010 Consultation, we concluded that neither OCPs or SPs had an incentive to take into account the impact their non-geographic pricing has on the reputation of a particular number range or on the non-geographic number system as a whole. However, we considered that the majority of SPs had very limited influence over the retail price for calls to non-geographic numbers and so under the current regime, it is unlikely that they would be able to act on this incentive.

[90] Virgin Media, December 2010 Consultation response, page 13.

[91] Virgin Media, December 2010 Consultation response, page 14.

[92] We accept that it is unclear whether the volume of NGCs is in decline relative to the volume of all calls. See paragraphs A8.299 - A8.303 for further discussion of this point. But the fact that the volume of NGCs is generally in decline does not suggest that the sector is thriving.

[93] EE, December 2010 Consultation response, page 34, paragraphs 6-7.

presented a comparison of the price of a three minute call to Directory Enquiries services from BT and various mobile OCPs. We were provided with the retail prices charged by twelve different Directory Enquiries services for calls originating from BT. These retail prices were selected by the Directory Enquiries provider and each of the twelve Directory Enquiries providers chose a different price point. In contrast, mobile OCPs set fewer price points. Most starkly, O2 set the same price for all twelve services and Vodafone set the same price for all but its own supplier. While other mobile OCPs set more price points, there was still less price variation than for calls from BT. While we noted in the December 2010 Consultation that this issue was particularly stark in the case of Directory Enquiries, we also considered that other number ranges were similarly affected.

A8.160 Similarly, The Number UK ('TNUK') offers its main DQ service on 118118 and a limited functionality service on 118811 (callers can only get number information and for a single number at a time). TNUK charges a flat 50ppc retail price for calls to the latter service by BT customers. However O2, Three, Orange and Vodafone charge the same for calls to 118118 and 118811 (only T-Mobile charges a lower price for the 118811 service).[94]

A8.161 These examples illustrate how SPs' preferences are not well reflected in mobile retail prices.

Stakeholder comments

A8.162 O2 argued that customers do not tend to shop around for services provided by SPs, referring to table A5.6 in the December 2010 Consultation. It considered that customers were often compelled to use NGCs and often 'locked in' to call 08 ranges.[95] Even in the case of calls to 09 and 118 services, O2 referred to the December 2010 Consultation (paragraphs A7.409 and A7.427) for evidence of customers tending not to select these services on price but rather on marketing and quality.[96] O2's view was that the direct impacts of the vertical externality were only relevant to those ranges and services which did not 'lock in' (i.e. calls that can be avoided) customers (084 and 0870 ranges) and for which there were consumer benefits from price competition.[97]

Ofcom's response

A8.163 In the December 2010 Consultation, we argued that several harmful effects flow from the vertical externality:

- first, the retail price of calling a particular number from a particular OCP may not accord with SPs' preferences;
- second, the retail price of calling a particular number may vary between OCPs and between different tariff packages (which makes it hard for SPs to communicate prices to their callers); and
- third, the OCP may make an unduly high mark-up.

[94] TNUK, December 2010 Consultation response, p.8 (prices from March 2011) and Three, Orange and T-Mobile prices confirmed on respective websites in March 2012.
[95] O2, December 2010 Consultation response, page 14, paragraphs 55-56.
[96] O2, December 2010 Consultation response, page 15, paragraphs 57.
[97] O2, December 2010 Consultation response, page 15, paragraphs 58.

A8.164 One reason that an OCP and SP might have different preferences with regards to the retail price for NGCs is that the SP may wish to increase call volumes by reducing their price. If customers were completely locked into an SP in terms of the volume of calls they make, i.e. if demand were perfectly inelastic, this particular source of diverging incentives would clearly not arise. However, as noted in paragraph A8.101 - A8.102, we consider it unlikely that demand is perfectly inelastic even for those customers with no choice of SP because of the potential to react to changes in retail prices by altering the frequency and duration of calls. We also note there are a large number of customers who can choose between SPs, particularly in relation to premium services – i.e. the 09 range and some 08 ranges.

A8.165 Furthermore, we note there are reasons unrelated to call volumes why an SP may prefer to set retail prices lower than the OCP, such as reducing customer dissatisfaction about high call costs. As a result we consider there to be considerable scope for incentives to be misaligned even if demand were completely unresponsive to price.

A8.166 Finally we note this criticism does not apply to the second and third effects outlined above, which could hold even if demand were perfectly inelastic. As a result of all of the above, we do not accept that the vertical externality does not apply to SPs with locked-in customers. For the same reasons we consider the vertical externality could arise even when SPs compete primarily on the non-price aspects of their offering. We also note that current competition on marketing and quality may in part reflect the vertical externality, which reduces the scope for SPs to compete on price by limiting their ability to set the retail price they would like and communicate this price clearly to customers.

SPs have a choice of price points, hence they can choose the pricing arrangements they like

Stakeholder comments

A8.167 EE argued that the concerns raised about an inability to control retail prices of NGCs were limited to a small number of SPs.[98] The vast majority of SPs had a choice of number range to select from and therefore had control over the type of charging that would apply.[99]

Ofcom's response

A8.168 We agree that SPs have a choice of number ranges. However, it is equally true that selecting a number range is not clearly linked with the price charged for the call on all networks. That will depend on and vary widely with the provider. Therefore, when choosing the number range, the SP has no guarantee that the retail price would be the same as the price BT, for example, charges. So, for example, an SP choosing 080 does not generally obtain free calls for callers to its service from mobile OCPs, and if it chooses 0845 the call price frequently departs from geographic call prices on calls from many OCPs.

Stakeholder comments

A8.169 Other stakeholders went further and argued that SPs were not very concerned about the level of retail prices. O2 highlighted that very few SPs on the 0845

[98] EE, December 2010 Consultation response, page 7, paragraph 3g.
[99] EE, December 2010 Consultation response, page 34, paragraph 8.

number range (who receive a relatively small revenue share) have taken the opportunity to migrate to the 03 range, which has clearer retail prices across networks. O2 argued that this lack of migration demonstrated how SPs attached little importance to greater price clarity for callers.[100] Similarly, Three suggested that if vertical externalities were an issue for SPs, they would show concern over non-transparent retail pricing. Three stated that the 2010 SPs survey indicated that SPs did not appear to be overly concerned that consumers were not informed about the price of NGCs.[101] Finally, Virgin Media also argued that alternatives existed for SPs for whom the level of the retail price was important (e.g. 03, geographic numbers).[102]

Ofcom's response

A8.170 We accept that some SPs may attach little importance to greater price clarity for callers and, in some instances, SPs may have exploited the system, particularly the limited price awareness. That has allowed some SPs to hide the fact that they obtain some revenue share from calls to their numbers.[103] The fact that all parties, or more than one party, might turn the system to work in their favour does not make the system a better solution for consumers who are harmed by this behaviour, independently of who takes advantage of the regime.

A8.171 In the December 2010 Consultation we argued that the three market failures identified were related and reinforced each other. But in specific cases, some market failures may be more important than others. In particular, the lack of price awareness and the horizontal externality may explain why some SPs may take advantage of the system while at the same time not have the ability to have a say on the level of retail prices. This may explain why some SPs may not be that concerned about the level of retail prices, as was highlighted in the 2010 SPs survey.

A8.172 However, we disagree with the view that few SPs are concerned about the level of retail prices. For example, based on responses to the SP survey, 45% of 080 SPs stated that if there was one thing they could change about 080 numbers, it would be the price that callers from mobile phones pay for the call.[104] Similarly, 65% of SPs using 0845 numbers stated that the one thing they would change about 0845 numbers would be that callers are charged the same amount as for a call to a normal landline.[105] Also as discussed later in this annex and Annex 11 on Innovation, SPs ascribe the lack of price certainty as one of the main reasons for a lack of innovation in this market.

A8.173 On the specific point raised by O2 as to why, if SPs cared about retail charges, many 0845 users have not migrated to the 03 range, the lack of migration to 03 could be explained by a variety of other factors. For example:

- the 03 range is, as discussed in Annex 7 of the December 2010 Consultation, a relatively new range, having only been opened for number allocation in

[100] O2, December 2010 Consultation response, page 21, paragraph 77.
[101] O2, December 2010 Consultation response, page 8, paragraph 24.
[102] Virgin Media, December 2010 Consultation response, page 15.
[103] They may wish to do this if, for example, there is stigma attached to making money from calls to the service in question, i.e. calls to health services.
[104] 2011 SPs Survey. Q13: *"If you could change only one of the following aspects of 080 numbers, which one would it be?"* [Base: all SPs with an 080 number]
[105] 2011 SPs Survey. Q30: *"If you could change only one of the following aspects of 0845 numbers, which one would it be?"* [Base: all SPs with an 0845 number]

2007. Consequently it only accounts for a low volume of calls (only 1% of total NGCs in 2009, according to the 2010 Flow of Funds study) which means that consumers have little experience of 03 numbers. Evidence gathered informally from SPs in October 2011 suggests that a lack of consumer knowledge of 03 is a major reason why SPs prefer using other non-geographic numbers;

- SPs face migration costs in moving from their existing number range to a new number range – see Annex 12;
- in the current environment of mistrust and the inconsistency of the NGC system, the benefits of migration to 03 may not be as high as one would expect. For example, consumers may not realise that 03 is in their bundles or priced as a geographic call; and
- SPs may not understand the 03 range. Our informal discussions with some reseller SPs highlighted that some are reluctant to use 03 numbers because they are uncertain of the functionality they offer. For example, one SP was unsure whether 03 numbers can be dialled from abroad.[106]

Large SPs and TCPs can influence prices through termination rates

Stakeholder comments

A8.174 O2 argued that large SPs and TCPs acting on behalf of SPs are able to influence the retail price of NGCs through termination rates they set.[107]

Ofcom's response

A8.175 As noted above, in the December 2010 Consultation, we argued that several harmful effects flow from the vertical externality:

- first, the retail price of calling a particular number from a particular OCP may not accord with SPs' preferences;
- second, the retail price of calling a particular number may vary between OCPs and between different tariff packages (which makes it hard for SPs to communicate prices to their callers); and
- third, the OCP may make an unduly high mark-up.

A8.176 O2's argument only relates to the first of these concerns and thus it does not address the other important aspects of the concerns that we identified.

A8.177 Moreover, an issue here is the extent to which changes in termination rates feed through into retail prices. In principle, the termination rate affects the marginal cost to an OCP of a call to a number and might thus be expected to feed into the retail price. However in practice, mobile OCPs generally only set a limited number of price points, i.e. moving to a different non-geographic number (with a lower termination rate) may not result in a lower price.[108] In addition, [✂] has previously

[106] Informal questions to NGC Resellers, October 2011. See also Table 11.3 in Part B, Section 11.
[107] O2 December 2010 Consultation response, page 21, paragraph 78.
[108] This is discussed in paragraphs A3.150-155 of the December 2010 Consultation.

confirmed that their prices do not reflect variations in termination rates in response to an informal Ofcom information request last summer.[109]

A8.178 That is not to say that termination rates for non-geographic numbers never affect the retail price of calls to those non-geographic numbers – the difference in prices between 09 and 08 calls shows that they do. Rather, our point is that non-geographic termination rates are a very crude instrument and so only provide a limited ability for SPs and TCPs to influence retail prices.

Mobile operators would allow internalisation of the vertical externality if SPs cared

Stakeholder comments

A8.179 O2 and Vodafone argued that SPs have more influence over pricing than Ofcom suggested. SPs who consider mobile retail charges as a cause of confusion had the option to offer customers a single, clear price point via mobile shortcodes. O2 argued that the fact that the take up of voice shortcodes had not been significant suggested that the scale of the vertical externality was not significant.[110]

Ofcom's response

A8.180 Mobile voice shortcodes are a useful feature of the market as they go some way to internalising the vertical externality. Although it is possible for SPs to negotiate directly with mobile OCPs to obtain a shortcode, most are obtained through aggregators who carry out this role on behalf of the SPs and then lease out the shortcodes to SPs. The presence of an aggregator helps to reduce the transaction costs which we have identified limit the number of successful bilateral deals negotiated directly between SPs and OCPs. Whilst voice shortcodes play a helpful role for some SPs, given the demand they have expressed for alternative pricing arrangements, we would have expected the take up of voice shortcodes to be higher than we have seen.

A8.181 For example, as set out above, nearly half of 080 SPs stated that if there was one thing they could change about 080 numbers, it would be the price that callers from mobile phones pay for the call and around two thirds of SPs using 0845 numbers stated that the one thing they would change about 0845 numbers would be that callers are charged the same amount as for a call to a normal landline.

A8.182 However, according to the 2010 SP survey, only a single respondent of the survey indicated that it was using mobile voice shortcodes. This cannot be attributed solely to the existing mobile shortcode regime, as only 12% of all respondents think that there are problems with the shortcode regime. This simply appears to be an area where SPs considered business opportunities to be limited.[111] The survey also asked resellers for views on shortcodes. Few of them had much involvement or interest in mobile voice shortcodes. One provider felt that the regulatory regime was stronger on mobile networks with shortcodes and that this made them beneficial. On the other hand, another respondent felt that mobile shortcodes were not well

[109] [✂]'s response to Ofcom informal information request, June 2010.
[110] O2, December 2010 Consultation response, page 20, paragraph 72.
[111] 2010 SP survey. Page 22. Available here: http://stakeholders.ofcom.org.uk/binaries/consultations/simplifying-non-geo-numbers/annexes/use-of-nongeo.pdf

understood by consumers, and therefore it was afraid to use them because pricing was not known.

A8.183 We do not have definitive evidence on the reasons why voice shortcodes have not been more popular. However, we have seen some evidence. First, while the revenue share split between OCPs and SPs is similar for SMS shortcodes and 09 numbers, voice shortcodes are “generally more expensive to set up and rent than traditional ‘09’ premium rate numbers”.[112] Second, as mentioned above, some SPs consider that mobile shortcodes are not well understood by consumers and they generally associate them with premium rate services.[113] Third, contrary to comments made by stakeholders, voice shortcodes do not necessarily offer customers a single, clear price point. For example, they are only reachable from mobile and not fixed lines.[114] Thus, SPs must publish at least two numbers (a mobile voice shortcode and a fixed number) and two call prices.

A8.184 Therefore, while the evidence on mobile voice shortcodes is not conclusive, we are not convinced that they are a universally effective solution to the vertical externality problem.

Vertical integration between OCPs and TCPs is increasing and allows internalisation

Stakeholder comments

A8.185 Virgin Media argued that vertically integrated OCPs and TCPs, which were becoming more common, had an incentive to take SPs’ preferences about retail prices into account. It argued that Ofcom had failed to take into account the potential constraining effect on exploiting externalities to which vertically integrated providers might be subject.[115]

Ofcom’s response

A8.186 We agree that vertical integration, or contractual agreements, tend to remove concerns related to vertical externalities. However, we do not believe this argument carries much weight in the context of NGCs. Even if vertical integration becomes more widespread, the fact that each TCP and OCP, vertically integrated or not, has to interconnect with each other means that for most calls, OCPs and the TCP are not vertically integrated. Thus vertical integration does not offer a solution for internalising the vertical externality.

Summary of Ofcom’s position on the vertical externality

A8.187 We accept that some SPs are satisfied with the current regime and are either not concerned or do not consider that they lack control of their retail prices. Indeed some SPs may be happy to take advantage of the lack of consumer price awareness and conceal the amount they charge. However, we are concerned that a significant proportion of SPs have preferences about call prices, e.g. that they should be free or the same as geographic call prices, but do not have sufficient control of those retail prices. This allows OCPs to set higher retail prices than SPs would prefer. The problem is exacerbated by low price awareness because there is less competitive pressure on OCPs to keep retail prices low.

[112] 2010 PPP Report. Pages 112-113, section 5.2.2.
[113] This is based on discussion with PhonepayPlus.
[114] This is based on information provided to Ofcom by PhonepayPlus.
[115] Virgin Media, December 2010 Consultation response, page 8.

A8.188 Several challenges to the vertical externality centred on the DWP example as alleged proof that, where there is demand from SPs for specific terms (in this case, free calls to their number), agreements can be made that satisfy both OCPs and SPs. However, this is just one example and special case of a large SP, which is also a Government Department, offering a socially important service. There are very few other examples of bilateral deals between an SP and OCPs to agree the retail call price and all such deals are on a single number range (080). Evidence suggests that many SPs would prefer, and are willing to pay for, alternative pricing arrangements to the ones they currently have on a number of different number ranges but are unable to negotiate them successfully with OCPs. This is likely to have been caused by significant transaction costs, e.g. the need to conclude successful deals with a large number of different OCPs, and/or the fact that OCPs have not had the incentive to consider SPs' preferences, e.g. reflected in the level of origination payments that OCPs may require.

A8.189 Some stakeholders highlighted the existence of alternatives to the number ranges SPs currently use, for example migrating to the 03 range or using mobile shortcodes. However, we do not agree that these alternatives currently provide a sufficient answer to the concerns. The 03 range is currently relatively unknown by consumers and thus SPs are generally reluctant to migrate to it, though we would expect these perceptions to improve as a result of our new proposals. Mobile Shortcodes do have some attractive features and go some way to internalising the vertical externality. However, the fact that they are more expensive for SPs than current arrangements, plus the fact that they are not well understood by consumers suggests that they do not provide an effective solution to the vertical externality for all SPs.

The horizontal externality

Summary of Ofcom's analysis in the December 2010 Consultation

A8.190 In the December 2010 Consultation, we concluded that each non-geographic number range (and indeed, the non-geographic calls system as a whole) was effectively a collective brand created by all in the supply chain. We considered it was the consumers' lack of confidence in this brand that is currently at the heart of consumer concerns and the under-performance of the non-geographic calls market. We noted that individual OCPs and SPs did not have an incentive to take into account the impact their NGC pricing had on the reputation/brand perception of a particular number range or, again, on the non-geographic number system as a whole. Therefore, the free riding action of individual OCPs and some SPs negatively affected all OCPs, TCPs, SPs and ultimately consumers.

A8.191 We argued that this effect was exacerbated by a lack of price awareness as it meant OCPs and some SPs were able to act on this incentive and increase retail prices without losing consumers or, in the short term, volumes (in the medium term, as we have observed, overall demand is dropping).

Stakeholders' comments and Ofcom's response

A8.192 EE agreed that the horizontal externality existed to an extent whilst Three agreed that the complex structure of the market for NGCs was likely to contribute to consumer confusion. Magrathea agreed that the horizontal externality was one of the main causes of consumer detriment while Network Europe Group ('NEG') also supported our horizontal externality argument.

A8.193 On the other hand, Vodafone, O2, Virgin Media and BT raised concerns over the accuracy and validity of our conclusions in this area.

A8.194 We have grouped the main arguments raised by stakeholders on the horizontal externality into two areas:

- there is no empirical evidence suggesting that horizontal externalities exist or are a significant concern; and
- the incentive of OCPs and SPs to free ride is overstated and disputed.

<u>There is no empirical evidence suggesting horizontal externalities exist or are a significant concern</u>

Stakeholder comments

A8.195 Vodafone argued that Ofcom's account of the horizontal externality was largely descriptive and speculative.[116] With specific respect to 080 calls, Vodafone also argued that Ofcom's analysis presupposes some departure from universal branding conventions that, in reality, never existed in the first place. For example, SPs choosing such numbers in the hope that mobile customers will mistakenly assume they are free-to-caller from mobile, in spite of pre-call announcements specifically advising otherwise, were likely to be disappointed because, as illustrated by Ofcom's evidence, consumers did generally realise that 080 calls were not free-to-caller from mobile and take this into account in deciding whether or not to call from a mobile phone.[117]

A8.196 O2 indicated the need for a quantification of the scale of the horizontal externality so that it was possible to accurately trade off the costs and benefits of addressing the problem.[118]

Ofcom's response

A8.197 It is helpful to distinguish between two potential types of horizontal externality:

i) Between mobile-originated and fixed-originated calls to the same number range; and

ii) Between one number range and another number range.

A8.198 For the first externality not to exist, it would have to be the case that customers' perceptions of fixed line costs were unaffected by their experience of mobile calls to the same number range (and vice versa). Our 2011 Consumer Survey suggests this is not the case. Of particular note in this respect are customer perceptions of the cost of dialling 080 numbers from a fixed line. Despite the fact this number range has always been free to fixed line customers, 29% of respondents answered that they did not know the price of calling a number starting with 080 from their landline, but they thought it was expensive.[119] In addition, for those respondents

[116] Vodafone, December 2010 Consultation response, page 29, paragraph 120.
[117] Vodafone, December 2010 Consultation response, page 30, paragraphs 121-123.
[118] O2, December 2010 Consultation response, page 22, paragraph 82.
[119] 2011 Consumer survey, QGL01X_3: *"Which of the following statements best describes what you know about the cost of calling a number starting with 080 from your landline?"* [Base: all adults age 16+ who use the landline to make calls]

who were confident of the price of these calls, 13% responded by saying that they thought the price was higher than 0ppm and 8% said it depends.[120] For the second externality not to exist, it would have to be the case that customers are able to distinguish clearly between number ranges with subtle differences in appearance but significant differences in price, such as 0843/44/45 or 0870/1. The lack of awareness of prices in all the NGC number ranges outlined in paragraphs A8.28 - A8.119 suggests this is unlikely to be the case.

A8.199 To investigate the potential for both types of externality further, we have conducted some statistical analysis of consumer survey responses that considers the relationship between customer perceptions of:

i) the price of fixed and mobile calls to 0800 numbers; and

ii) the price of fixed calls to 0800 numbers and the price of fixed calls to other NGC number ranges

A8.200 We used data from both the 2011 and 2009 Consumer surveys for this analysis.

A8.201 First, we examined the 2011 Consumer survey data to measure the correlation between consumers' expectations of the price of landline calls to 0800 numbers and their expectations of the price of landline calls to 0845 and 0870 numbers and mobile calls to 0800 numbers.[121] See Table A8.11 below for the results of this.

Table A8.11: Correlation between consumer expectation of call prices

	Spearman's rank correlation coefficient (dependent variable: consumers' expectations of the price of landline calls to 0800 numbers)
Consumers' expectations of the price of landline calls to 0845 numbers.	0.393
Consumers' expectations of the price of landline calls to 0870 numbers.	0.292
Consumers' expectations of the price of mobile calls to 0800 numbers.	0.395

Source: the analysis in this table is based on data from the 2011 Consumer survey, QGL01X/Y: *"Which of the following statements best describes what you know about the cost of calling a number starting with 0800/0845/0870 from your landline/mobile?"* [Base: all adults age 16+ who use the landline/mobile to make calls].
Note: the base was 1161 and only included respondents who owned both a landline and a mobile.

A8.202 The evidence in the table suggests consumers' expectations of the price of landline calls to 0800 numbers are correlated with their expectations of the price of mobile calls to 0800 numbers and landline calls to 0845 numbers. However, the correlation appears weaker with landline calls to 0870 numbers. Whilst none of the correlations

[120] 2011 Consumer survey, QGL02A_3: *"How much per minute do you think it costs to call a number starting with 080, during peak hours, in the daytime on a weekday, from your landline?"* [Base: all adults 16+ who are aware of the cost to make a call to 080 numbers]
[121] This data was also used for a piece of cluster analysis. The results of this analysis indicate that consumers' expectations about the price of calls to non-geographic numbers are linked, thus supporting our correlation analysis.

is particularly strong, they nonetheless show a positive association between price expectations.[122]

A8.203 These results do not inform the extent to which one variable causes another and so we do not claim this to be conclusive evidence of the horizontal externality[123]. However, we do consider it provides some evidence of both types of horizontal externality, i.e. that consumers' expectations about the price of landline calls to 0800 may be influenced by the expectations of prices of mobile calls to 0800, and that the expected prices of calls to non-geographic number ranges may be influenced by each other.

A8.204 The analysis of the 2009 Consumer survey data also supports these findings.[124]

A8.205 Table A8.12 below shows the mean expected price for fixed 0800 calls. These responses have been broken down based on the respondents' expectations about the price of mobile 0800 calls and other fixed 08x calls ('Other Calls'). Specifically:

- the entry in each cell is the mean expected fixed 0800 call price;
- each row reflects respondents' expectations about a different type of 08 call; and
- each column reflects a different perceived price point for these Other Calls. For example, for respondents that expected the price of mobile 0800 calls was 10ppm or less, the mean expected price of a fixed 0800 call was 0.36ppm. For respondents that expected the price of mobile 0800 calls was 11-25ppm, the mean expected price of a fixed 0800 call was 1.26ppm. For respondents that expected that the price of fixed 0845 calls was 10ppm or less, the mean expected price of a fixed 0800 call was 0.93ppm.

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122 Spearman's rank correlation is a statistical measure used to assess the direction and strength of any association between two variables, X and Y. The sign of the Spearman correlation indicates the direction of association between X (the independent variable) and Y (the dependent variable). In our setting, if expectations of the price of landline calls to 0800 numbers tend to increase when expectations of the price of landline calls to 0845 numbers increase, the Spearman correlation coefficient will be positive. If expectations of the price of landline calls to 0800 numbers tend to decrease when expectations of the price of landline calls to 0845 numbers increase, the Spearman correlation coefficient will be negative. A Spearman correlation of zero indicates that there is no tendency for expectations of the price of landline calls to 0800 numbers to either increase or decrease when expectations of the price of landline calls to 0845 numbers increase. The Spearman correlation increases towards a maximum value of 1 as the two variables become closer to being perfect monotone functions of each other. A perfect monotone increasing relationship implies that for any two customers surveyed, the customer who expects the higher price for landline calls to 0800 numbers will also expect the higher price for landline calls to 0845 numbers.

123 Correlation measures, such as Spearman's rank correlation, can be useful in identifying a statistical relationship between two variables but do not necessarily identify a causal relationship. For example, two variables which are related to the same common (third) variable but otherwise unrelated to one another may appear to have a strong correlation. To test for causal relationships, we would have required individual level data on expected and actual prices paid by a large sample of customers as well as data on all customer-specific and time-varying factors that could have caused expectations of prices to be higher or lower. It would be challenging to obtain such data.

124 For the reasons set out above, we consider that the 2009 Consumer survey data is still likely to provide relevant evidence despite the fact it is over three years old.

Table A8.12: Mean expected fixed 080 call price (ppm)

	All respondents	10ppm or less	11-25ppm	26-50ppm	51+ppm	Don't know
Expectations of mobile 080 price	6.36	0.36	1.26*	6.89*	33.32*	5.93
Expectations of fixed 0845 price	6.12	0.93	4.44*	7.80*	21.35*	4.64
Expectations of fixed 0870 price	6.12	1.33	7.40*	8.57	13.27	4.17
Expectations of fixed 0871 price	6.12	1.75*	5.91*	8.87	14.69*	4.01

Source: 2009 Consumer survey. Q43-44: "How much do you think it costs to call the following types of telephone numbers from your landline/mobile phone at home during the daytime on a weekday. Note: * indicates that the unweighted sample base (i.e. the number of respondents underlying the data contained in that particular cell) is 51-99. Results have been aggregated to ensure that the sample is always above 50.

A8.206 Table A8.13 below is laid out in the same way as table A8.12. The difference is that the entry in each cell shows the proportion of respondents that stated that fixed 080 calls were free. For example, 90% of respondents that expected that the price of mobile 080 calls was 10ppm or less also believe fixed 080 calls are free.

Table A8.13: Proportion of respondents expecting fixed 080 calls to be free

	All respondents	10ppm or less	11-25ppm	26-50ppm	51+ppm	Don't know
Expectations of mobile 080 price	64%	90%	92%*	77%*	41%*	48%
Expectations of fixed 0845 price	62%	90%	72%*	78%*	69%*	40%
Expectations of fixed 0870 price	62%	87%	71%*	76%	82%	48%
Expectations of fixed 0871 price	62%	84%*	73%*	75%	82%*	52%

Source: 2009 Consumer survey. Q43-44: "How much do you think it costs to call the following types of telephone numbers from your landline/mobile phone at home during the daytime on a weekday. Note: * indicates that the unweighted sample base (i.e. the number of respondents underlying the data contained in that particular cell) is 51-99. Results have been aggregated to ensure that the sample is always above 50.

A8.207 We believe we can draw the following inferences from these tables.

A8.208 Firstly, if respondents' expectations of the price of 080 calls were truly independent of expectations of the price of Other Calls, there would be no patterns in the above tables.

A8.209 Secondly, the general pattern is one of positive correlation: higher expected prices for Other Calls are associated with fewer respondents expecting fixed 080 calls are free and a higher mean expected price. This general pattern is clearest in table A8.12 and in the first row of table A8.13 but less clear for the subsequent rows of table A8.13. Specifically:

- For respondents that expect mobile 080 call prices are up to 25ppm, their expectations of mobile call prices seem to have little relationship to their expectations about fixed 080 call prices. These respondents overwhelmingly believe 080 calls are free (or cheap).
- However, respondents that expect mobile 080 call prices are 26ppm or more are less likely to expect mobile 080 calls are free. This is particularly stark for those that expect mobile call prices are 51ppm or higher (less than half of this group believe fixed 080 calls are free; the mean expected price for a fixed 080 call was over 30ppm).
- There also appears to be a reasonably strong relationship between expectations about fixed 080 and fixed 0845 prices. Respondents that expect a higher price for fixed 0845 calls also expect a higher price for fixed 080 calls.
- The relationship between fixed 080 prices and fixed 0870/0871 prices seems much weaker than the impact of very high expected mobile 080 prices. Intuitively this makes sense given that fewer people have heard of the 0870 and 0871 number ranges or have any idea of how much calls to these ranges will be charged (see tables A8.3 and A8.4)

A8.210 As with the analysis of the 2011 data, we note that this evidence only concerns the extent of correlation between expectations about fixed 080 call prices and expectations about other call prices. Thus it is not direct evidence of causality between variables. However, the fact that there is correlation between these variables provides some evidence to support the existence of the horizontal externality.

A8.211 For other number ranges than 080, we have less evidence. Unfortunately, it has been difficult to conduct correlation analysis similar to the above for 080 due to less available data and smaller sample sizes. However, we consider there are arguments and evidence from stakeholders that support the existence of the horizontal externality for these number ranges as well.

A8.212 Firstly, we know from the consumer research that consumers are poorly informed about call prices. Where callers do not know the prices of calling particular numbers, it seems plausible that they will make inferences from the prices of numbers with a similar prefix.

A8.213 Secondly, several stakeholders (including O2 and EE) alluded to the fact that callers mistake 070 and 076 numbers for mobile numbers. This is an example of the horizontal externality (callers are making an assumption about the price based on the first two digits of the number, drawing on their experience of the price of calling mobiles).

A8.214 Thirdly, Vodafone said in its response to the 2010 Call for Inputs that "...consumers' practical ability to distinguish subtle differences between NTS numbers at a 3 or 4 digit level (e.g. between 0845 and 0844/3/2 etc.) may be limited".[125]

A8.215 In summary, we do not accept Vodafone's suggestion that the horizontal externality is speculative. We do have some empirical evidence of the existence of both types of horizontal externality, i.e. (i) between different OCPs (in particular, between mobile-originated and fixed-originated calls) and (ii) between different number ranges. For example, the available consumer survey evidence for 080 supports the existence of both types of horizontal externality. Furthermore, we note that for this externality not to exist, it must be the case that customers are able to distinguish between subtle differences in number prefixes. The general confusion around these number ranges highlighted in our Consumer survey suggests this is unlikely to be the case for the majority of customers. As a result we consider that, taking account of the available evidence, horizontal externalities are a relevant and material feature of the current market.

<u>The incentives of OCPs and SPs to free ride is overstated</u>

Stakeholder comments

A8.216 Virgin Media disputed that OCPs free ride on the reputation of number ranges and had an incentive to maximise returns through high prices.[126] It believed that Ofcom had overstated the horizontal market failure and the extent of OCPs' commercial freedom. It argued that OCPs were constrained by retail competition, TCP bargaining power and challenges as a result of the shortcomings of the wholesale regime.[127]

A8.217 BT, on the other hand, argued that while there might be some incentives for SPs to "free ride" the collective brand, it believed that these SPs were a distinct minority, more likely related to fraud under PRS. BT considered that this type of behaviour was generally not in the interest of SPs as they would quickly acquire a bad reputation which could impact on their broader business.[128] BT believed that the impact of (particularly) the mobile OCPs in destroying the collective brand of the NGCs value chain had been to cause material damage to the market and to all other parties.[129]

A8.218 Other mobile OCPs agreed, at least in part, with Ofcom's analysis on the horizontal externality. EE agreed that the horizontal externality existed to an extent. It commented that SP behaviour had and did have a significant impact on the reputation of, trust in, and emotional response to, using various non-geographic number ranges.[130] In addition, Three believed that the complex structure of non-geographic number ranges was likely to contribute to consumer confusion (e.g. 070

[125] Vodafone 2010 Call for Inputs response, page 3, paragraph 14.
[126] Virgin Media, December2010 Consultation response, page 8**.**
[127] Virgin Media, December 2010 Consultation response, page 15.
[128] BT, December 2010 Consultation response, page 24; and annex 4, page 43, paragraphs 10-11.
[129] BT, December 2010 Consultation response, page 24; and annex 4, page 45, paragraph 23.
[130] EE, December 2010 Consultation response, page 20, paragraphs 17-20.

numbers are often confused with mobile numbers, etc.), exacerbating horizontal externalities.[131]

Ofcom's response

A8.219 The horizontal externality refers to the potential negative impact that consumer expectations or experience in some number ranges, or with some OCPs, can have on consumers' behaviour on other number ranges or with other OCPs. If, for example, prices are not transparent for one number range, and/or consumers perceive them to be too high, this may have negative implications for other number ranges. Above we have explained that this negative experience could be the result of lack of price transparency and awareness and/or the working of the vertical externality. Hence, we consider that Virgin Media's comments focused on the OCPs' commercial freedom are not solely related to the horizontal externality. We have explained above why we consider that retail competition and TCP bargaining power do not currently provide sufficient constraints on OCPs to avoid detriment to consumers.

A8.220 OCPs operate across all number ranges and hence it might be argued that they should have an incentive to internalise any implications that prices they choose on one range have on other ranges. However, mobile OCPs do not have an incentive to take into account the impact their behaviour has on fixed callers (and vice versa). More generally, an OCP that free rides on the reputation of a number range does not face all of the negative effects of its behaviour because, for example, other OCPs also suffer from any loss in confidence and suppressed demand. This is why there remains an incentive on OCPs to free ride on the reputation of number ranges.

A8.221 As regards SPs, they may also act in a way that leads to a number range providing negative experiences to consumers. As SPs generally operate on one or few number ranges they may also fail to take into account the impact they may have on other number ranges. BT argues that this is largely confined to SPs that engage in fraudulent behaviour. We believe that this is clearly the worst possible situation but there may be other cases where SPs exploit the lack of price transparency and in so doing they do not take into account the impact that this may have on other number ranges.

Summary of Ofcom's position on the horizontal externality

A8.222 The available evidence indicates that callers' expectations of the price of landline calls to 080 numbers are likely to be influenced by callers' expectations of the price of mobile calls to 080 numbers, as well as by expectations of the price of landline calls to other non-geographic number ranges. More generally, we also consider that callers are likely to infer the price of calls to one non-geographic numbers based on their knowledge or expectations of the price of calls to some other non-geographic numbers (e.g. those with the same first or first two digits). For this not to be the case, customers would have to be able to distinguish between subtle differences in number prefixes. Given the levels of customer uncertainty highlighted by our survey, we think this very unlikely.

A8.223 OCPs and SPs are able to free-ride on the non-geographic number brand for a number of reasons. Firstly, as set out above, the fact that callers are often unlikely to distinguish between number ranges means individual OCPs and SPs do not have

[131] EE, December 2010 Consultation response, page 9, paragraph 27.

an incentive to take into account the impact their NGC pricing has on the reputation of a particular number range or on the non-geographic number system as a whole. Secondly, mobile OCPs are unlikely to take into account the impact their behaviour has on fixed callers (and vice versa). And thirdly, most SPs only operate on one or a few number ranges and thus they are not incentivised to consider the impact of their behaviour on the reputation of different number ranges. The free-riding behaviour of OCPs and SPs is likely to have contributed to increased confusion and, ultimately, the diminished reputation of non-geographic number ranges as a whole.

A8.224 The horizontal externality is exacerbated by the lack of consumer price awareness because there is less competitive pressure on prices. OCPs and some SPs are able to act on the incentive to raise their retail prices without a large effect on their demand in the short term.[132]

Summary of Ofcom's position on the three market failures

A8.225 Consumers' awareness of the price of making calls to non-geographic numbers is generally poor. This is because callers do not have consistently good access to clear price information across all call providers and/or at the points when they make their calling and subscription decisions. Our fundamental concern is that, as a result, callers tend to overestimate the price of calling non-geographic numbers and more generally they tend to be suspicious about NGCs.

A8.226 We are also concerned that SPs lack control in determining the retail price of calls to their services. We accept that some SPs are satisfied with the current operation of the retail market. However, many are not and would prefer alternative pricing arrangements. Evidence suggests that the ability of SPs and OCPs to negotiate bilateral deals is restricted and a number of attempts have been unsuccessful. This is in part because OCPs are not incentivised to account for SPs preferences. This asymmetry often leads to OCPs setting retail prices that are higher than SPs would prefer and is reflected in the division of retail revenues from NGCs between OCPs (49%), TCPs (27%) and SPs (23%). The problem is exacerbated by poor consumer price awareness because there is less downward competitive pressure on NGC prices, allowing OCPs to further increase the retail prices of these calls without a strong consumer reaction.

A8.227 Customer perceptions of a particular NGC number range are related to their perceptions of other ranges within the NGC system. Similarly their perceptions of calling a particular range from a fixed line are related to their perceptions of calling the same range from a mobile, and vice versa. As a result we consider that each NGC number range, and the NGC system as a whole, is a collective brand created by all in the supply chain. Individual OCPs and SPs do not have incentives to take into account the effect their retail prices have on the brand as a whole. When combined with the current lack of pricing transparency, this creates incentives for some OCPs and SPs to free-ride on the NGC brand by charging high retail prices. This behaviour by some OCPs and SPs adversely affects customer confidence in NGCs as a whole, and suppresses the overall level of demand for NGCs.We are concerned about these market failures because they are leading to several harmful impacts on consumers. These are now discussed below.

[132] In the medium term, it is clear that the volume of NGCs, as well as the volume of other types of calls, are falling.

Outcomes of the market failures

A8.228 In the December 2010 Consultation, we argued that there were five categories of outcomes that might occur as a result of the three market failures discussed above, these were:

i) a reduction in demand for non-geographic calls, particularly from mobile phones;

ii) relative prices of geographic and NGCs do not reflect consumer preferences;

iii) burdensome avoidance strategies and loss of or reduction of access to socially important services, particularly for low income households;

iv) higher consumer vulnerability to fraud; and

v) finally, consumers suffer the loss of service diversity and innovation as SPs lack the incentives to invest in the market.

Structure of this section

A8.229 This section separately considers each of these outcomes in turn. Each sub-section is structured as follows:

- first, we summarise our analysis from the December 2010 Consultation of each outcome;
- we then summarise the comments from stakeholders made about our analysis from the December 2010 Consultation, grouping these responses by theme;
- within each theme, we respond to stakeholders' criticisms referring, if necessary, to any additional evidence we have gathered; and
- finally, after considering all comments, we summarise our updated position on the outcome of the market failures in question.

A reduction in demand for non-geographic calls

A8.230 The first outcome of the three market failures identified was that consumers are making fewer calls to non-geographic numbers.

Summary of Ofcom's analysis in the December 2010 Consultation

A8.231 In the December 2010 Consultation, we argued that NGC volumes were falling. The 2010 Flow of Funds study found that the total volume of non-geographic call traffic decreased by 14% between 2008 and 2009, which is consistent with data provided by BT on the experience of its retail customers with NGCs. Between April 2007 and July 2010, call volumes declined at a faster rate than for geographic calls and call durations also appeared to be shortening, though this would also reflect the decline of dial-up internet which also makes use of non-geographic numbers.

A8.232 This decline in demand appeared to affect consumers' increasingly negative views of non-geographic calls. 39% of fixed line and 33% of mobile-only consumers who make NGCs stated that they felt forced to call these numbers and would rather not.[133] We considered that part of the reduction in demand for NGCs was likely to be a consequence of poor consumer price awareness and the vertical and horizontal externalities, which showed itself in three ways:

- consumers were likely to be deterred by uncertainty over the price;
- consumers tended to overestimate NGC prices and might therefore make fewer NGCs (or shorten the duration of those calls they do make) as a result of their mistaken beliefs; and
- further, prices for NGCs were increased as uncertainty and confusion around them meant price competition was not as prominent on these calls as in other telephony services. This resulted in a distorted structure of prices, with a high level of NGCs' prices relative to other telephony services.

A8.233 We also argued that, due to a lack of awareness over NGC prices, some consumers sometimes were affected by bill shock.

A8.234 Some of the outcomes we have highlighted in this section overlap with other outcomes of the market failures, for example, one outcome is a distorted structure of prices. In this sub-section, we focus on the impact of the current operation of the retail market on demand for NGCs and deal with other issues in the relevant sections below.

Stakeholders' comments and Ofcom's response

A8.235 The majority of the mobile OCPs disagreed that there was suppressed demand in the market for NGCs while BT, the CAB and a handful of SPs agreed that there was. EE and Virgin Media argued that bill shock was not a significant concern for NGCs while O2, the CAB and a number of individual respondents highlighted that call waiting times were a major cause of bill shock, as opposed to a lack of price awareness. EE, BT, O2 and Virgin Media disagreed that NGC volumes were in decline for reasons specific to the non-geographic numbering ranges.

A8.236 We begin by noting that we no longer consider that NGC demand is necessarily continuing to decline, or that consumer perceptions are becoming increasingly negative, because we do not have clear evidence on these points. Nonetheless, we maintain that consumer trust is far lower and NGC demand is therefore suppressed relative to levels that would be observed under a system with greater price awareness.

A8.237 We have grouped the main arguments made by stakeholders under the following headings:

i) greater consumer price awareness is unlikely to increase overall demand for NGCs;

ii) factors other than NGCs are the main causes of bill shock;

iii) NGCs are declining for other reasons than decreasing confidence in prices; and

[133] The 2010 Consumer survey. Q24/28: *"How do you feel when you call these non-geographic numbers from a landline/mobile?"* [Base: All respondents who use a landline/mobile (except those who never call any number mentioned at Q21/25]

iv) SPs have not created an environment of sustaining demand for NGCs.

Greater consumer price awareness is unlikely to increase overall demand for NGCs

Stakeholder comments

A8.238 Virgin Media, Vodafone, EE and O2 argued that providing more price information to consumers, either at the point of call or the point of subscription, was unlikely to increase call volumes. Virgin Media, Vodafone and EE used Ofcom's consumer research to support their arguments, while [✂] also used its own traffic data and O2 presented evidence from its own customer research.

A8.239 Virgin Media did not dispute the fact that some of the perceived issues could in theory lead to a reduction in demand for NGCs but it argued that this effect was, in practice, minimal. It commented that the Ofcom consumer survey suggested significant numbers of consumers had no need to call non-geographic numbers more often; and callers tended to avoid out of bundle calls. For example, for those who never or rarely called non-geographic numbers, the most common reason why both fixed and mobile subscribers did not call certain non-geographic numbers more frequently was because they had no need to according to Virgin Media, 52% of fixed line and 43% of mobile consumers gave this answer).[134]

A8.240 EE did not agree with Ofcom's suppressed demand argument. It highlighted information from the 2009 Consumer survey (Figure 4.5 in the December 2010 Consultation) as evidence that customers were not particularly price sensitive to the costs of NGCs. It argued that nearly 80% of consumers would still make calls to NGCs at least some of the time, even when they did not know the price of these calls and over a third of the surveyed consumers said they would make those calls in more than 50% of cases.

A8.241 In addition, EE questioned Ofcom's interpretation of the consumer survey results. It argued that Ofcom had placed too much weight on research which asked questions which were improperly leading. For example, EE believed that asking questions such as "how often would use a service if you did not know the cost of it" (the results of which were presented in Figure 4.5 of the December 2010 Consultation), the answer would almost certainly always be negative.[135]

A8.242 Vodafone argued that a significant proportion of NGC calls were 'locked in' and therefore it was not clear that the propensity to call would be altered by changes in price, however transparent. With respect to DQ services, Vodafone considered that it seemed most likely that consumer preference was determined more by advertising spend than the cost of the service.[136]

A8.243 O2 conducted its own research of consumers' experience of NGCs which it used to argue that more price information was unlikely to increase call volumes. It also used the research to argue that, even if consumers had better price information, they would not make better decisions because they did not care about NGCs. Finally, it referred to an Oftel study and used the results of this to argue that even if

[134] The 2010 Consumer survey. Q23/27: *"Why do you not call these numbers more frequently than rarely or never from your own phone?"* [Base: all respondents who use a landline/mobile phone and rarely/never call a non-geographic number]. Virgin, December 2010 Consultation response, page 10.
[135] EE, December 2010 Consultation response, page 33, paragraph 140.
[136] Vodafone, December 2010 Consultation response, page 20, paragraphs 17-20.

consumers had perfect information, they might still make irrational purchasing decisions (O2's comments are discussed in great detail below).

A8.244 Finally, we note that a number of groups representing SPs (DMA and AIME for example) highlighted in their responses that the current system was leading to consumers being deterred from making calls. In addition, BT commented that Ofcom's research shows that consumers overestimate costs to call non-geographic numbers and these misplaced perceptions could significantly reduce demand for these services.

Ofcom's response

A8.245 We consider that the main argument put forward by stakeholders can be summarised as follows: many consumers are uninterested in making NGCs and those who make them have limited choice – i.e. the call is difficult to avoid. Therefore, mobile OCPs argue that those making NGCs are price insensitive and even if we increased the quality or the amount of information available prior to them making a call, demand for NGCs would not increase.

A8.246 We accept that many callers are relatively price insensitive and often there are few available alternatives. However, we still consider there to be a significant reduction in demand as a result of the current regime. In summary, our reasons for this are as follows:

- the scale of consumers' overestimation of prices and lack of confidence is large;
- there are a variety of number ranges and services provided via these number ranges – while calls to some services or non-geographic number ranges are likely to be relatively insensitive, calls to other services or ranges are likely to be more sensitive;
- there is likely to be scope even for customers with no choice of SP to respond to changes in price by altering the frequency of calls and/or call duration; and
- general survey evidence tends to support our view that some demand is suppressed.

A8.247 We now discuss these in detail below.

A8.248 Firstly, as set out above, callers' knowledge of NGC prices is very poor and people tend to significantly overestimate the price of calling these numbers. The arguments made by Virgin Media and EE suggest that callers are insensitive to the price of NGCs. However, given the scale of price over-estimation and the consequent lack of confidence exhibited by callers to make NGCs, callers would have to be completely insensitive to price in order for demand to be unchanged by better price information. We note that it is very rare for demand not to increase at all in response to a material reduction in price recognised by consumers, and as a result consider it reasonable to assume customers will show some degree of price sensitivity.[137]

[137] This point was recently made by the CC in its determination on MCT. Specifically, the CC stated that in the absence of evidence to the contrary, it expects price rises to lead to reduction in demand following the "*simple logic that price increases usually lead to reduced consumption*" put forward by

A8.249 Our calculations suggest that there is significant suppression of demand, even if we assume a relatively inelastic demand curve. Annex 16 sets out these calculations in more detail. An elasticity of 0.3 is considered a relatively inelastic response as it implies that a 1% decrease in prices from their current levels would lead to only a 0.3% increase in call volumes. However, when we consider the scale of over-estimation of prices, particularly in relation to calls from fixed lines, the volume effect from increasing awareness is significant even under relatively inelastic assumptions about demand. To give a simplified illustration, Table A8.10 shows that the average expected price of a call from a fixed line to an 0845 number is 30ppm when the average actual price is 5ppm. Bringing consumer expectations completely in line with actual prices in this case would imply an 83% effective reduction in price; assuming an elasticity of 0.3 would result in a 25% increase in demand for these calls. We consider this to represent a significant demand response.

A8.250 Secondly, the argument has been put forward that most NGCs are 'locked in' and consequently any change in price or the availability of price information would have very little effect on the volume of NGCs demanded. This relates to the nature of services provided on non-geographic number ranges. While we accept that some calls are price insensitive, others are not. We expect the number of truly 'locked-in' calls to be low. Even those customers who have no control over which SP to call and are thus 'locked-in' in this sense may still be able to vary the frequency with which they call. They are also likely to be able to vary the duration of these calls, for example by hanging up if placed in a long queue and calling back at a less busy time. As noted in paragraphs A8.101- A8.102, our Consumer Survey results show that a significant proportion of consumers state they try to keep calls to certain NGCs to a minimum, suggesting they feel they have a degree of control over duration.

A8.251 Furthermore, customers do have choice over SPs for a large number of NGCs. For this reason, calls to certain 0871/2 and 09 numbers are likely to be more sensitive to price than calls to other non-geographic numbers. In paragraph 2.9 of the December 2010 Consultation, we set out the types of services that are typically provided on these number ranges. For 0871/2 (designated as "Special Services higher rate" in the Numbering Plan), services typically include higher cost pre and post-sales enquiry lines, some public sector services and services such as the international telephony services provided by resellers. For 09, services include TV voting lines, scratch cards, adult entertainment and chat lines. These types of services use these number ranges because of the relatively high revenue share available.

A8.252 Evidence suggests these calls are likely to be more sensitive to price. For example, there is evidence from a small TCP, which suggested that the average consumption per customer per month for chatline services is almost three hours, equating to average monthly revenue per customer of about £15. This means that any change in price will significantly alter a customer's average monthly spend. [✂] noted that it had seen examples over the last 12 months where certain services at 10p were unprofitable whereas at 9p they were profitable.

Mike Walker on behalf of EE. CC, Wholesale mobile voice call termination price control appeal determination, 9 February 2012, paragraph 2.763 on page 2-139: paragraph 5.52: http://www.competition-commission.org.uk/assets/bispartners/competitioncommission/docs/appeals/telecommunications-price-control-appeals/final_determination.pdf.

A8.253 A survey for PPP in 2010 found that around 28% of non-users cited cost as a reason for not using premium rate services.[138] In addition, the same survey found that accurate pricing information was the single most important factor that would help to improve trust in premium rate services (this response was given by around 74% of phone-paid service users).

A8.254 Also, these services are likely to have alternatives, meaning that demand is likely to be elastic. According to another report for PPP, Analysys Mason writes:

> "With the coming of age of the smartphone and the huge growth in penetration seen in the UK market, the knowledge base of the internet is available to an ever increased proportion of the market. This in turn is decreasing reliance on traditional PRS service offerings and shifting demand to free and at times more convenient services:
>
> - Directory enquiries – previously a monopoly PRS service, subject to market liberalisation is now facing competition from a simple Google search, free mobile internet listings or maps services
> - Mobile personalisation – ringtones and wallpapers, once a huge industry and now competing with free images from the internet or self-produced images
> - Information services – previously offered simple and instant access to personalised information, must now compete with mobile/desktop Google searches or other forms of social information (e.g. Twitter).
> - Video/audio entertainment – whilst never a huge part of the market, video and audio entertainment must now compete with user-generated content (e.g. YouTube) and high quality offerings from global content producers." [139]

A8.255 This suggests that there are examples of some alternatives to accessing services provided using non-geographic numbers that are likely to mean that demand for NGCs is not completely insensitive to price.

A8.256 In addition, O2 discussed micro-payments (e.g. premium text, Payforit, applications stores, Paypal etc.) and the likelihood that the competitive constraint exerted by these other mechanisms is likely to constrain the behaviour of providers.[140] This was echoed by 4D Interactive in response to our October 2011 formal information request, in which it listed a number of 'chat' service providers that provided competition to its own services. O2 argued that if customers did not trust a particular 08 range, they would migrate to another micro-payment method. We consider that some forms of micropayment could represent an alternative to NGCs. However, we note that these are often symptomatic of the type of services offered, e.g. they provide an alternative method of payment for a service that someone does not want to appear on their mobile bill, such as a sex chat line.

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[138] Analysys Mason, *Current and emerging trends in the UK PRS Market 2010,* ('2010 PPP Report')
[139] Analysys Mason report for Phonepay Plus, *Premium Rate Services: International Markets and Regulation*, 20 May 2011, p.39.
[140] O2, December 2010 Consultation response, page 22, paragraphs 85-86.

A8.257 Finally, we note that O2 agreed that the 09 (and 118) number ranges are more price sensitive than other number ranges.[141]

A8.258 Overall the number ranges discussed above account for a significant minority of total NGC volumes and retail revenues. In 2009, calls to 0871/2, 09 and 118 accounted for 8% of non-geographic call minutes and 42% of non-geographic retail call revenues.[142]

A8.259 In terms of the other number ranges – 080, 0843/44/45 and 0870 – we accept that callers are generally less price sensitive. In paragraph 2.9 of the December 2010 Consultation, we set out the types of services provided using these numbers. 0800, 0808 and 0500 numbers are used to provide access to private and public sector voice services such as sales, enquiries and help lines. 0843, 0844 and 0845 numbers are used to access a wide range of low cost services that require a revenue share, including public sector services, transaction services and information services. 0870 numbers are used to provide access to voice and data services that are no longer dependent on a revenue share. Overall, due to the nature of these services, we accept that callers tend to be fairly insensitive to price, particularly with respect to the number of calls (evidence suggests callers are more sensitive to price in terms of the duration of the calls they make).

A8.260 However, there is some evidence of price sensitivity for services on these numbers. For example, evidence can be drawn from the CAB's response to the December 2010 Consultation. The CAB surveyed 3,850 of its clients (see Table A8.14 below).

Table A8.14: Deterrence caused by the high cost of mobile calls

	All respondents	Mobile only respondents
Have been deterred from calling government helpline due to high cost of mobile calls	61%	67%
Have been deterred from calling another helpline (e.g. bank, electricity company) due to high cost of mobile calls	64%	69%

Source: CAB survey, November-December 2010.

A8.261 We acknowledge that this survey is not representative of the UK as a whole. In addition, it shows that a significant number of mobile consumers are likely to be sensitive to price but it is not clear whether these deterred mobile calls are substituted to fixed calls or whether overall demand is suppressed. For example, some respondents with access to both fixed and mobile devices may be deterred from making mobile calls but will make calls from fixed devices instead. However, for those who only have access to a mobile device, it appears as though their demand may be suppressed because they do not have the option to make calls from fixed lines. Rather than inferring from this evidence that the scale of suppressed demand is large, we simply find, contrary to the beliefs of some stakeholders, that some consumers are sensitive to the price of accessing services on number ranges other than those that host discretionary services.

A8.262 Furthermore, evidence from the Samaritans appears to support this view. The Samaritans operate their service over an 0845 number but began piloting its 116 123 free to caller number in April 2010. Since then, use of the number has grown

[141] O2, December 2010 Consultation response, page 35, paragraph 137. [✂]
[142] 2010 Flow of Funds study.

significantly. The total number of calls to both numbers grew by roughly 45% between the time the 116 123 number was introduced in April 2010 and September 2011.[143] However, potential noise in the data restricts us from making firm conclusions about this trend. In addition, it is not clear how much of the extra demand is from callers who originally used the call back facility (who are not captured in the data).

A8.263 Similarly, we have analysed traffic volumes for the DWP's help lines to explore the effects of making these calls free and there is clear evidence of substitution from fixed and payphone calls to mobile calls. However, volatility in the data makes it difficult to discern an impact on total call minutes.

A8.264 In addition, some of the services on these numbers may have alternatives although we accept that is not always clear. For example, the O2 survey presented respondents with a number of scenarios and ask them how they would respond. One scenario asked: "You've picked up a letter when leaving the house in the morning for work. It's from your electricity provider and you need to call them. They have a 080 number and you expect to be on the call for five minutes. How would you call them?" 4% of respondents answered that they would not make the call. [144] Similarly, another scenario asked: "You're at work and you want to speak to your bank. It's important but not urgent. It's a 0845 number and you expect to be on the call for 10 minutes. How would you call them?" This time, 17% answered that they would not make the call. The fact that in both scenarios, some respondents stated that they would not make the call, despite the fact that the call is either necessary or important, suggests that alternative methods for accessing these services may be available.

A8.265 In Talk Talk's statement of intervention in the appeals against our 0845/0870 Dispute Determination in August 2010, TalkTalk noted its call volumes for 0845/0870 calls increased by 20% after they were included within call bundles in June 2009.[145] However, having examined the call volume data from TalkTalk for the period between January 2009 and January 2010, call volumes appear to be extremely volatile and thus we do not believe it is possible to draw any meaningful conclusions from the data set.

A8.266 We now turn to the evidence from the consumer and SP surveys which also tends to suggest that there is suppressed demand and that consumers are sensitive to price.

A8.267 Evidence from the 2009 Consumer survey suggests only 21% of respondents would always make the call if it was to a number that they know is not contained in their package and they also do not know the cost of.[146] In contrast, 21% said that they would never make the call, with the remaining respondents saying that they

[143] Information submitted to Ofcom by the Samaritan November 2011. The total number of calls to the Samaritan's grew from around 320,000 to 450,000.
[144] This is in contrast to our evidence from the 2011 Consumer survey, where only 1% of consumers who considered making a call to a 08 number used an alternative approach such as email or visiting the SP in person, while 2% said that they ultimately did not contact the company/organisation (QGL08). However, the difference here is that, in the question in the 2011 survey, respondents were not told they had to make the call or that making the call was important. Thus it was not as necessary to seek out alternatives in this scenario.
[145] Andrew Aspinall's Witness Statement, paragraph 16.
[146] 2009 Consumer survey. Q39: *"Let's say you are calling a number that you know is not contained in your package and you also don't know the cost (for example calling a number beginning 0845 or 0871), how often would you make the call?"*

wouldn't make the call 25-75% of the time. We accept EE's criticisms of how this question is worded. Indeed, we find the level of call deterrence (over 60%) surprisingly high. We do not believe the response to this question gives a reliable indication of the scale of suppressed demand. However, it does give an indication of the direction of the effect, i.e. that some calls are likely to be deterred by a lack of price awareness or information at the point of call.

A8.268 According to the 2010 Consumer survey, 29% of landline users and 42% of mobile users who rarely/never call non-geographic numbers say the reason for this is because they are expensive.[147] For mobile callers, this is the most common reason for not making NGCs more often, rather than because they have no need to, as reported incorrectly by Virgin Media (see paragraph A8.239 above). We consider that this error weakens the argument that demand is not suppressed.

A8.269 According to the 2011 Consumer survey, 33% of consumers who considered making a call to an 08 number said they kept the length of the call as short as possible.[148] This could be achieved by, for example, hanging up if placed in a queue and trying again later. Whilst it is not clear how material this effect is, this evidence does suggest a significant minority of customers feel able to influence call duration.

A8.270 Finally, evidence from the 2011 SPs survey suggests that around half of SPs consider that charges for mobile calls to 080 numbers are harming their businesses. 47% of SPs stated that the charge for mobile phone calls to their 080 number was a disadvantage and, of those respondents, 88% stated that this was because they could lose important calls or because people hang up rather than pay.[149]

A8.271 With reference to EE's comment (in paragraph A8.240), we would expect to see an increase in the level of overall demand in response to lower prices. We disagree with EE that we have no strong evidence that callers are discouraged from making calls to non-geographic numbers as a result of price uncertainty and/or overestimation. In particular, as set out above, our 2010 Consumer Survey finds that 29% of landline users and 42% of mobile users who rarely/never call non-geographic numbers say the reason for this is because they are expensive (see paragraph A8.268). This suggests significant potential for increased call volumes from both landline and mobile users in response to a reduction in price, albeit with a stronger likely response from mobile users.

Stakeholder comments

A8.272 Virgin Media argued that past changes in volume were not strongly linked to price changes and it provided some of its own call volume data to support this. [✂].[150]

Ofcom's response

[147] 2010 Consumer survey. Q23/27: *"Why do you not call these numbers more frequently than rarely or never from your landline/mobile phone?* [Base: all respondents who use a mobile phone and rarely/never call any number mentioned at Q25]

[148] 2011 Consumer survey. QGL08: *"And looking at the options on this screen, which of the following did you do?"* [Base: all adults 16+ who made or considered making a call to an 08 number]

[149] 2011 SPs Survey. Q14: *"How do you feel about the impact of these mobile charges on the total number of calls that you receive? Would you say that to your organisation the charge for mobile phone calls to your Freephone number is..."* [Base: all 080 users] and Q15: *"And why do you believe it is a disadvantage?"* [Base: All 080 that stated 'disadvantage' at Q14]

[150] Virgin Media, December 2010 Consultation response, page 10.

A8.273 Virgin Media provided us with its call volume data, [✂]. In spite of this, we do not agree that the use of either dataset would be helpful to support the proposition that changes in volumes are not strongly linked to price changes. This is for the three reasons.

A8.274 Firstly, as we have found with data provided by the DWP, it is difficult to extrapolate meaningful conclusions from small datasets that only represent short snapshots in time. Data showing volumes of NGCs over time can be affected by many different factors, particularly seasonality, which means that the data is prone to fluctuations, as was the case with the 0845 data discussed above. Consequently, it is not easy to attribute a change in volume to one single factor (in this case, a change in price). Also, effects of price changes on volume would not necessarily be immediate and may take some time to work through, which further complicates the interpretation of the data.

A8.275 Secondly, as we have set out above, consumer price awareness is poor and very few consumers make the effort to look up or are able to access the correct prices for NGCs. Therefore, the likelihood that a significant number of Virgin Media's customers will detect a change in the price of their services is low.

A8.276 Finally, given that consumers struggle to distinguish between number ranges at the four digit level, a change in price in a single number range such as 0844 is even more likely to have gone undetected by many consumers.

Stakeholder comments

A8.277 As set out above, O2 provided evidence using the results of its consumer survey. The essential proposition put forward by O2 was that demand was unlikely to increase if callers had access to clearer pricing information. O2 commented that whilst clearer pricing might help customers become more informed about the cost of calling the number, it would not necessarily incentivise them to call more often or stay on the call for longer or even increase the volume of fixed to mobile call substitution. The results of the survey showed that:

- 4% of participants would be inclined to make more calls once they had certainty about the price of calling;
- 5% said they will make the same amount of calls overall (but make more calls from mobile and less from home); and
- 53% said they would not do anything differently.[151]

A8.278 In response to a separate question, 66% of respondents to the O2 survey felt that they already made NGCs more than they would like.[152] O2 argued that even if consumers had better price information, they would not make better decisions because they did not care about NGCs.

[151] O2 2010 Consumer survey. Q13: *"[Customers are presented with their perceived prices alongside actual prices] Knowing these prices now, would you do anything?"* In addition, 38% of respondents stated that they would try to make fewer calls from their mobiles.

[152] 2010 O2 Consumer survey. Q4: *"Okay so today we're responding to something that member 'XX' raised on the community – about non-geographic numbers (like 090… 0845… 0870… etc) the sorts of numbers you might have to call to speak to your bank, to register a phone vote etc. How do you feel about calling these numbers in general?"*

Ofcom's response

A8.279 Contrary to the arguments we put forward above, O2's research suggests that there is no suppressed demand for NGCs. Furthermore, the remaining 38% of respondents to the O2 survey stated that they would try to make fewer calls from their mobiles (this percentage was only reported in a footnote of O2's response, not the main text). This seems to suggest that, with clearer price information, consumers might actually make fewer calls overall.

A8.280 However, we do not consider that this research is reliable because the results do not seem to make sense. An earlier question asks respondents what they expect actual prices to be on each number range and, on the majority of number ranges (including 0870 and 0845), the number of respondents overestimating the price outweighs the number who underestimate the price.[153] Thus it would be logical to expect that this general pattern of over-estimation would lead to additional demand upon consumers finding out the true price or at least not a reduction in demand. However, the results suggest the opposite occurs. It is difficult to determine what is driving this because results for each number range are not disaggregated – i.e. respondents were only asked how they would respond to knowing the actual price of all numbers rather than asked the same question for each individual number range.

A8.281 In addition, we consider the results do not reliably predict the impact on overall demand because respondents do not have a complete set of options to choose from. For example, they do not have the choice to say that they will make less or the same number of calls from their mobiles and more from home.

A8.282 We agree with O2 that substitution from fixed to mobile will not necessarily occur in response to an increase in price awareness alone as relative usage patterns are likely to reflect the higher costs of making NGCs from mobiles. Furthermore, the degree of price over-estimation appears higher for calls from fixed lines than from mobiles (see Table A8.10). Nonetheless we do consider that an increase in awareness that brought consumer expectations of prices closer to actual prices would increase demand for NGCs from both fixed lines and mobiles as the perceived price reductions for both could be substantial.

A8.283 We also consider that greater price awareness would put downward pressure on the price of calls from mobiles by increasing competition between mobile OCPs and reducing the vertical and horizontal externalities (see paragraphs A8.32, A8.123 and A8.191 respectively). Any resulting change in the relative price of mobile and fixed line calls would then be expected to result in some degree of fixed to mobile substitution. This can be seen in the DWP example, where there was substitution from fixed to mobile when all calls were zero-rated. It is clear that callers value making calls from the more convenient device so it is plausible to assume that a change in relative prices would stimulate some fixed to mobile substitution. This seems particularly likely given the low proportion of calls made on mobiles compared to fixed lines - mobiles accounted for less than 5% of 080 call minutes in

[153] O2 Customer Research. Q10: *"Now we'd like to understand what you know of the different prices for these calls. How much do you think a one minute call from your mobile would cost to each of these types of numbers?"*

2009.[154] As set out above, this compares to an average of 47% of all calls originated by mobiles and 53% originated by fixed devices in 2009.[155]

Stakeholder comments

A8.284 O2 also referred to an Oftel study and commented that Ofcom should be cautious in using assumptions about how consumers will behave once they have been given better information, given the results of the study.[156] O2 argued that the Oftel study illustrated that even where SPs provided access to a perfect set of information, customers might not feel incentivised to research it. Furthermore, even if consumers had perfect information, they might still make irrational purchasing decisions. O2 commented that the purpose of turning Ofcom's attention to this research was to urge us to apply caution in using assumptions about how consumers would behave once they had been given better information.[157]

Ofcom's response

A8.285 We accept that the findings of the Oftel study referred to by O2 suggest that better price information may have a limited positive impact on consumers' purchasing decisions. However, the strongest finding of the more recent experiment conducted by London Economics ('the 2011 Experimental research') contradicts this.[158] The experiment found that providing call charge information at the point when participants decided whether or not to make a call helped them make significantly better decisions. While we heed O2's warnings, we are placing more weight on the results of the 2011 Experimental research given that it was designed specifically for this review and published in 2011 (as opposed to the Oftel study which was published in 2003).

A8.286 In addition, it follows from O2's conclusions (additional consumer information does not necessarily facilitate rational purchasing decisions) that additional consumer information does not necessarily improve consumer welfare. However in paragraphs 5.6-5.13, Oftel sets out reasons for why the results should not necessarily be interpreted in this way. Furthermore, Oftel clearly sets out in paragraph 4.4, that "it is important to note that the primary purpose of this section is to present a practical example of how the proposed methodology can be applied. As the discussion below demonstrates the results remain subject to some degree of assumption and approximation. Stakeholders are asked to focus responses primarily on the methodology itself rather than focussing too closely on the results presented here, which, in any case, are made more difficult to interpret in the absence of suitable benchmarks from other industries". Further caveats are discussed throughout the document which limits the applicability of the survey in this context.

A8.287 Finally, given the scale of consumer over-estimation of NGC prices indicated by our Consumer survey evidence, we would expect better price information to bring about at least some improvements in consumer decision making.

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[154] 2010 Flow of Funds study, page 6

[155] Ofcom Communications Market Report, Figure 5.71 and 5.72.

[156] Oftel, 'A consultation on a methodology for measuring consumer savings in telecoms services', 8[t]April 2003.
http://www.ofcom.org.uk/static/archive/oftel/publications/research/2003/consave0403.htm

[157] O2, December 2010 Consultation response, page 11, paragraph 44.

[158] http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/interventions-non-geographic.pdf

Factors other than NGCs are the main causes of bill shock

Stakeholder comments

A8.288 O2 argued that Ofcom failed to address the real cause of bill shock.[159] O2, along with the CAB, suggested that the main consumer concern with respect to bill shock was call waiting times. A number of individual respondents also raised this point in their responses to the December 2010 Consultation. O2 argued that it was the consumer's failure to consider the cumulative cost of their phone call which led to problems. O2 argued that without testing the impact of this element of bill shock, it is impossible to say with any certainty the extent to which the lack of awareness of the unit cost price would have any bearing on resolving this suggested market failure or the outcomes of bill shock and poor consumption choices. If the cause of bill shock was predominantly not the unit price of NGCs, O2 argued that improving price awareness might not solve any market failures.[160] Virgin Media argued that a large proportion of bill shock was attributable to international calls rather than NGCs.[161]

A8.289 Other stakeholders also doubted the significance of bill shock in the market for NGCs. EE disagreed with Ofcom's claim that a lack of price awareness led to underestimation of prices and therefore bill shock. Referring to our 2009 Consumer survey, it argued that consumers still chose to make an overwhelming 95% of calls to 080 from fixed lines rather than from mobiles – suggesting that the impact of the price underestimation by customers of the cost of calls to 080 calls from mobiles referenced in Figure 4.4 may not be that (or at all) significant.[162]

A8.290 Virgin Media argued that it was contradictory for Ofcom to simultaneously suggest that price overestimation was prolific and that bill shock was a significant problem.

Ofcom's response

A8.291 We accept some of the comments made by stakeholders regarding bill shock. Bill shock arises when consumers make calls thinking that the overall price is lower than it actually is (i.e. price underestimation). As with price overestimation, this is also a direct consequence of consumers' poor price awareness. It is possible that some consumers overestimate prices whilst others underestimate prices. But we accept Virgin Media's point – if overestimation of prices is widespread, bill shock is not likely to be a major concern. To be clear, our emphasis is on consumers overestimating the price of NGCs, rather than underestimating, and the consequence that consumers make fewer calls.

A8.292 Indeed, evidence from Ofcom's Review of Unexpectedly High Bills (published in March 2012)[163] confirms the point that bill shock is not a major concern for many consumers calling non-geographic numbers. Instead, the majority of bill shock is attributable to international roaming charges.

A8.293 We accept that call waiting times may contribute to bill shock. However, previous Ofcom research found that there was no significant correlation between call price

[159] O2, December 2010 Consultation response, page 3, paragraphs 8-9.
[160] O2, December 2010 Consultation response, page 18, paragraphs 66-68.
[161] Virgin Media, December 2010 Consultation response, page 6.
[162] EE, December 2010 Consultation response, page 18, paragraphs 9-11.
[163] http://stakeholders.ofcom.org.uk/binaries/consultations/unexpectedly-high-bills/statement/statement.pdf

and the time it took to get through to an operator.[164] SPs are constrained by the fact that callers know who to blame for high bills and so they do not have the incentive to lengthen call waiting times. In addition, more and clearer information for the price of a call may reduce the likelihood that consumers suffer from bill shock.

A8.294 Regarding the points made by EE, we recognise that the direct impact of bill shock for 080 numbers will be confined to, at most, the 5% of calls made from mobiles. Nonetheless we think these relatively few instances are material because affected customers will be deterred from making calls to 080 numbers from their mobiles again, and may also be deterred from making NGCs in general from both their mobiles and fixed lines again as a result of the horizontal externality. This is supported by evidence from the 2009 Consumer survey. When asked what effect paying more for a call than expected had on landline/mobile use, 28% of mobile respondents and 21% of landline respondents stated that they would try not to phone that particular number range again. In addition, 26% of mobile respondents and 24% of landline respondents stated they consciously spent less time calling that particular number range the next time.[165]

A8.295 Furthermore, instances of very significant bill shock are likely to attract public attention and through this influence the expectations of other customers calling these number ranges, leading to effects that are far wider than the numbers of customers experiencing bill shock alone might suggest. In this respect we note that it is highly plausible that the negative customer perceptions of NGCs detailed in paragraphs A8.29 - A8.30 have arisen at least in part in response to a few well-documented instances of very significant bill shock.

NGCs are declining for other reasons than decreasing confidence in prices

Stakeholder comments

A8.296 EE noted Ofcom suggestion that NGCs usage was in decline because of consumers' decreasing confidence in prices. It argued, however, that there were several other reasons for the declining use of NGCs, including the use of the internet to access the kind of services offered by NGCs and consumer dissatisfaction/anger over past experiences with NGCs.[166] Similarly, BT commented that Ofcom had inadequately assessed a number of additional factors that could be contributing to declining demand in NGCs, including the growth of alternative media such as smart phones and the internet which competed to provide a range of entertainment and information services previously only available through NGCs.[167] In addition, as discussed above, O2 criticised Ofcom's failure to take into account the other factors that have contributed to the decline in demand for premium-rate services, as mentioned in the PPP report. According to O2, examples of this include the negative tone of announcements by Ofcom and PPP, TV scandals which have created a PRS maelstrom and recent changes in number ranges and codes of practice.[168]

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[164] 'Number Translation: a way forward', a report of the key findings of two research studies conducted by HI Europe and MORI on behalf of Ofcom. 9 November 2005.
[165] 2009 Consumer Survey. Q20/26: "What effect, if any, did paying more for a call than you expected have on your landline/mobile use?" [Base: all respondents who check their bill when they have been surprised by the size of their landline/mobile bill in the last 12 months].
[166] EE, December 2010 Consultation response, page 16, paragraph 12.c; and page 21, paragraphs 5.a-j.
[167] BT, December 2010 Consultation response, pages 24-25.
[168] O2, December 2010 Consultation response, page 19, paragraph 70.

A8.297 EE also argued that it was not clear that the figures from BT on call volumes to 08 and 09 numbers between 2007 and 2010, which Ofcom used to prove a decline in NGCs demand, were necessarily representative of the industry as a whole. EE commented that this data also showed how call volumes by BT customers to geographic numbers also declined over this period, suggesting that the decline in BT retail NGCS volumes was, at least in part, attributable simply to the loss of BT retail market share to other fixed or mobile retail providers. EE noted that the 2010 Flow of Funds study observed that decreases in call volumes were not uniform across non-geographic number ranges, with, for example, calls to 0871 numbers actually increasing during this period. Overall, EE argued that Ofcom needed to do more work to analyse traffic patterns on an industry-wide number range by number range basis before any generalised conclusions could be made.[169]

A8.298 Virgin Media highlighted that overall telephony volumes were falling and that the general causes of this were more important than NGCs' specific factors. [✂].[170]

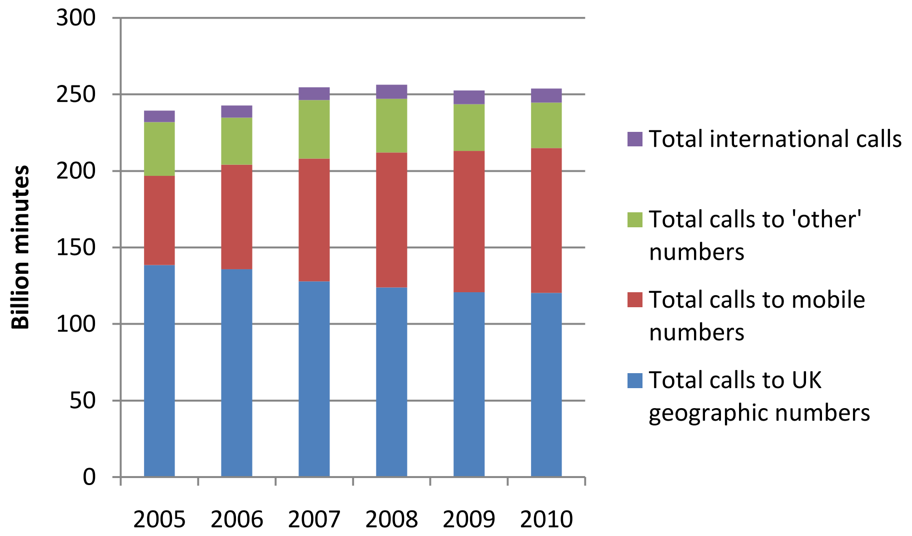
Ofcom's response

A8.299 We accept stakeholders' comments on the decline in volumes of NGCs relative to other types of call. While there is evidence that NGC volumes are falling (see Figure A8.15 below – calls to 'other numbers', i.e. NTS calls, have fallen slightly since 2007), overall call volumes have remained broadly constant since 2007 with certain types of calls falling significantly over time (e.g. calls to geographic numbers) while other types of calls have increased (e.g. calls to mobile numbers). These trends appear to reflect broader changes in the market.

A8.300 As a result, we are no longer of the view that NGC demand is necessarily continuing to fall as a result of the market failures outlined above. We also accept any observed decline in volumes of NGCs could be due to a number of factors. However whilst we accept that there is no clear evidence to suggest the situation is getting worse, we note this does not allay our concerns about the continued impact of the current system on consumers. In particular, we remain concerned that demand for NGCs is suppressed relative to the levels that would be observed under a system with greater price awareness and resulting consumer confidence.

[169] EE, December 2010 Consultation response, page 23, paragraph 6.
[170] Virgin Media, December 2010 Consultation response, pages 9-10**.**

Figure A8.15: trends in voice calls over time



Source: 2011 Ofcom Communications Market Report. Calls to mobiles figures were later revised.

A8.301 We also accept that consumer confidence is not necessarily continuing to decrease. As noted in paragraphs A8.52 - A8.56, levels of consumer uncertainty appear to have remained broadly similar over the period 2009-2011. However, as with NGC demand, the fact that consumer confidence is not obviously declining further is not a reason to dismiss our concerns about the existing lack of consumer awareness and trust. Instead, we remain of the view that consumer confidence in NGCs is significantly lower than it would be under a system with greater price awareness, and that this is having adverse effects on consumers.

A8.302 The evidence we have seen suggests there is a strong link between the observed lack of consumer confidence and suppressed demand for NGCs. In particular, our Consumer Surveys found that significant numbers of respondents (40-70% depending on the number range) were 'not confident' about the cost of calls to NGCs, and systematically over-estimated prices as a result. As set out in more detail in paragraphs A8.245 - A8.271, we consider it reasonable to assume that consumers will show some degree of price sensitivity. It is therefore likely that the current lack of consumer confidence, and consequent over-estimation of prices, is leading to a suppression of demand.

A8.303 In response to O2's comments, we also note that to the extent that reduced demand for NGCs is due to consumer suspicion (e.g. arising from dissatisfaction with past experiences with NGCs or the negative tone of Ofcom and PPP announcements), this is consistent with our analysis that there is significant consumer detriment in the current regime for NGCs.

<u>SPs have not created and sustained an environment of sustaining demand for NGCs</u>

Stakeholder comments

A8.304 EE argued that Ofcom had not considered the role of the SP in creating and sustaining demand for their own NGCs. EE commented that a lack of demand might be because SPs' service propositions were not compelling enough. In addition, it argued that some SPs had themselves sown mistrust in consumers (e.g. misleading services, excessively long call durations etc).[171]

Ofcom's response

A8.305 We believe that the current unsatisfactory situation is due to many factors, including the current regulatory regime. We accept that in some cases SPs as well as OCPs may individually take advantage of poor price transparency.

A8.306 As to the argument that SPs do not offer compelling propositions, to the extent this is relevant, we note that one of the possible causes is that the current regime does not offer them sufficient incentives to invest and innovate. This point is discussed in further detail below.

Summary of Ofcom's position on the reduction in demand for NGCs

A8.307 Our concern is that consumers' general tendency to overestimate the price of NGCs is causing a number of callers to suppress their demand for these calls. Although consumer's demand may not be very sensitive, the evidence suggests that it is not completely insensitive to price. This in turn implies that a reduction in the overestimation of prices by consumers would lead to a higher volume of NGCs than would otherwise be made. Stimulating additional calls is likely to benefit consumers, OCPs and SPs. In our analysis of possible remedies we quantify the extent of the volume increase on which we are relying to justify our proposals.

A8.308 We concede that some other concerns we originally raised in the December 2010 Consultation may not be significant and we do not now rely on these factors in assessing consumer detriment. For example, although some consumers suffer from bill shock as a result of underestimating the price of NGCs, these consumers represent a minority and we are far more concerned about the impact of consumers overestimating prices. We also accept that the volume of non-geographic calls may not be declining at a faster rate than the volume of other call types. We also accept that consumer confidence is not necessarily falling further from current low levels. We agree that several factors are contributing to the general decline in all call volumes. Nonetheless, we consider that the fact consumer confidence and NGC demand may not be declining further does not allay our concerns about the effects of the current system on both. Instead we consider that consumer confidence in NGCs, and hence their demand for calls to these numbers, is lower than it would be under a system with greater price awareness.

The relative prices of geographic and non-geographic calls do not reflect consumer preferences

A8.309 The second outcome of the three market failures we identified was that the relative prices of geographic and non-geographic calls do not reflect consumers' preference.

Summary of Ofcom's analysis in the December 2010 Consultation

A8.310 In the December 2010 Consultation, we argued that due to the three market failures, current non-geographic prices were likely to be higher than they should be in order to promote the greatest benefits to consumers.

[171] EE, December 2010 Consultation response, page 16, paragraph 13.

A8.311 We presented evidence that appeared to suggest that the tariff package effect ('TPE') existed in the market for NGCs. Given the competitive constraints faced by OCPs, it appeared to be in their interests to increase prices on NGCs where awareness was lower in order to reduce the prices of those services where consumers did focus in order to attract subscribers.

A8.312 We also argued that SPs' lack of influence over the call price (the vertical externality argument) exacerbated price awareness problems as SPs were unable to advertise accurate prices for calls. We considered that the lack of price awareness weakened competitive pressure on NGCs, allowing OCPs to raise NGC retail prices without a strong consumer reaction. Consequently, the structure of prices did not, in our view, reflect either callers' or SPs' preferences, thus NGC charges were likely to be higher and demand from consumers weakened.

Stakeholders' comments and Ofcom's response

A8.313 The mobile OCPs were critical of Ofcom's conclusions in this area, specifically rejecting the proposition that prices did not reflect consumer preferences for a number of reasons. A number of mobile OCPs also argued that consumers rejected the rebalancing of prices. In contrast, Magrathea argued that the current regulatory policy was leading to all consumers of NGCs paying more than they should be. With respect to the tariff package effect, a number of fixed OCPs and SPs disputed its existence or strength, whereas Three agreed with Ofcom's conclusions.

A8.314 We have grouped the main arguments made by stakeholders in response to Ofcom's conclusions on this issue under the following headings:

- evidence suggests NGC charges do reflect consumers' preferences and industry cost structures;
- NGCs prices are more expensive because they include revenue sharing;
- there are few complaints about NGCs; and
- comments regarding the existence and magnitude of the tariff package effect.

Evidence suggests NGC charges reflect consumers' preferences and industry cost structures

Stakeholder comments

A8.315 Some stakeholders pointed out that retail markets are competitive.

A8.316 Vodafone argued that the mobile market was working for consumers.[172] EE argued that charges that matter most to consumers, such as those for geographic calls, were kept as low as possible.[173] EE commented that OCPs choose to recover their costs through charges for NGCs rather than through the cost of calling other numbers; and consumers received the most competitive prices for those services that are most important to them.[174] EE argued that if customers were not happy with the prices charged by their OCPs for calls to a particular SP, they could and did

[172] Vodafone, December 2010 Consultation response, page 3, paragraph 6.
[173] EE, December 2010 Consultation response, page 10, paragraph 2j.
[174] EE, December 2010 Consultation response, page 15, paragraph 11.

substitute to other means of contacting that SP, resulting in a loss of revenue for the OCP.

A8.317 Stakeholders also pointed to the introduction of NGC bolt-ons and highlighted the low take up of these tariff options.

A8.318 Vodafone argued that some OCPs, including itself, had developed new tariff propositions for NGCs to appeal to the minority of consumers who attached greater importance to the level of NGC charges.[175] [✂].[176]

A8.319 EE argued that very few customers signed up to calling plans on the basis of price offerings for calls to non-geographic numbers. It argued that efforts had been made by OCPs to offer packages tailored to the preferences of frequent NGCS users but these have not worked. According to EE, T-Mobile used to offer a call plan that was structured so that 08 numbers could be included in bundles. However, this offer was withdrawn – partly from a lack of significant customer demand but mostly due to the difficulty in managing the risks associated with the wholesale termination rates payable to BT and other TCPs for these calls (e.g. overall high and significantly differing termination charges payable for different 08 number blocks) making it very hard to price the bundle appropriately at the retail level. EE argued that if termination rates were standardised to some extent through Ofcom regulation (preferably via wholesale regulation), this might make it much easier for OCPs to include NGCS calls in bundles.[177]

A8.320 Finally, some stakeholders argued that consumers simply were not in favour of re-balancing.

A8.321 Three argued that consumer preferences were reflected by prices and evidence in the December 2010 Consultation suggested that consumers did not have strong views regarding the price of NGCs. The majority of respondents (52%) did not call these numbers because they had no need to do so.[178]

A8.322 Virgin Media argued that current prices did reflect consumers' preferences, referring to Ofcom's consumer survey evidence which indicated that consumers did not want prices to be rebalanced.[179]

A8.323 Vodafone and O2 argued that Ofcom's own consumer evidence cast serious doubt on the assertion that the current pattern of prices for NGCs and other services did not reflect consumer preferences (Vodafone referred to A5.81 in the December 2010 Consultation). Vodafone argued that consumers specifically rejected the proposition that an increase in other prices in return for lower prices for NGC calls was a good trade off.[180] O2 also argued that because the demand for NGCs was price inelastic, an artificial reduction in the price of NGCs would lead to an increase in price for other calls (for which demand was relatively price elastic), leading to a fall in output and consumer welfare.[181]

[175] Vodafone, December 2010 Consultation response, page 48, paragraph 3.7.
[176] [✂]
[177] EE, December 2010 Consultation response, page 25, paragraph 12.
[178] Three, December 2010 Consultation response, page 10, paragraph 32.
[179] Virgin Media, December 2010 Consultation response, pages 10-11.
[180] Vodafone, December 2010 Consultation response, page 4, paragraph 8; and page 6, paragraph 20.
[181] O2, December 2010 Consultation response, page 27, paragraph 103.iv.

A8.324 Furthermore, Vodafone argued that the relative price of NGCs did not depend on a presumed lack of transparency but rather reflected the lack of importance consumers attached to these call types compared to the cost of non-NGCs.[182] It argued that Freephone and NGCs in general were a lower priority for most customers than the cost of calls to mobiles and calls to geographic numbers – the type of calls they make more often and which consequently had a greater bearing on their monthly expenditure.[183] Vodafone further argued that even with 'perfect' price transparency, one would expect consumers to focus on call types they make most often – i.e. geographic calls – rather than NGCs. Similarly, unit margins could be expected to vary across call types in response to those consumer preferences.[184]

A8.325 Vodafone also argued that while Ofcom attempted to play down rebalancing by suggesting it would be spread across all call types and thus be barely perceptible, it considered that rebalancing might be more heavily spread across larger volume call groups (such as calls to mobile and calls to geographic numbers) because competition drives mobile OCPs to focus their keenest pricing on majority call types that matter most to consumers.[185]

A8.326 EE considered that there was a lack of evidence to suggest consumers cared about NGCs compared to other calls. It argued that Ofcom's own evidence and analysis appeared to demonstrate that the vast majority of consumers were indifferent to the cost of calling NGCs, particularly when selecting a provider.[186] For example, EE referred to the 2010 Consumer survey, noting that "Calls to NGNs did not appear to be "front of mind" for most consumers in the focus groups, with several commenting that they had never considered these numbers before being prompted in the discussion". In addition, EE argued that OCPs were not incentivised to keep NGC prices high – OCPs had every incentive to offer customers who were sensitive to NGC prices attractive packages offering lower priced calls to non-geographic numbers.[187]

A8.327 EE also referred to Ofcom research that showed that consumers did not see the point of rebalancing the tariff structure to provide for cheaper 080 numbers, which they did not use often. According to this research, it triggered a sense that consumers were being overcharged and paying for a service they did not use; feelings that were also elicited by suggestions that 08/09 call costs would be offset by geographical call costs.[188]

A8.328 Conversely, the CAB agreed that the current regime, where the market determined the price for calls made to non-geographic numbers in the face of limited or non-existent competitive pressures, also failed to reflect the preferences of some or all consumers, particularly those on low incomes. The CAB argued that a rebalancing of prices would represent a better deal for consumers in general. It highlighted that under the current regime, people who call non-geographic numbers from their mobile phone (who are more likely to be on low incomes) were paying over the odds for such calls, while simultaneously subsidising other elements of the phone market (e.g. handsets, other parts of call packages). The CAB likened this to the personal current account market in which charges paid by vulnerable, low income

[182] Vodafone, December 2010 Consultation response, page 2.
[183] Vodafone, December 2010 Consultation response, page 12, paragraph 48.
[184] Vodafone, December 2010 Consultation response, page 16, paragraph 66.
[185] Vodafone, December 2010 Consultation response, page 16, paragraph 65.
[186] EE, December 2010 Consultation response, page 14, paragraphs 6-7.
[187] EE, December 2010 Consultation response, page 38, paragraph 4.
[188] EE, December 2010 Consultation response, page 25, paragraph 11.

people were subsidising the ‘free’ banking enjoyed by many more affluent customers.[189]

Ofcom’s response

A8.329 As a preliminary point we recognise that it is difficult to make accurate and reliable inferences from current consumer behaviour and current prices due to the current market failures we have identified above.

A8.330 We agree that it is possible that charges for NGCs are higher than GCs in part for reasons that can be considered to reflect efficiency and consumer preferences. However, as argued above and in the December 2010 Consultation, there are reasons to believe that the difference in price levels of NGCs and geographic calls also reflects the concerns identified in our discussion of market failures. For example, as illustrated in tables A8.5 – A8.8 above, consumers tend to have greater confidence in the price of geographic calls than they do of non-geographic calls. In particular, a far larger proportion of respondents stated they knew the price of calls to geographic numbers than they did for calls to non-geographic numbers. In addition, of those respondents who were uncertain of the price of geographic calls, a far greater number thought they were not expensive and far fewer thought that they were expensive when compared with responses to non-geographic numbers. This relative difference in consumer price awareness is likely to lead to different levels of downward competitive pressure on the price of geographic and non-geographic calls. Therefore, to the extent that different price levels reflect different levels/quality of price awareness and distortions, it would not reflect an efficient outcome.

A8.331 If customers were equally well-informed about all aspects of OCPs’ retail offerings, we would expect competition between OCPs to bring about an economically efficient pricing structure. With efficient pricing, differences in mark-ups between GCs and NGCs would reflect differences in market-level elasticities, which we recognise could lead to NGC prices being higher than GC prices.

A8.332 However, the evidence we have seen suggests there are currently weaker competitive constraints on NGCs than on other elements of the retail package, even after taking account of the differences in the volumes of different types of call. These weaker constraints arise in particular from the comparative lack of price awareness of NGCs, outlined in more detail in paragraphs A8.28 - A8.119. The resulting disparity in competitive conditions between different aspects of OCPs’ retail offerings mean they do not have incentives to set an efficient structure of prices. Instead their incentive is to set the price of NGCs too high and other services such as GCs too low, an imbalance reflecting the TPE. The existence of the TPE is consistent with the responses from OCPs which suggest that their own demand (i.e. operator-level, not market-level) is more inelastic than for other services such as GCs.

A8.333 With respect to arguments put forward by the mobile OCPs regarding Ofcom’s consumer evidence that consumers do not favour re-balancing, our position on this is set out in detail in Section 16. In summary, though it may appear as though evidence from the consumer surveys shows that consumers do not care about NGCs, in practice it is difficult to extrapolate meaningful conclusions from the data as it is not clear whether consumers have understood the question. In addition, it may be the case that consumers have disengaged with the market as a result of the

[189] CAB, December 2010 Consultation response, pages 11-12.

market failures identified. They could behave differently if they had a better awareness of prices. Overall, it is not clear what importance consumers attach to rebalancing the relative price of NGCs and other calls.

A8.334 We accept EE's point that the majority of consumers are indifferent to the cost of making NGCs when selecting a provider. However, as set out above, a significant minority of consumers do care about the costs of making NGCs at the point of purchase and more consumers would benefit if information at the point of call was more easily accessible.

A8.335 We understand that some mobile OCPs, namely Vodafone and Virgin Media, offer bolt-ons. Bolt-ons allow subscribers to trade off a higher monthly fee in return for cheaper non-geographic calls.[190] Take up of these has been limited. In particular:

- Vodafone offers a bolt-on that incorporates 080, 0845 and 0870 calls within bundles of inclusive ('free') minutes for £5/month.[191] In November 2011 approximately [✂] of Vodafone's post-pay subscriber base purchased this bolt-on; and[192]

- T-Mobile previously offered a bolt-on that incorporated 08 calls within bundles of inclusive minutes. It withdrew this offer primarily due to the level of termination rates but also due to a "lack of significant consumer demand".[193]

A8.336 We recognise that evidence from bolt-ons needs to be treated with caution. The market failures that we identify above may affect the outcomes. For example, poor price awareness means it is hard for consumers to judge whether purchasing a bolt-on is worthwhile. However we note that the bolt-ons concerned may have had low take-up because they only represented a good deal for a minority of users. For example, for a bolt-on costing £5 a month to be financially attractive to customers, they would need to make a sufficient number of calls to these numbers for the implied price per call to fall below the price without the bolt-on. Given an average actual price of 35ppm to call an 0871 number from a mobile, this would require average monthly call volumes of at least 14.29 minutes[194]. Taking data on total call volumes to 08 numbers and total numbers of mobile subscribers from 2009, we find that the average mobile subscriber made 3.14 minutes of calls to 08 numbers per month.[195] This suggests that the bolt-on would only be attractive to customers with much larger usage levels than the average (our calculations suggest that the bolt-on would only be attractive to consumers with usage levels about 290% larger than the average level).[196]

190 [✂].

191 Vodafone, December 2010 Consultation response, paragraph 3.7. Email from Vodafone to Ofcom dated 12 August 2010.

192 Vodafone response dated 11 November 2011 to information request dated 21 October 2011, question 9(iii).

193 EE, December 2010 Consultation response, Q4.3 paragraph 12(d) on page 26.

194 We note that using a lower price, for example the cost of calling an 080 number, would give an even stronger result as only consumers making an even higher volume of these lower price calls would find the bolt-on attractive.

195 Data on total call volumes taken from 2010 Flow of Funds study; number of mobile subscribers from the 2010 Communications Market Report, Figure 5.29.

196 This figure of 290% takes into account the benefit the consumer derives from a zero marginal price on the bolt-on tariff which we assume stimulates some increase in call volumes (assuming an elasticity at the initial price of 0.3). The usage level required is similar with both linear and log linear demand functions.

NGC prices are more expensive because they include revenue sharing

Stakeholder comments

A8.337 Vodafone argued that the cost base for NGCs was generally significantly above that of geographic calls because interconnect outpayments reflect the funding of revenue share outpayments by TCPs to SPs.[197] It also noted that common cost recovery was driven by competition and consumer preferences so it was no surprise that OCPs focused their keenest pricing on majority call types that matter most to consumers.[198]

A8.338 O2 stressed that mobile retail prices reflected higher origination costs which reflected the fact that unit costs in providing mobile services tended to be higher than for fixed. Also, they reflected the preferences for cheaper prices on frequently used mobile services (e.g. calls to geographic numbers, mobiles and texts).[199] O2 commented that the mobile retail market has already provided tariffs with cheaper NGCs, including options for such calls to be included within bundles (although O2 did not provide any examples itself).[200] Finally, O2 argued that the demand for NGNs was relatively price inelastic and that the recovery of proportionately more fixed and common costs from these services increases output and therefore welfare.[201]

Ofcom's concern

A8.339 We agree that outpayments by OCPs (such as termination charges paid to TCPs) that reflect revenue sharing increase the costs of NGCs compared to geographic calls. However, this does not explain the size of many of the differences in prices between NGCs and geographic calls. For example, before BT's ladder prices were introduced, termination charges for 080 numbers were lower than for geographic calls[202] but mobile OCPs' prices of calls to these numbers were higher on average than geographic calls (20ppm vs 2.23ppm on average in 2009).[203] Similarly, in June 2009, following a series of disputes, we issued a determination that set cost based termination rates for 0870 calls (with a zero allowance for revenue share with the SP).[204] However not all OCPs responded by pricing 0870 at the same level as geographic calls, and in particular, mobile OCPs continued charging most consumers higher prices for 0870 calls (21ppm vs 2.23ppm on average in 2009). We recognise that this system was only in place for a few months before (on 2 October 2009) BT introduced variable termination rates for calls to its 0870

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[197] Vodafone, December 2010 Consultation response, page 30, paragraph 129.
[198] Vodafone, December 2010 Consultation response, page 31, paragraph 131.
[199] O2, December 2010 Consultation response, page 23, paragraph 91.
[200] O2, December 2010 Consultation response, page 24, paragraph 92.
[201] O2, December 2010 Consultation response, page 4, paragraphs 10-11.
[202] Ofcom, Determination to resolve a dispute between BT and each of T-mobile, Vodafone, O2 and Orange about BT's termination charges for 080 calls, page 20, paragraphs 3.3-3.4: http://stakeholders.ofcom.org.uk/binaries/consultations/draft_deter_bt_tmobile_vodafone/nonconf.pdf
[203] Actual price for mobile calls to 080 numbers taken from Table 16.3 (Part C, Section 16). Actual price for mobile calls to geographic numbers based on information gathered from the mobile OCPs every quarter via Ofcom's Mobile Infrastructure Database portal and reflect the average cost of a mobile to fixed call in 2009, including bundled minutes and taken over all times of day.
[204] *Determination to resolve 0870 call termination rate disputes between BT and various operators*, 17 June 2009. Available at: http://stakeholders.ofcom.org.uk/binaries/consultations/resolve0870calls/statement/determination.pdf

numbers.[205] Nonetheless we note that the fact OCPs retain a significant proportion of retail revenue from calls to 0870 numbers (57% in 2009[206]) provides further support for our finding that higher prices of calls to these numbers do not simply reflect the costs of revenue sharing.

A8.340 We agree that the origination cost of mobile calls may be higher than fixed overall. However, that difference in cost does not explain the size of the difference in NGC prices between fixed and mobile OCPs. In Annex 22 our higher estimate of the cost of originating a call to a non-geographic number from a mobile is 4.0ppm (assuming network costs are estimated on a LRIC+ basis and allocating non-network costs on an EPMU basis). Even if it were free to originate an NGC from a fixed line, this figure suggests that a price differential of up to 4.0ppm might be attributable to higher mobile origination costs. However, actual price differentials between fixed and mobile calls to the same number ranges exceed this by a significant amount. Specifically, calls to 080 numbers are free from fixed lines but cost, on average, 20ppm from mobiles; calls to 0845 numbers are, on average, 5ppm from fixed and 22ppm from mobile; and calls to 0870 numbers are, on average, 8ppm from fixed and 21ppm from mobile (see Table A8.10).

There are few complaints about NGCs

Stakeholder comments

A8.341 EE argued that complaints about NGCs neither appear in Ofcom's list of most complained about issues, nor as a key consumer concern in EE's own data.[207] For example, consumers do not generally identify any major issues with the existing regime whether prompted or unprompted, referring to Ofcom's quarterly Telecoms Complaints Bulletin.[208] EE argued that this had never highlighted NGCs as a key area of consumer dissatisfaction. In addition, EE argued that the 2010 Consumer Experience Report similarly showed that there were very few complaints about NGCs – at most, they made up less than 1% of total complaints.[209] Finally, it noted that NGCS complaints accounted for [✂] of all customer complaints to EE.

A8.342 Similarly, Vodafone, Virgin Media and Verizon highlighted that the number of complaints to Ofcom reported in its Draft Annual Plan regarding high NGC prices was minimal. Virgin Media noted that research showed that a large proportion of consumer complaints about NGCs are not related to price per se. It argued that the January 2009 complaint evidence, and the "extracts from complaints" at Annex 15 to the December 2010 Consultation, demonstrated that many consumer concerns relate to the service given by SPs.[210]

Ofcom's response

A8.343 We accept that NGCs are not featured in Ofcom's list of most complained about issues. However, as set out in Annex 15 of the December 2010 Consultation, people do complain about non-geographic calls. Therefore, this points towards there being some problems in the market.

[205] NCCN 986 was issued on 2 October 2009 and came into effect 1 November 2009.
[206] 2010 Flow of Funds Study
[207] EE, December 2010 Consultation response, page 7, paragraph 3.
[208] EE, December 2010 Consultation response, page 13, paragraph 2.
[209] EE, December 2010 Consultation response, page 14, paragraph 4.
[210] Virgin Media, December 2010 Consultation response, page 12.

A8.344 Nonetheless, we do not believe that consumer complaints to Ofcom's Advisory Team ('OAT') or to OCPs directly are necessarily the best indicator of dissatisfaction or wider problems in the market in the case of NGCs. This is because the problems in the market we have identified (i.e. price overestimation, under-consumption of calls, coordination difficulties between SPs and OCPs) are not the types of things that would necessarily prompt complaints from consumers. The longevity of the problems also probably has an impact on the propensity to complain. The issue was move prominent in the past, when initiatives such as 'Saynoto0870' appeared, but many consumers from experience probably know that complaining has had limited if any impact.

A8.345 In addition, we point to two other sources of evidence which suggest consumers are not happy with the current regime, and that we should therefore not rule out our concerns about consumer dissatisfaction:

- the O2 Consumer Survey asks a series of questions about maximum prices and unbundling and then asks which of these consumers would prefer. Only 5% of respondents said they would prefer things to stay as they are, whilst 79% said they would prefer either maximum prices or unbundling.[211] The fact that the majority of respondents would prefer a change to the regime illustrates that they are not happy with how things are currently working.

- A report by Analysys Mason for PhonepayPlus looked at the public perception of phone-paid services in 2010. The report found that, among phone-paid service users, 74% said accurate pricing was the single most important factor that would help to improve trust in premium rate services. This compares to 40% of phone-paid service users who said the same in 2008, suggesting increasing consumer dissatisfaction.[212]

A8.346 As regards the suggestion that many consumer concerns relate to the service given by SPs, we recognise that some of the detriment in the current regime arises from the behaviour of SPs as well as others involved in the value chain. A more transparent system will reduce consumer confusion and reduce the incentives for SPs to behave in a way that will damage their long-term reputation.

Comments regarding the existence, magnitude and impact of the tariff package effect

Stakeholder comments

A8.347 Several stakeholders questioned the existence of the tariff package effect or argued that waterbed effects are relatively insignificant.

A8.348 BT disagreed with Ofcom's Tariff Package Effect ('TPE') analysis. It did not accept that Ofcom could place unqualified weight on the Mobile TPE ('MTPE') based on the historic position taken by the Competition Act Tribunal ('CAT') and Competition Commission ('CC'). BT did not accept that any of the empirical evidence used by Ofcom to prove the extent and direction of the MTPE was strong or robust; specifically, BT did not believe that Ofcom could necessarily give greater weight to the studies it had commissioned which were supportive of a waterbed effect (Genakos and Valletti) than those which were equivocal or not supportive (Veronese and Pesedorfer). Regarding the study by Veronese et al., BT expressed

[211] O2 Consumer Survey, Q19: "Finally then, which of these options is your preference?"
[212] 2010 PPP Report

its surprise that Ofcom regarded this study as comparatively unsophisticated. BT highlighted that this study post-dated the study written by Genakos et al., that it was based on a data set supplied by Ofcom and was written by "distinguished" authors with "an impeccable academic background of the highest standard".[213]

A8.349 BT also argued that paragraph A2.18 of the December 2010 Consultation (the first bullet) implied that originators would always charge where demand was inelastic. BT disagreed with this and suggested that the demand for NGCs is likely to be more elastic.[214]

A8.350 BT also commented that Ofcom's statement (laid out in paragraphs A2.170 and A2.189 of the December 2010 Consultation) that the current situation, even with an MTPE, is net welfare detrimental, is unqualified.[215]

A8.351 Separately, BT expressed concerns that there were some important potential conflicts of interest in this area, e.g. some of the important research on the MTPE had been sponsored by the mobile OCPs and some of the researchers were engaged by Ofcom as advisors.[216]

A8.352 A number of SPs (Lexgreen Services, 24 Seven Communications) also argued that there was insufficient evidence to support the idea that the TPE existed. 24 Seven Communications disputed whether a tariff rebalancing effect would occur if caps were placed on the charges OCPs made.

A8.353 Magrathea believed that Ofcom had overestimated the TPE. It argued that there was no evidence to suggest that profits from NGCs were subsidising low prices to geographic numbers. This is particularly the case for mobile OCPs whose margins on many non-geographic number ranges were excessively high. Magrathea commented that some OCPs were making excessive margins on NGCs by exploiting consumers.[217]

A8.354 [✂] commented that it was possible, though unlikely, that "waterbed" effects would apply. However, it believed they did not exist to the extent sometimes argued by Ofcom. Additionally, it argued that such effects could not be considered in isolation and could only be truly considered when the impacts on other interconnected networks' own "waterbeds" were included in the analysis.[218]

A8.355 BT noted that Ofcom identified that fixed OCPs were as likely to be subject to a tariff package effect and not just the mobile OCPs. BT argued in the context of recent disputes that any MPTE could be counterbalanced by a fixed termination package effect given that TCPs also provided multiple products often in competitive packages to mobile OCPs.[219]

A8.356 Contrary to the comments from stakeholders set out above, Three agreed with Ofcom's TPE assessment. It commented that if price caps (at a low level) were

[213] BT, December 2010 Consultation response, annex 4, page 44, paragraph 17-20.
[214] BT, December 2010 Consultation response, page 43, paragraph 8.
[215] BT, December 2010 Consultation response, annex 4, page 44, paragraph 15.
[216] BT, December 2010 Consultation response, annex 4, page 45, paragraph 24.
[217] Magrathea, December 2010 Consultation response, page 3.
[218] [✂]
[219] BT, December 2010 Consultation response, page 24; and annex 4, page 43, paragraph 9.

introduced for NGCs, some rebalancing might occur, but this rebalancing effect was unlikely to be complete.[220]

A8.357 Other stakeholders commented on whether the TPE was complete or incomplete.

A8.358 EE argued that mobile consumers benefited from retail competition through the TPE through lower bundle prices. EE commented that it had argued in the 080/0845/0870 CAT appeals that it considers the MTPE to be complete. EE therefore concluded that overall consumers were served well by the market.

A8.359 In addition, EE commented that Ofcom's tariff package analysis is inconsistent with pricing evidence recently published by Ofcom on mobile tariff packages. EE commented that Ofcom argued that consumer uncertainty and the resulting consumer overestimate of non-geographic call prices leads to lower demand for NGCs and therefore lower revenue for OCPs. In response, OCPs may be, under the tariff package effect, recovering these lost revenues by raising prices for other services to higher levels than they should be at, to the detriment of consumers. EE argued that, in contrast, Ofcom data on mobile tariff packages demonstrated that overall the UK had the lowest tariff prices and by a significant degree compared to other comparable large EC countries as well as the US.[221]

A8.360 Virgin Media considered that should retail charges for NGCs be driven down to any material extent, the impact on consumers could be appreciable. It set out its belief that many OCPs diverted profit from NGCs into supporting lower charges for services in other markets in particular and/or to support this provision of bundled services. It commented that should NGC charges be subject to material downward pressure, it was very likely that this dynamic would be altered, which would not only be disruptive but would not reflect consumer preferences.[222]

Ofcom's response

A8.361 Before responding to stakeholders' comments, we start by explaining the role of the TPE in our analysis. Essentially TPE arguments refer to the fact that if we corrected some market failure which led to lower prices on some services (i.e. NGCs), this may potentially result in price increases for other services. Hence, the TPE could be considered as a side effect of regulatory intervention.

A8.362 The regulatory question is as follows. Assuming that intervention is appropriate, are the benefits which we believe accrue from intervening on that particular market or services counterbalanced by the impact this will have on other services? Hence, the TPE would matter insofar as the TPE substantially reduced the benefits of intervention in the first place. If, for example, better price information increased consumers' price awareness and this reduced prices on NGCs but led to increases in other charges this should not necessarily be seen as a negative outcome. It is only negative overall if the impact of the increases in other services more than outweighed the original benefit.

A8.363 Our position is that it is likely that the TPE exists and is significant, but it is unlikely to be complete. This is consistent with the academic literature and previous decisions made by Ofcom, the Competition Commission and the CAT. Below, we set out the research and decisions to date relating to the TPE.

[220] Three, December 2010 Consultation response, page 16, paragraph 50.
[221] EE, December 2010 Consultation response, page 39, paragraph 10.
[222] Virgin, December 2010 Consultation response, page 15.

A8.364 Most of the research has been conducted in relation to regulatory intervention to cap the level of mobile call termination rates. The question in that context was to what extent this resulted in price increases of other services. There is a range of working papers on this topic,[223] but we briefly summarise here the only such papers which have been published in peer-reviewed academic journals, i.e. two papers by Genakos and Valletti.[224] The first paper confirms that there is a waterbed effect and that it is incomplete. The second paper argues that the waterbed effect differs depending on the type of consumers. Genakos and Valletti performed their analysis separately for contract and prepay customers. They found that the waterbed effect is stronger for contracts than for prepay – i.e. retail charges increased more for the former than the latter. Furthermore they estimated that for contract consumers, most of the increases come in the form of higher fixed rather than call charges.

A8.365 The CC accepted the relevance of the waterbed effect when assessing the level of the mobile termination price caps in 2009. There are numerous references to it in the CC's Mobile phone wholesale voice termination charges Determination (16 January 2009),[225] such as (paragraphs 8.81 and 8.96):

- "As there has been no dispute that the waterbed effect is strong…"
- "… one cannot ignore the fact that when it comes to MNOs which also operate in the retail market, there is a waterbed effect"

A8.366 In the 2011 MCT Statement, we examined this issue extensively and concluded that this meant that price increases from the waterbed effect were more likely to affect contract consumers (who are more likely to be made up of a smaller proportion of vulnerable consumers). The TPE is similar to the waterbed effect in mobile call termination. The difference is that the source of the waterbed may be different. In the context of this consultation, a TPE (either on fixed or mobile) could occur from two types of interventions. First, if we restricted the revenues mobile OCPs make from 080 calls, there could be a mobile TPE. Secondly, a similar effect could happen if we adopted either unbundling or maximum prices and this had the effect of reducing returns from NGC calls for OCPs.

A8.367 Furthermore, in the CC's Determination in the appeals of Ofcom's decision on mobile termination charge caps in 2012, the CC agreed with Ofcom that the waterbed effect is strong but incomplete.[226] The same Determination indicated the waterbed effect should be taken to be more than 50%.[227]

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[223] For example, see the summary of the literature in paragraphs A2.182-A2.187 in the December 2010 Consultation.

[224] Genakos and Valletti (2011), Testing the 'waterbed' effect in mobile telecommunications, Journal of the European Economic Association, 2011, Volume 9, 1114-1142; and Genakos and Valletti (2011), Seesaw in the air: Interconnection regulation and the structure of mobile tariffs, Information Economics and Policy, Volume 23, Issue 2, June 2011, 159-170

[225] http://www.competition-commission.org.uk/appeals/communications_act/mobile_phones_determination.pdf

[226] CC, Wholesale mobile voice call termination price control appeal determination, 9 February 2012,, paragraph 2.595: http://www.competition-commission.org.uk/assets/bispartners/competitioncommission/docs/appeals/telecommunications-price-control-appeals/final_determination.pdf

[227] CC, Wholesale mobile voice call termination price control appeal determination, 9 February 2012, paragraph 5.52: http://www.competition-commission.org.uk/assets/bispartners/competitioncommission/docs/appeals/telecommunications-price-control-appeals/final_determination.pdf.

A8.368 In addition, we refer to the 0845/0870 Dispute Determination.[228] In this case, when examining the TPE in the context of non-geographic calls, we noted our conclusion in the MCT Statement that the waterbed effect in MTRs was unlikely to be 100% complete[229], suggested that the TPE was likely to be at least as complete as the waterbed effect in mobile termination[230] and that the TPE is “significant, although its precise speed and scale is uncertain”.[231]

A8.369 Finally, the findings from the 08X CAT Judgment (in the appeal of our 0845/0870 and 080 Dispute Determinations) are also relevant:

- the CAT’s Judgment considered the size of the TPE, drawing on evidence in relation to the waterbed effect arising from changes in mobile call termination. It noted that

- “Dr. Valetti – as the author of the only detailed study of the water [sic], albeit not as regards this market – was clearly best placed to comment on the likely size of the Mobile Tariff Package Effect, and the fact that he felt himself unable to do so (because of a lack of empirical evidence) we find telling.”[232]

- “Reaching any kind of conclusion as to the extent of the Mobile Tariff Package Effect is thus extremely difficult. Basing ourselves mainly on the evidence of Professor Valetti, we find that the waterbed effect in the present case would be significant, but otherwise impossible to quantify. We should say that by significant we do not mean to suggest that the Mobile Tariff Package Effect would exceed 50%. It may do, it may not – we simply do not know.”[233]

A8.370 There could be an argument (that stakeholders have not raised yet) similar to the one made for mobile call termination and which is linked to the TPE. It is that, if 080 revenues are constrained by our intervention, mobile OCPs could try to increase charges of other services. Mobile OCPs could argue that vulnerable consumers will bear the brunt of these increases and hence they will not be better off. However, based on the findings of Genakos and Valletti, we do not think that this is likely. As discussed above, the second study found that the MTPE is strongest for consumers with monthly, post-pay subscription contracts. These consumers are less likely to have low income than those subscribing to pre-pay tariffs. Consequently, we do not believe that vulnerable consumers will be disproportionately affected by being charged higher prices than consumers that are better off

A8.371 Finally, we now address a number of specific points made by stakeholders.

A8.372 Firstly, EE commented that Ofcom’s tariff package analysis is inconsistent with pricing evidence recently published by Ofcom on mobile tariff packages. This evidence suggests that Ofcom’s mobile pricing is relatively cheap compared to France, Germany, Italy, Spain and the USA. Indeed evidence from Ofcom’s latest ICMR and Consumer Experience reports suggest that this is still the case.

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[228] Ofcom, *Determination to resolve a dispute between BT and each of Vodafone, T-Mobile, H3G, O2, Orange and EE about BT‘s termination charges for 0845 and 0870 calls*, 10 August 2010.
[229] 0845/0870 Dispute Determination, paragraph 7.146.
[230] 0845/0870 Dispute Determination, paragraph 7.147.
[231] 0845/0870 Dispute Determination, paragraph 9.26.
[232] 08X CAT Judgment, paragraph 363.
[233] 08X CAT Judgment, paragraph 364.

A8.373 We disagree that this provides evidence that is inconsistent with our TPE analysis, however. We accept that, according to the Consumer Experience Report, the UK's mobile prices are more competitive than those countries it is compared with. However, international telecoms price differences may be due to a range of factors that are unrelated to non-geographic calls (competition, differences on network costs, differences in network utilisation etc). In any event, the relative competitiveness of UK prices compared to other countries does not mean relative prices in the UK are not distorted by the tariff package effect.

A8.374 As set out in paragraphs 5.42 and 5.43 of the December 2010 Consultation, there are two implications of the tariff package effect for OCPs. First, a lack of consumer awareness of the price of NGCs allows OCPs to increase their NGC charges and, via the tariff package effect, lower charges for other services (the impact on OCPs' overall profits is unclear). Second, callers are discouraged from making NGCs as a result of uncertainty about the price and their overestimation of NGC charges. This reduction in demand has a negative impact on OCPs who forego revenue that they would earn if callers did not overestimate NGC charges and instead made more of these calls. Via the tariff package effect, this loss of NGCs' revenues may mean that prices for other services may also be higher than otherwise. Since these effects concern the way in which OCPs choose to set the relative prices of NGCs and other types of calls, a comparison of absolute price levels with other countries does not seem relevant. Our TPE analysis would still hold if the UK had the least competitive prices compared to other countries. Furthermore, we note that that the size of the TPE on other prices is unlikely to be large enough to cause such a significant difference in prices that would show up as a clear effect in international comparisons, particularly given the fact that as noted above the effect could be either positive or negative.

A8.375 Secondly, as regards BT's reference to the study (for Ofcom) by Veronese and Pesendorfer, we do not dispute the authors' academic credentials. But we note that the study was conducted for a different purpose than assessing the waterbed effect and we do not consider it provides sufficiently relevant or reliable evidence to overturn findings by the Competition Commission and the CAT as well as Ofcom.

A8.376 Thirdly, we disagree with BT's allegation about conflicts of interest. The material we have referred to above, other than previous Ofcom decisions, is two academic papers published in peer-reviewed journals and decisions by the Competition Commission and the CAT.

A8.377 Fourthly, as regards BT's suggestion of a counterbalancing fixed termination package effect, we considered this argument in the 0845/0870 dispute – i.e. that if vertically integrated TCPs earn higher profits from termination of 0845/0870 calls they might pass on some or all of these increased profits to consumers via lower prices for services such as fixed access, fixed calls or broadband. We have set out our response to this argument in further detail in Annex 10. In summary, we gave it little weight on the grounds that no clear incentive has been identified to underpin this effect.

A8.378 Finally, as regards Virgin Media's suggestion that any TPE would be disruptive and not reflect consumer preferences, we disagree. As discussed in paragraphs A8.330 - A8.332 above, the difference in customer awareness between NGC prices and other aspects of OCPs' retail offerings creates strong incentives for OCPs to increase NGC prices in order to reduce prices where visibility is higher. The resulting tariff structure is likely to result in relative prices which reflect differences in awareness of prices rather than true customer preferences.

Summary of Ofcom's position on relative prices not reflecting consumer preferences

A8.379 We accept that there are a number of reasons why the price of NGCs may be higher than the price of other calls. Indeed, we are not arguing that a situation where NGC prices are higher than the price of other calls is necessarily an inefficient outcome. However, the fact that consumer price awareness is so poor, coupled with the vertical and horizontal externalities, means that we do not believe that current price levels truly reflect consumers' preferences. We do not believe that there is sufficient competitive pressure on OCPs and SPs compared to geographic calls to maintain price levels for NGCs that reflect efficiency. On the TPE, we conclude that it exists but is unlikely to be complete. Consequently, prices for NGCs are more likely to be higher than the price of other call types because of the market failures identified. Thus, although there could be legitimate reasons for the prices of NGCs to be relatively higher, it is more likely that relative price levels do not reflect an efficient outcome.

Loss of access to socially important services, particularly for vulnerable consumers

A8.380 The third outcome of the three market failures identified by Ofcom was that some consumers struggle to access socially important services.

Summary of Ofcom's analysis in the December 2010 Consultation

A8.381 In the December 2010 Consultation, we argued that uncertainty about the call price, overestimation of the call price and relatively high call prices from some OCPs are all likely to increase the extent to which consumers adopt call avoidance strategies. Callers prefer to use their landline to make NGCs, rather than their mobile phone. Despite the rise of the internet and online access, callers say they are generally not aware of alternatives to making a telephone call. Moreover, we argued that web access is not a panacea. Even where this is convenient (i.e. access is available in the home or place of work), contacting a company by email or relying on standardised FAQs on company websites may be less flexible for some queries than speaking to that company via the phone.

A8.382 We also argued that low income households were more likely to rely solely on a mobile phone, which tend to be more expensive to make NGCs than fixed lines. In addition, we noted that low income households were less likely to have access to alternatives such as contacting the SP via the internet. It is, thus, more difficult for these households to access socially important services affordably. For example, vulnerable callers can end up paying high prices for calls to essential public services such as some doctors' surgeries. HM Revenue and Customs also use 0845 numbers. The CAB also highlighted important private sector services such as helplines for gas suppliers which have numbers which would be low rate from a BT landline but were considerably more expensive for mobile customers.

A8.383 Overall, we concluded that low income (socioeconomic groups D and E), mobile only households were more likely to pay high prices to access important public services which had a proportionately higher effect relative to income. Alternatively, they might take onerous actions to avoid making such calls such as seeking out public payphones or calling from a local CAB.

Stakeholders' comments and Ofcom's response

A8.384 The mobile OCPs were critical of Ofcom's conclusions in this area. In addition, NEG argued that Ofcom's proposals could reduce consumer access to socially important services.

A8.385 Conversely, the CAB agreed with our conclusions, presenting evidence that consumers had suffered as a result of the current system.

A8.386 We have grouped the main arguments made by stakeholders in response to our conclusions on this issue under the following headings:

- no evidence that vulnerable consumers have a preference for using NGCs more than other services;
- most "socially important" services are already on Freephone or geographically rated services;
- the problem arises because of the SPs' choice of number range;
- there are alternative options to provide access to vulnerable consumers;
- models already exist that allow callers to minimise the cost of accessing public services; and
- Ofcom's regulatory decisions could, unintentionally, reduce consumers' access to "socially important" services; and
- cost avoidance strategies are not disproportionately costly.

Initial Ofcom comments on access to socially important services and updated analysis

A8.387 In light of comments received from stakeholders and a re-visiting of the facts, we have sought to more precisely articulate the nature of our distributional concern.

A8.388 In summary, vulnerable consumers may be deterred from making calls to socially important services for two main reasons:

i) the level of actual prices e.g. they cannot afford to make the call; and

ii) they overestimate the actual price of the call.

A8.389 In addition, the current market failures create an environment in which these problems are more likely:

- it is difficult for consumers to select an OCP that offers cheap non-geographic calls;
- indeed because poor price awareness limits competition between OCPs, the actual price of non-geographic calls is likely to be increased (see paragraphs A8.309 - A8.379; and
- because of poor price awareness, SPs providing socially important services may face less pressure to select number ranges that are low cost to call.

A8.390 We now discuss this in further detail. Specifically, we:

i) define what we mean by vulnerable consumers;

ii) define what we mean by socially important services; and

iii) assess the impact of our distributional concern on demand.

Vulnerable consumers

A8.391 Vulnerable consumers comprise of several overlapping categories:[234]

- low income households. In the 2010 consumer survey, 11% of respondents were in group D and 12% were in group E;[235]
- consumers in households that are involuntarily mobile-only. In 2010, approximately 4% of households did not have access to a fixed line for involuntary factors, mainly affordability (a further 7% of households voluntarily do not have access to a fixed line);[236] and
- Elderly and/or disabled consumers that are dependent on telecoms e.g. because they have mobility difficulties.

A8.392 These consumers are disproportionately likely to be adversely affected by the current regime for non-geographic calls. Specifically, low income consumers:

- are more likely to demand calls to socially important numbers.[237] The CAB surveyed their clients in relation to non-geographic calls (the '2010 CAB Survey').[238] 63% of mobile-only respondents said they had called a government helpline in the last six months and some had done so frequently;[239]
- are more likely to be deterred from making non-geographic calls, however, due to the actual and/or expected price (due to their low income);

[234] This is a slightly different definition to vulnerable consumers to that is used in our latest review of mobile call termination. There we looked specifically at consumers with an income of under £11,500, those in groups D and E and those that were mobile only. 2011 MCT Statement, paragraph 8.119. We have adjusted our definition to reflect our specific concerns in this review.
[235] Responses to question D3. We also asked about respondents' personal income but 54% refused to answer.
[236] The 2011 Consumer Experience Report, Figure 81 on page 56 and Figure 80 on page 55.
[237] Socio-economic group E is defined as those on the lowest levels of subsistence, including all those dependent upon the state long-term, casual workers and those without a regular income. By definition these individuals are more likely to be reliant on accessing state benefits.
[238] Questionnaires were placed in bureau in November-December 2010. 3,850 responses were received. 40% of respondents stated that they did not have a landline in their home and instead only had a mobile phone. The CAB recognised that this proportion is higher than the figure for individuals in socio-economic group DE as a whole (just under 30%) and thus their survey may not be representative of DE consumers as a whole. CAB December 2010 Consultation response, pages 2 and 4.
[239] 30% of all respondents had contacted a government helpline three or more times in the last 6 months and 15% had done so six or more times. Since mobile only respondents were more likely than respondents in general to have contacted a helpline (63% compared to 51%) it seems plausible that these figures may be higher for mobile only respondents. CAB, December 2010 Consultation response, pages 2 and 5.

- may have less access to alternatives to non-geographic numbers. In the 2010 Consumer survey we asked respondents whether they were aware of any alternatives to having to call numbers starting with 08 and 09. Respondents in socio-economic group DE were slightly (but statistically significantly) more likely to be unaware of alternatives (75% for DE compared to 68% for all respondents).[240] The main alternative that respondents identified was use of the internet. However members of socio-economic group DE are generally less likely to have access to the internet. Only 56% of members of this group have access to the internet at home (compared to 76% for consumers as a whole).[241] Only 20% of this group use their mobile phones to access the internet (compared to 32% for consumers as a whole);[242] and

- are more likely to be mobile only. 25% of DE households are mobile only compared to an average of 15%.[243]

A8.393 Non-geographic calls are generally cheaper, and also perceived to be cheaper, from landlines. However members of a mobile only household find it more difficult to use a landline to call these numbers. They are thus particularly likely to be affected by high actual and expected mobile call prices.

A8.394 In summary, vulnerable consumers that are dependent on mobile telecoms are particularly likely to be excluded from socially important services by high actual/expected call prices (since if they do not call that service they are likely to find it very difficult to access it).

<u>Socially important services</u>

A8.395 Given the diversity of services offered via non-geographic numbers, it is difficult to be completely precise about what constitutes a socially important service. We accept that there are inevitably grey areas. However, the broad categories of services that we consider that are likely to be socially important, as set out in Section 5 of this document, are:

- Health e.g. GPs' surgeries;

- Benefits payments e.g. access to unemployment and invalidity benefits and state pensions;

- Social care provided by the public sector;

- Social care provided by the charitable sector e.g. helplines such as the Samaritans; and

- Utilities e.g. gas, electricity and water supply.[244]

A8.396 It seems likely that socially important services are concentrated on the 080 and 0845 number ranges where they appear to account for a minority of total NGCs,

[240] 2010 Consumer survey, Q30. The mobile-only figure (71%) was not statistically significantly different from the overall figure.
[241] Ofcom, CMR August 2011, Figure 4.17 on page 209.
[242] Ofcom, CMR, August 2011, Figure 4.5 on page 197.
[243] The 2011 Consumer Experience Report, Figure 27 on page 25.
[244] This is consistent with legal restrictions on residential properties having their water supply disconnected and with special allowances for fuel for the elderly in the winter.

depending on how we define socially important services. For example, roughly around 10% of SPs appear to provide access to socially important services on these number ranges and roughly between 20-30% of calls to these numbers appear to be for socially important services (see Section 15). In addition, calls to some 080 services are already free from mobiles.[245]

A8.397 Note, however, that even vulnerable consumers call these numbers relatively infrequently. In the 2010 Consumer survey we asked respondents how often they call various numbers from their mobile phone and the 080 and 0845/0870 responses for various groups of respondent are set out below.[246]

Table A8.16: Mobile 080 calls

	DE and mobile only consumers	Mobile only consumers	DE consumers	All consumers
Regularly (every week)	3%	2%	1%	1%
Sometimes (every month)	16%	11%	9%	6%
Rarely (less than once/month)	28%	32%	16%	18%
Never	53%	55%	74%	75%

Source: 2010 Consumer survey, Q25: *"How often do you make calls to the following numbers from your own mobile?*

Table A8.17: Mobile 0845/0870 calls

	DE and mobile only consumers	Mobile only consumers	DE consumers	All consumers
Regularly (every week)	5%	4%	3%	2%
Sometimes (every month)	16%	11%	9%	6%
Rarely (less than once/month)	24%	26%	14%	14%
Never	55%	59%	75%	78%

Source: 2010 Consumer survey, Q25: *"How often do you make calls to the following numbers from your own mobile?*

Impact on demand

A8.398 High actual or expected call prices can deter consumers from making calls. We regard access to socially important services as particularly important. Given the nature of these services, consumers are likely to be particularly disadvantaged if they are unable to access them. Moreover Ofcom also has particular duties in relation to citizens (see Section 5). We have a particular concern if citizens are impeded from accessing services such as healthcare, state benefits or social care by the operation of the non-geographic call regime.

A8.399 There is evidence of the scale of the impact on demand. This is set out below:

245 This ranges from between 7% and 48% depending on the originator.

246 Note that these tables do not shed light on the extent of deterred demand (it depends on how much higher demand would be if we were to intervene).

- the CAB provided examples of individuals who struggled to obtain state benefits as a result of the cost of making calls to non-geographic numbers. This was compounded by the potential length of calls, including time whilst on hold, and difficulties in being put through to the correct official;

- the 2010 CAB Survey asked respondents whether they had been deterred from calling a helpline by the high cost of mobile calls (see table A8.14 above);

- other evidence as to whether consumers are deterred from making non-geographic calls to socially important services is mixed. On the one hand, evidence from the Samaritans suggests that mobile call prices may be deterring some callers (see paragraph A8.262). On the other hand, our analysis of the total volume of call minutes to DWP's helplines did not discern any increase as a result of making these calls free (see paragraph A8.263). There is also evidence of avoidance strategies. The CAB has highlighted that people often visit them for the purposes of making phone calls:

- in a 2008 survey of CAB clients, 93% said they "frequently" make simple client phone calls to government from their bureau, due in whole or in part to the cost to clients of calling government departments from a mobile phone; and

- the 2010 CAB Survey asked respondents whether they had ever requested the CAB or another organisation to call a helpline because they could not afford to do so themselves. 20% of mobile-only respondents and 15% of respondents overall replied yes.

A8.400 While these individuals are able to call socially important services with the aid of Citizens Advice, these statistics illustrate the impact that high actual and expected call prices can have. We are especially concerned about vulnerable consumers who are unable to make use of alternatives such as visiting a CAB, for example because they have mobility difficulties or because they do not live close to a bureau.

A8.401 We now respond to the specific comments made by stakeholders about our distributional concern.

No evidence that vulnerable consumers have a preference for using NGCs more than other services

Stakeholder comments

A8.402 O2 highlighted that Ofcom's argument that it would be a concern if the distortion resulted in "vulnerable" consumers and citizens being worse off was not a valid argument without evidence showing that vulnerable consumers had a preference for making NGCs more than other mobile telephony services.[247]

Ofcom's response

A8.403 We believe that O2 has slightly mischaracterised our concern. The issue is not whether vulnerable consumers have a preference for making NGCs more than other telephony services. We are concerned about whether vulnerable consumers are able to access socially important services via NGCs. Nonetheless, evidence

[247] O2, December 2010 Consultation response, page 27, paragraph 106.

from the CAB suggests vulnerable consumers are more likely to call socially important numbers.

Most "socially important" services are already on Freephone or geographically rated services

Stakeholder comments

A8.404 O2 argued that Ofcom's own findings showed that the majority of 'socially important' services were operated on Freephone or geographically-rated ranges.[248] EE argued that not all services provided on non-geographic ranges were "essential". EE noted that it already provided free access to some essential services - e.g. key Government helplines and certain charities - through bilateral agreements. EE commented that in general, low income customers were currently well served by mass market and competitive pay-as-you-go offerings.[249] O2 highlighted that industry was mindful of vulnerable consumers, using the example of successful negotiations to offer free mobile calls to services operated by the DWP.[250] O2 also referred to the fact that services offered on numbers provided by members of the THA currently incurred no origination costs at all. According to O2, this was an example of an arrangement being agreed in order to ensure that all mobile customers did indeed have access to socially important services.[251]

Ofcom's response

A8.405 We are aware of examples of socially important services that are free to caller either on fixed or mobiles, namely the DWP example, but also to some charities. However, our concern is that there are some socially important services which are not free to call. Although we recognise the problem will therefore not arise in the context of every socially important service, we are concerned that customers are deterred from making very important calls in some instances. The number of such calls need not be very large for the social costs to be high given the nature of the services provided. We accept that not all services provided on non-geographic ranges are "essential" but, as set out above, some SP's providing services that are important to consumers have not been able to negotiate successful deals with OCPs.

A8.406 Even if the majority of socially important services were on Freephone or geographically rated services, as argued by O2, they would not be either free or priced at geographic call rates from mobiles. Table A2.5 of the December 2010 Consultation illustrates the range of prices that mobile consumers currently might expect to have to pay.

The problem arises because of the SPs' choice of number range

Stakeholder comments

A8.407 EE argued that the choice of number range by SPs was exacerbating the problem – ultimately it was up to the SP which number range they chose. EE commented that many socially important SPs had chosen revenue sharing ranges over other

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[248] O2, December 2010 Consultation response, page 27, paragraph 106.
[249] EE, December 2010 Consultation response, page 27-28, paragraphs 24-28.
[250] O2, December 2010 Consultation response, page 28, paragraph 109.
[251] O2, December 2010 Consultation response, page 28, paragraph 107.

available choices because they needed revenue to help subsidise the service that they provide, which was a valid commercial/policy prerogative.[252]

Ofcom's response

A8.408 We accept EE's point and there may be cases of SPs providing socially important services opting for revenue sharing number ranges. Indeed, as discussed above, some SPs may take advantage of the possibility to hide revenue sharing under the current regime. We agree that this might exacerbate the problem.

A8.409 Any changes to the current system that make a SP's choice to opt for revenue sharing clear and visible to callers and consumers should reduce this type of behaviour. As stated in our previous recommendation, it is inappropriate for public bodies to rely on chargeable 08 numbers exclusively, particularly when dealing with people on low incomes or vulnerable groups.[253]

<u>Models already exist that allow callers to minimise the cost of accessing public services</u>

Stakeholder comments

A8.410 Vodafone commented that Ofcom's appeal to distributional concerns appeared to centre on mobile only households who were predominantly pre-pay users. Vodafone commented that there were already models available that allowed public bodies that provide public access to public services which can contain the cost to callers if appropriate - e.g. offers to call consumers back or commercial arrangements that support zero rating. It would not be appropriate for Ofcom to require mobile OCPs to cross-subsidise customer service in utilities.[254]

Ofcom's response

A8.411 We are not suggesting that (mobile) OCPs should bear the costs of calls to socially important services. We believe that SPs should have the choice to opt for a low charge range – i.e. like the geographically-rated ranges – or a range where the costs are borne by the SPs rather than the caller. As we have set out above, while some agreements to make 080 calls from mobiles free to callers have been successfully negotiated (namely to the DWP and agreements under the THA scheme), others have failed.

A8.412 Call back is an option available today but it does not provide an efficient alternative for SPs and callers to operate as it requires more time to complete the call and may not work for people calling from public phone boxes. Indeed the DWP previously offered call back to its customers but has noted that the process was found to be inefficient and this was one of the reasons they started the process of negotiating with the mobile OCPs to zero rate their numbers (an option which, as we have discussed above, is not necessarily practical or cost-effective for all SPs).

<u>Ofcom's regulatory decisions could, unintentionally, reduce consumers' access to socially important services over the phone</u>

Stakeholder comments

[252] EE, December 2010 Consultation response, page 27, paragraphs 26-28.
[253] http://stakeholders.ofcom.org.uk/consultations/nts_forward/
[254] Vodafone, December 2010 Consultation response, pages 33-34, paragraphs 143-147.

A8.413 NEG argued that an unintended consequence of Ofcom's proposals could be that the number of patients choosing or able to deal with their GP or other Primary Care setting by telephone instead of face to face was reduced rather than increased.

A8.414 NEG argued that this is because the unfair and inaccurate perception of the cost of using 084 numbers in the NHS, which it believes would be created by Ofcom's proposed logos and code, would cause unwarranted public pressure to mount for GP and other Primary Care organisations to abandon 084 solutions entirely. NEG did not believe that a significant proportion of them would be likely to use 03 numbers as an alternative. This, NEG argued, is because the 03 range does not provide a natural fit with a Primary Care marketplace which is built on thousands of locally based SMEs who do not require a national presence.[255]

A8.415 NEG argued that, as a result of the above, the benefits of enhanced telephony could be lost to significant parts of the NHS, resulting in damage to quality of patient services. The predictable outcome of surgeries not using enhanced telephony is that millions of patients encounter the engaged tone when they try to contact their local surgery.[256]

Ofcom's response

A8.416 We do not accept that our proposals will reduce people's access to health services. The impact of Ofcom's proposals will simply be that transparency is increased, in that callers will know how much each party (OCPs and SPs) will earn from each call. We are not saying that GPs and primary care organisations must use other number ranges.

A8.417 We accept that the 03 range may initially be less attractive as an alternative for 084 numbers in the sense that it is a relatively unknown range and, as discussed above, many SPs are reluctant to adopt a number range which callers do not recognise (though we expect this situation to be improved by our recommendations). However, it should be noted that the 03 range, as well as geographic number ranges, are able to provide the same enhanced telephony services as 084 numbers. So if GPs and primary care organisations did decide to use different number ranges, viable alternatives exist that would still allow callers to avoid the engaged tone.

<u>Costly avoidance strategies are not disproportionately costly</u>

Stakeholder comments

A8.418 EE argued that cost avoidance strategies are, in fact, not disproportionately costly to consumers, as they are simply being shrewd and avoiding costs.[257] EE, however, did acknowledge there is a problem with PAYG mobile-only consumers, but points out that it has taken steps proactively to address accessibility concerns (although it did not specifically detail the steps it had taken) and highlighted the DWP case as an example where progress has been made with charities and organisations that look after the social wellbeing of consumers.[258]

[255] NEG, December 2010 Consultation response, page 19.
[256] NEG, December 2010 Consultation response, page 15.
[257] EE, December 2010 Consultation response, page 25, paragraphs 13-14.
[258] EE, December 2010 Consultation response, page 25, paragraph 16.

A8.419 Virgin Media and Three argued that Ofcom had overstated the extent of avoidance costs because Ofcom's evidence was inconclusive.[259] While Three agreed that poor price transparency and poor incentives could lead to the five areas of consumer detriment, it argued that further evidence was required to support the statement that consumers adopt costly avoidance strategies. Three argued that most of the evidence on avoidance strategies was anecdotal and related to a minority of consumers. However, Three did agree that if avoidance strategies were used, they were more likely to be used by low-income vulnerable consumers.[260]

Ofcom's response

A8.420 We accept that cost avoidance strategies are not always disproportionately costly to consumers but we have evidence to suggest that they can be in some cases. Whilst this evidence is anecdotal and affects a minority of customers, we do not consider this invalidates it given the nature of our concern, which relates to a problem directly affecting relatively few people but with very significant social costs.

Summary of Ofcom's position on access to socially important services

A8.421 As a result of the market failures identified, we are concerned that a small sub-set of vulnerable consumers are acutely affected by problems in the market. In particular, these consumers are deterred from making calls to services that are important for their social welfare.

A8.422 We accept that this only affects a specific set of consumers which may be a specific symptom of the wider problems we find in the market. But in our proposals we are not mandating that certain consumers' access to the services discussed above should be subsidised. That would be a matter for government. We are simply concerned that the problems in the current market for NGCs may be leading some vulnerable consumers to lose access to socially important services. We consider that this is a legitimate concern given our duty to protect the interests of citizens and consumers.

Higher consumer vulnerability to fraud

A8.423 The fourth outcome of the three market failures identified by Ofcom was higher consumer vulnerability to fraud.

Summary of Ofcom's analysis in the December 2010 Consultation

A8.424 In the December 2010 Consultation, we argued that poor consumer engagement with, and understanding of, non-geographic call services contributed to an environment in which consumers were ill-equipped to recognise/minimise their exposure to fraud. We noted several examples of this occurring on the 070/076 ranges in particular.

Stakeholders' comments and Ofcom's response

A8.425 The majority of submissions from stakeholders argued that fraud was not a problem for all non-geographic number ranges; rather, these problems tended to be isolated to the 070 and 09 ranges. Three and Vodafone disagreed that the current system encouraged more fraud than on other number ranges.

[259] Virgin Media, December 2010 Consultation response, page 12.
[260] Three, December 2010 Consultation response, page 10, paragraph 33.

A8.426 The Serious Organised Crime Agency ('SOCA') presented examples of scams on the 070 range.

A8.427 Given that there were relatively few comments made about consumers' vulnerability to fraud, we have dealt with all the comments together, rather than grouping them into categories as we have done previously.

Specific Stakeholder comments

A8.428 O2 argued that not all number ranges were exposed to fraud. O2 agreed that the 070 range in particular exposed customers to a greater risk of fraud and blamed Ofcom for ignoring industry warnings that it would be confusing for consumers (due to the similarity with mobile numbers).[261] O2 also highlighted that customer exposure to fraud was likely on the 09 and 118 ranges because of the opportunities for high levels of revenue sharing. However, it did not see similar levels of risk on the 0800, 084X and 087X ranges. In order to present a precise assessment of potential consumer detriment, O2 argued that Ofcom must be more specific about the exposure to fraud on each number range.[262]

A8.429 EE agreed that fraud was a valid consumer protection concern but, as with O2, disagreed that it affected all NGCs. Instead it argued that it affected only 070 and 09 number ranges.[263] Virgin Media agreed with O2 and EE, arguing that fraud evidence only related to 070/076. It argued that fraud was founded on a lack of consumer "cognisance and understanding" – price transparency and prices are considered to be second order factors.[264]

A8.430 The CAB agreed with the OCPs above to the extent that it stated that evidence received by the bureaux suggested that consumers who used premium rate (09) numbers might fall victim to scams and fraud[265]; and that action should be taken to address the confusion and potential for fraud which exists due to the similarity of 070 and 076 numbers to mobile numbers.[266] The CAB also highlighted a case in which a consumer exposed to an 09 scam was left extremely confused and anxious.

A8.431 Three argued that further evidence was required to prove that there was a higher risk of fraud for NGCs compared to other calls. Three considered that consumers' exposure to fraud might be driven, to some extent, by inadequate due diligence by Ofcom when allocating non-geographic numbers and so due diligence checks should be carried out on all companies applying for non-geographic number ranges.[267]

A8.432 Vodafone considered that Ofcom's simple equation between lack of price transparency and fraud overlooked where in the value chain the opportunity for fraud arose. Vodafone argued that the principal opportunity for fraud associated with NGCs stemmed from revenue share outpayments at the TCP/SP end of the value chain. It argued that this was not fundamentally a product of lack of price transparency but of termination charges pitched at a level that allowed a substantial surplus over the underlying cost of call termination. In addition, Vodafone

[261] O2, December 2010 Consultation response, page 24, paragraphs 94-96.
[262] O2, December 2010 Consultation response, page 25, paragraphs 98-99.
[263] EE, December 2010 Consultation response, page 26, paragraph 17.
[264] Virgin Media, December 2010 Consultation response, page 12**.**
[265] CAB, December 2010 Consultation response, page 4.
[266] CAB, December 2010 Consultation response, page 13.
[267] Three, December 2010 Consultation response, page 11, paragraph 34.

commented that consumers were not being lulled into these scams because of lack of price awareness – it was because they were intended to deceive. Finally, Vodafone highlighted that there were recognised and accepted ways of dealing with those out to commit fraud enforced by PPP – for example, the “30 day rule” and fines of up to £250,000 per breach of its Code of Practice.[268]

A8.433 SOCA commented that the 070 number range was an enabler of fraud and was being exploited by criminals involved in several types of mass marketing fraud. SOCA provided several case studies involving 070 numbers involving advance fee fraud – lottery/sweepstake fraud, employment fraud, dating/romance fraud, “boiler room” (or share-selling fraud) and inheritance fraud. SOCA highlighted that these frauds could involve significant amounts of money, noting one instance which caused a loss of £3m to consumers.

Ofcom’s response

A8.434 There are potentially many factors that make fraud easier. The issue is whether addressing some of the concerns identified could reduce the opportunity for fraud and potentially also reduce the need for the types of safeguards that are currently in place for premium rate services – i.e. PPP regulation.

A8.435 We would agree that the higher the revenue sharing opportunity the more attractive this will be to fraudsters/scamsters. However, lack of price transparency and confusion over what certain number ranges stand for is also important as it leads to consumer confusion and mistakes (e.g. 070/76 not being mobile calls, confusion between similar number ranges such as 0870/0871 and 0844/0845).

A8.436 With reference to Three’s point, we have introduced the Consumer Protection Test (CPT) for telephone number allocation which aims to ensure the best use of numbers and to better protect consumers from scams, fraud and other forms of abuse. The CPT focuses on companies and individuals that have used telephone numbers to cause serious or repeated harm to consumers. We will identify and publish lists of such individuals and companies and we will not allocate telephone numbers in the following number ranges to applicants who are on those lists:

- 070 personal numbers;
- 087 (excluding 0870) special services higher rate numbers; and

A8.437 09 premium rate numbers.[269] Overall, it would be preferable to reduce the source of frauds at the origin. Nonetheless, we agree that fraud is not a substantial concern in all of the number ranges considered under this consultation. Our concerns are specifically focussed on the 070/076 ranges (see Section 5 where we set out how we intend to deal with this issue).

Summary of Ofcom’s position on consumer vulnerability to fraud

A8.438 Consumers’ lack of price awareness does increase the potential for mistakes because they are often unaware of differences in number ranges. For example, they call what they think is a mobile number when it is a 070/076 number.

[268] CAB, December 2010 Consultation response, page 32, paragraphs 134-137.
[269] More information on the Consumer Protection Test is available on our website: http://stakeholders.ofcom.org.uk/telecoms/numbering/applying-activating-tele-no/consumer-protection-test/

Realistically however, fraudsters have mainly tended to focus on the 070/076 ranges that are easily confused with mobile numbers, rather than the non-geographic number ranges that receive much higher relative volumes of calls. Therefore we accept that consumers' vulnerability to fraud is not a significant concern in the context of this document – we intend to consult separately on the 070 and 076 number ranges later this year.

Diminished service availability and innovation for consumers

A8.439 Finally, the fifth outcome of the three market failures identified by Ofcom was that SPs have less incentive to invest in the range and quality of their services.

Summary of Ofcom's analysis in the December 2010 Consultation

A8.440 As we discussed in Section 4 and 5 of the December 2010 Consultation, the net result of the identified market failures is that SPs' incentives to invest and innovate are reduced.

A8.441 Of particular direct impact is the vertical externality. SPs have difficulty positioning a service to properly reflect consumer demand in terms of the relationship of price and service. Also some of the OCPs' behaviour, such as grouping of prices (i.e. all numbers of a type - e.g. 118 - being priced at the same level) undermines any attempt to differentiate either the headline price or the quality or features of the services (e.g. it is not possible to offer low cost follow-on calls from 118). The suppression of demand arising from the lack of price awareness and the horizontal externality may also contribute to a weakening of SPs' incentives to invest and innovate.

A8.442 Accordingly, consumers are not able to benefit from the potential range and diversity of services that non-geographic numbers could support.

Stakeholders' comments and Ofcom's response

A8.443 The mobile OCPs were critical of Ofcom's conclusions in this area.

A8.444 BT, however, agreed that consumer overestimation of NGC prices and vertical externalities resulted in SPs having less incentive to invest in new services. In addition, a number of SPs (The Number UK, Independent Radio News and 4D Interactive) agreed that the current system has damaged investment in new, innovative services.

A8.445 We have grouped the main arguments made by stakeholders in response to Ofcom's conclusions on this issue under the following headings:

- Ofcom has provided no evidence that innovation is deterred;
- even if SPs enjoyed increased interconnection payments this would not necessarily be used to innovate; and
- SPs can differentiate their offers by choosing a different number range or negotiating with the OCP.

<u>Ofcom has provided no evidence that innovation is deterred</u>

Stakeholder comments

A8.446 O2 considered that the diminished service availability and innovation for consumers' argument rests on unsafe assumptions. It argued that even if consumers' price awareness was increased, demand for NGCs was unlikely to increase and result in the positive outcomes to the extent that Ofcom suggests.[270] Vodafone argued that consumer price awareness was not necessarily the most important factor determining call patterns – a significant proportion of NGCs are 'locked in'. Therefore, the idea that lower prices and higher call volumes would result in significant investment and innovation for the benefit of consumers is, at best, a matter of conjecture.[271]

A8.447 Virgin Media commented that the current arrangements facilitated retail innovation and diversity. It argued that bundles, service packages and innovative/flexible tariffs were becoming increasingly popular and indeed valued by consumers.[272] Three argued that further evidence was required to prove that there was a loss of service diversity.[273]

Ofcom's response

A8.448 In Sections 4 and 5 of the December 2010 Consultation, we focused our concerns about incentives to invest and innovate in terms of service availability to citizens and consumers. The concern was that the presence of the three market failures identified could prevent some SPs providing certain services. This could be because either consumer confidence is reduced by the presence of market failures reducing demand for the SPs' services, or the current regulatory regime imposes strong constraints on the SPs' ability to offer some types of services. The better the incentives of SPs to invest and innovate, the more likely that the service range available via NGCs is more attractive to citizens and consumers. Hence, the more likely consumers could either access more valuable services and/or consume more of these services.

A8.449 Direct evidence of innovation is inherently difficult – it can arise in unpredictable ways from the actions of entrepreneurs, and the nature of innovation may sometimes only become clear after the event.[274] However, we present some evidence for why we believe current arrangements do not facilitate retail innovation and diversity, and provide some examples, in Annex 11.

A8.450 We have identified two primary means through which the current system of charges may be adversely affecting innovation in NGCs, namely suppressing demand for NGCs and restricting the control SPs have over retail prices. Annex 11 considers these channels in more detail and provides examples of each in practice.

A8.451 We note here that suppressed demand for NGCs means that some services which would be viable if customers had more confidence in these numbers are not currently attractive for SPs. For example, PPP finds that high mobile charges and a lack of consumer trust are dampening the use of PRS as billing systems, with a number of mobile payment services in the UK including City of Westminster and

[270] O2, December 2010 Consultation response, page 26, paragraph 102.
[271] Vodafone, December 2010 Consultation response, page 33, paragraphs 140-141.
[272] Virgin Media, December 2010 Consultation response, page 13.
[273] Three, December 2010 Consultation response, page 11, paragraph 34.
[274] For example, when Oftel decided to regulate NG numbers in 1996 to support revenue sharing, one of the rationales was to promote benefits to consumers in terms of an improved range and quality of services through competition at the terminating end. Oftel did not forecast the specific innovations that subsequently occurred, some of which were of great benefit to consumers such as the use of 0845 calls for pay-as-you-go dial-up internet access, initiated by Freeserve in 1998.

Arriva Buses recently choosing alternative options for collecting payments by phone.

A8.452 In addition, SPs' lack of control over retail prices has limited their options in terms of offering different price-quality packages, discouraged the use of funding sources other than revenue sharing (such as advertising) and reduced the potential for Freephone numbers to be used to encourage contact. These effects can be seen clearly in DQ services, where it is not possible for SPs in the UK to offer a number of recent innovations observed in other countries such as free real-time connections to tradesmen who bid to offer the service to the caller and other sponsored enquiry services.

A8.453 We accept Vodafone's point that a significant proportion of NGCs are 'locked in' in the sense that they have no choice of SP and limited choice about whether to make the call or not. However, as set out in paragraphs A8.101- A8.102 we consider the number of truly 'locked-in' calls on which there is essentially no scope to increase call volumes in response to either a reduction in price or an increase in consumer confidence to be low. This is because we consider there is scope for a degree of discretion over call volumes even by customers with no choice of SP, who may still be able to alter the frequency and duration of their calls We also note the potential for greater volume responses in the number ranges where calls are more clearly discretionary and consumers do have a choice of SP. Taken together, we consider there is significant scope for an increase in the volume of NGCs in response to a reduction in prices and/or an increase in consumer confidence. This increase in NGC call volume would be likely to attract greater investment in innovation as services that were not viable at lower call volumes become attractive for SPs to offer.

Stakeholder comments

A8.454 EE highlighted that there are no comments regarding stifled innovation in the 2010 SPs Survey. The only evidence EE says it can find to support this 'purely theoretically based conclusion' is anecdotal submissions made by the 118 SP TNUK.

Ofcom's response

A8.455 In response to the December 2010 Consultation, a number of SPs other than TNUK commented that investment and innovation was being stifled by the current regime, which suggests the problem is more widespread than EE has argued. In addition, these comments were supported by views gathered informally from resellers in October 2011, all of whom noted that the current arrangements were limiting innovation. Thus, we do not agree with EE's suggestion that the concerns are solely limited to Directory Enquiry providers.

Stakeholder comments

A8.456 Independent Radio News ('IRN') commented that retail overcharging had led to reduced consumer confidence in non-geographic numbers, which had subsequently stifled SP innovation and service provision. 4D Interactive commented that a lack of consumer awareness had lead to a loss of confidence in dialling PRS numbers and this had inevitably lead to a loss of revenue for the industry and has damaged investment in new services. Lexgreen Services commented that, as an SP, they had encountered no end of issues trying to launch new services only to find that many OCPs, in particular mobile OCPs, are failing to allow their customers to call other numbers at acceptable rates. It noted that recently a mobile OCP decided to increase the costs of calls to £1 premium rate numbers to £2 per minute.[275]

A8.457 Magrathea agreed with Ofcom's assessment and emphasised that the varied and innovative services which SPs have been attempting to bring to market have been completely undermined by the failure of certain OCPs to abide by the NTNP. Magrathea argued that mobile OCPs were taking most of the revenue and adding none of the value.[276]

A8.458 In addition to the comments from stakeholders above, TNUK commented that the mobile OCPs' control of retail pricing allowed them to set lower retail prices for calls made to their own DQ services, whilst it was unable to choose the same number of lower tariffs in order to compete. It argued the result of this was that DQ innovation and investment was severely disincentivised, encouraging the perpetuation of a utility based service threatening the very existence of standalone DQ service providers. TNUK also commented that it could not move to a fixed price per call pricing model because of call durations and lack of pricing control.[277]

A8.459 BT commented that SPs could not control how their service was priced compared to their competitors and this had an impact on their ability to position their service and their brand.[278]

Ofcom's response

A8.460 Comments from SPs above (TNUK, IRN, 4D Interactive and Lexgreen Services) indicate that they are not happy with the current arrangements and that they consider this is harming opportunities for them to bring new, innovative services to the market. However we note that they do not provide direct evidence of the current regime stifling innovation so we do not treat this as conclusive proof.

Even if SPs enjoyed increased interconnection payments this would not necessarily be used to innovate

Stakeholder comments

A8.461 O2 suggested that increased interconnect revenue would not flow to SPs, citing the failure of BT to do so when BT increased interconnect charges to 0845/0870 numbers. In addition, O2 highlighted Ofcom's important omission of any evidence to suggest that additional SP revenue would be directed back into service development.[279] Even if demand, and consequently revenue of SPs, were to increase, O2 argued that there was no evidence to suggest that these funds were not diverted 'to other business priorities or in tax or dividend payments'.[280]

Ofcom's response

A8.462 One possible reason for an SP to have an enhanced incentive to invest or innovate is if it obtains a larger revenue share. In such cases, as O2 suggests, as well as increased investment or innovation there is the potential for 'leakage' (i.e. the

[275] Lexgreen Services, December 2010 Consultation response, response to question 5.2.
[276] Magrathea, December 2010 Consultation response, page 3.
[277] TNUK, December 2010 Consultation response, page 9-10.
[278] BT, December 2010 Consultation response, page 6.
[279] O2, December 2010 Consultation response, pages 26-27, paragraph 103.ii & 103.iii.
[280] O2, December 2010 Consultation response, page 5, paragraph 15.

additional revenues not being directed into improved service provision, but instead retained as profit by the SP for example). However, increased revenue share is not the only trigger for increased investment or innovation which Ofcom is suggesting. Indeed the mechanisms that Ofcom has emphasised are increased volumes of calls (as the suppression of consumer demand is alleviated)[281] and improved influence by SPs over the retail prices that are paid by the callers to their services.

<u>SPs can differentiate their offers by choosing a different number range or negotiating with the OCP</u>

Stakeholder comments

A8.463 EE disagreed with Ofcom's suggestion that poor transparency and incentives resulted in a loss of service diversity. It argued that SPs that were substitutable for other SP services could price differentiate either by choosing a different number range or by negotiating with OCPs on their pricing to achieve a mutually beneficial commercial outcome.[282]

Ofcom's response

A8.464 SPs' inability to control retail call prices, such as achieving a consistent price across a range of OCPs that it can reliably advertise, tends to limit incentives to invest in higher quality services or innovative offerings. In addition, if consumers make calls absent price information or with low price awareness, price may not be a key variable to differentiate the offers from the SP. We agree that an alternative strategy would be to choose a different number range. However, that does not avoid the problems for SPs of either lack of control of retail prices or low consumer awareness. Also it may imply additional migration costs and for some number ranges that is not an option – i.e. for directory enquiry services which have a specific number range (e.g. 118), or premium rate services which require a certain revenue level not offered on other ranges. As we have discussed above, negotiations with OCPs have rarely been successful.

Summary of Ofcom's position on diminished service availability and innovation for consumers

A8.465 The market failures, especially the vertical externality and low consumer awareness, tend to reduce SPs' incentives to invest and innovate. For example, in many cases SPs do not currently have the incentives to differentiate their services in terms price or quality. Several SPs responded to the December 2010 Consultation supporting this view, although as noted above did not give any specific examples. We recognise, however, that evidence of future innovations is inherently difficult to find, because innovations can arise in unpredictable ways as the history of NG numbers has shown (e.g. the unforeseen innovation by Freeserve in the late 1990s to introduce pay-as-you-go dial-up internet access). The consequence of SPs' reduced incentives to invest and innovate is that consumers are not benefitting from as diverse and as high level of quality services that they otherwise could be.

[281] On some number ranges an increase in the volume of calls might increase the revenue share payments received by SPs, but on other ranges such as 080 it might increase SPs' costs.
[282] EE, December 2010 Consultation response, page 27, paragraphs 21-22; and page 36, paragraph 16.

Summary of Ofcom's position on the outcomes of the three market failures

A8.466 Taking account of the available evidence, we remain of the view that the three market failures have harmful impacts on callers:

a) a reduction in demand for NGCs, particularly from mobile phones;

b) the relative prices of NGCs and GCs do not reflect consumer preferences;

c) loss of access to socially important services, particularly for vulnerable consumers; and

d) consumers' loss of service diversity and innovation and SPs' lack of incentives to invest in the market.

A8.467 This is similar to our analysis in the December 2010 Consultation, but with the omission of the risk of fraud which is not a major concern for the NG number ranges considered in this document.

The experience of SPs and OCPs at the retail level

A8.468 In the December 2010 Consultation, we considered the consumer experience at the retail level in Section 4 and Annex 2. We considered the experience of SPs and OCPs separately in Section 5 and Annexes 2 and 3. There were several overlaps in the analysis featured in these sections but, in the interests of consistency, we have kept these issues separate in this consultation. However, much of the following section repeats parts of the analysis set out above.

Structure of this section

A8.469 In this section we look at SPs' experience and then OCPs' experience at the retail level, acknowledging that several relevant points have already been considered above.

A8.470 When looking at both the experience of SPs and then the experience of OCPs, each sub-section is structured as follows:

- first, we summarise our original analysis from the December 2010 Consultation;
- we then summarise the comments from stakeholders made about our analysis, grouping these responses by theme;
- within each theme, we respond to stakeholders' criticisms referring, if necessary, to any additional evidence Ofcom has gathered; and
- finally, after considering all comments, we summarise Ofcom's updated position on the retail experience of either SPs or OCPs.

Service providers' experience

A8.471 We begin by considering the experience of SPs at the retail level.

Summary of Ofcom's analysis in the December 2010 Consultation

A8.472 In the December 2010 Consultation, we argued that consumers' poor awareness of NGC charges, at the retail level, was having a negative impact, not only on consumers, but also on SPs. This is showing itself in two ways:

- Firstly, NGC volumes are falling because consumers are discouraged from making NGCs. This results in a direct negative effect on SPs' returns, negatively affecting their incentives to invest in the underlying services which ultimately will impact on consumers.
- Secondly, SPs lack control over the retail price of NGCs. For OCPs other than BT, SPs do not have control unless they reach an agreement with the OCP (e.g. the DWP example). This has four consequences:
    - SPs cannot advertise their charges to consumers in a transparent way. This is because each OCP can, and often does, charge a different retail price. Consequently, a large proportion of consumers cannot be provided with useful price information;
    - retail prices may not be set at a level that reflects SPs' preferences. OCPs may charge a much higher retail price than that preferred by the SP which leads to a reduction in demand for SPs' services;
    - consumers are unaware of which party is responsible for setting retail charges and, hence, it is unclear as to whom to address any complaint they may have. Consequently, SPs risk being blamed for high prices; and
    - price competition between SPs is hampered and their incentives to invest and innovate are reduced.

Stakeholders' comments and Ofcom's response

A8.473 We have grouped stakeholders' comments into the following categories:

i) few SPs are worried about a lack of control over the price of their services;

ii) SPs using non-geographic numbers face the same problems as SPs using geographic numbers;

iii) SPs are able to advertise their components of the retail charge;

iv) competition is possible but only between a limited number of SPs; and

v) Ofcom has not captured SPs' primary concerns.

A8.474 Responses regarding SPs' incentives are discussed in the sections above.

A8.475 Before responding to the arguments from stakeholders listed above, as a preliminary point we note that it is not just consumers who lack awareness of the price of NGCs. Evidence also suggests that many SPs are confused by the current regime. For example, the 2011 SPs Survey found that 43% of 0845 SPs and 19% of 0800 SPs were not aware of the functioning of the current regime – i.e. the level of charges for calls from different devices to these numbers and the revenue/cost implications to them of these calls.[283] This shows that the current regime is not functioning as well as it should – in an efficient market, one would expect SPs to be better informed about how the regime works.

Few SPs are worried about a lack of control over the price of their services

Stakeholder comments

A8.476 EE highlighted that only 36% of respondents from the 2010 SPs survey considered there were “some problems” with the current regulatory regime and suggested that most of these problems are associated with 118 DQ SPs and the employee of one unnamed information provider regulated by PhonepayPlus. EE argued that the position of DQ SPs was unique compared with other SPs because they did not have the same choice of number range. Therefore any concerns regarding the lack of control over retail pricing might be more acute for DQ SPs because they lacked the ability of other SPs to swap to other number ranges which better suited their preferred retail price points.[284]

A8.477 Three disagreed that retail prices did not reflect SPs’ preferences. Three argued that its interpretation of statistics presented in the 2010 SPs survey was that SPs are largely indifferent with regards to whether consumers are presented with price information or not, suggesting that retail pricing of NGCs has little impact on their behaviour.[285]

A8.478 Vodafone acknowledged that some SPs complained about their inability to control the cost to callers from all OCPs and that this explained why they did not compete with other SPs on price.[286]

A8.479 BT agreed that SPs were very concerned about price transparency and commented that they believed SPs did not generally like the message: “other providers may vary and mobile significantly more” as it deterred customers from calling them. BT commented that SPs could not control how much an individual originator charged a customer to call them and this lack of control meant that SPs could not accurately advertise prices. As a consequence, SPs often had to deal with complaints from callers about pricing issues which were outside of their control and, in turn, this undermined consumers’ confidence in these services.[287]

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[283] 2011 SPs Survey. Q.10: *“As you may know, currently calls to 080 freephone numbers are almost always free to callers from landlines, but are rarely completely free to callers from mobile phones. Mobile callers usually pay between 7 and 40 pence per minute. When someone calls a freephone number with a mobile phone a recorded message tells them that they will be charged, but not how much. Your organisation will pay a charge whenever someone calls your freephone number. Before today, were you aware of this?”* [Base: All 080 respondents] & Q.27: *“As you may already know, the amount consumers pay for 0845 calls varies depending on which telephone company they use. Some fixed-line companies charge less for 0845 calls than for calls to normal landlines, whilst other fixed-line companies charge more. Generally mobile calls to 0845 numbers are outside bundles of 'free' minutes and are more expensive than mobile calls to normal landlines. A portion of the call charge to your 0845 number(s) is passed on to your organisation. This is a relatively small element of the charge and you may not notice it as a source of income, but instead it might just be used to offset some of the overall costs you pay for operating the 0845 number(s). Were you aware of this before today?”* [Base: All 0845]

[284] EE, December 2010 Consultation response, page 34, paragraph 4.

[285] Three, December 2010 Consultation response, page 15, paragraph 47.

[286] Vodafone, December 2010 Consultation response, page 56.

[287] BT, December 2010 Consultation response, page 26 and 27.

Ofcom's response

A8.480 While some SPs may not place much importance on the ability to control their retail prices, the evidence suggests that many SPs do. For example, and contrary to the view put forward by Three, according to results of the 2011 SPs Survey, 52% of 080 SPs and 45% of 0845 SPs considered that it was important to be able to advertise the exact cost of the call to customers.[288] In addition, as discussed above, if they could change one thing about the 0845 number range, nearly two thirds of SPs said they would make it so that callers were charged the same amount as for a call to a normal landline. This suggests that the ability to control or have clarity over the retail price is an important factor for many SPs on several different number ranges, not just those operating on the 118 number range.

SPs using non-geographic number face the same problems as SPs using geographic numbers

Stakeholder comments

A8.481 EE argued that Ofcom's concern that SPs could only advertise limited price information regarding the cost of calling non-geographic numbers due to the fact that each OCP can and often does charge a different retail price for such calls, was exactly the same for geographic calls. EE highlighted that the cost of a call to a mobile/geographic number differed depending on a customer's OCP as well as pricing plan with that OCP. EE argued that this may explain why respondents to the 2010 SPs Survey were on average indifferent as to whether or not there was exact or maximum pricing for calls to non-geographic numbers.[289]

Ofcom's response

A8.482 While some SPs may be indifferent about advertising prices to consumers, a significant number are not (see results of the 2011 SPs Survey discussed above). We accept that the cost of calling a mobile or a geographic number also varies between OCPs. But advertising the cost of these calls is less important because a significant proportion of these calls are made within contract bundles and therefore do not cost anything at the margin. Callers are also generally more confident about how much they will be charged when they make calls to geographic numbers. Consumers' relative awareness of the price of NGCs is worse in comparison, as set out above. In spite of this, SPs are unlikely to consider geographic or mobile numbers as substitutes for non-geographic numbers for various reasons including, as set out in the 2010 SPs Survey, these numbers do not give SPs a national presence or allow them revenue sharing opportunities.

SPs are able to advertise their components of the retail charge

Stakeholder comments

A8.483 EE disagreed with Ofcom's conclusion that SPs could not advertise charges to consumers in a transparent way. EE argued that it seemed perfectly open today for SPs such as DQ providers to advertise their component of the retail calling charges for their DQ services and to note that the remaining charges were network charges,

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[288] 2011 SP Survey. Q11: *"How important it is to your organisation that 080/0845 numbers have the following features: being able to advertise the exact cost of the call to customers?"* [Base: all 080/0845]

[289] EE, December 2010 Consultation response, page 36, paragraph 12.

if they felt that this level of transparency would give them a competitive advantage or bring other benefits.[290] Similarly, O2 argued that SPs were not incentivised to offer customers an indication of cost on a voluntary basis.[291]

A8.484 EE also argued that SPs could adopt a maximum price as call cost information was publicly available in OCP price guides. Further to the participation TV issues in 2007, EE highlighted that the industry group AIME sought to facilitate this even further and a process was established to allow broadcasters to query named OCP contacts about retail charges for high volume shows, such as X Factor. EE suspected the reason SPs had not taken this approach was not because they were not able to, but because of either the negative customer perceptions that might be created by customer awareness of the true charging position, or because it simply did not matter to consumers.[292] O2 argued that Ofcom failed to identify this issue, particularly for socially important services (e.g. banking and tax) which operated on 0845 numbers.[293]

Ofcom's response

A8.485 We accept that DQ providers can advertise their component of the retail price of their services and, indeed, this has happened before. However, currently even if SPs advertised their component of the retail charge as EE suggests, consumers would still not know the full extent of the retail price they are paying.

A8.486 We believe there are a number of explanations for why SPs have not employed maximum prices. Firstly, maximum prices are not necessarily representative of the actual price a caller will pay. For example, Table A2.5 of the December 2010 Consultation illustrates the range of retail prices for non-geographic number ranges for customers of specific tariffs for each mobile OCP. For the price of calls to 084 and 087 numbers, the maximum price (for calls from the the OCP with the highest charge) can, in some cases, be over double the actual price customers face (for calls from other OCPs). Thus there is little incentive for SPs to adopt a maximum price approach if it does not accurately represent the actual price customers face, particularly if it acts as a call deterrent.

A8.487 Secondly, there are currently over 100 OCPs operating in the market for NGCs so it is difficult for SPs to keep an accurate record of every OCP's charge. Furthermore, even if they were able to find out all of these charges, they would be required to monitor them on an ongoing basis to ensure accuracy and this could be a burdensome task.

A8.488 Finally, as discussed above, a minority of SPs are not confident they understand the current regime so the likelihood that these SPs are able to publish meaningful price information is low.

A8.489 We would agree that some SPs may take advantage of the current situation and exploit the lack of price transparency to their advantage as in the examples mentioned by O2. This, however, adds to the concerns identified.

[290] EE, December 2010 Consultation response, page 36, paragraph 13.
[291] O2, December 2010 Consultation response, page 18, paragraph 64.
[292] EE, December 2010 Consultation response, page 36, paragraph 13.
[293] O2, December 2010 Consultation response, page 18, paragraph 64-65.

Competition is possible but only between a limited number of SPs

Stakeholder comments

A8.490 EE argued that the current regulatory regime did allow price competition between SPs. This was because, as discussed above, EE argued that SPs were able to advertise their component of the price. However, it did note that, based on evidence referred to in the December 2010 Consultation, a "very large proportion" of NGCs provide services for which there was no prospect of competition from other SPs. EE argued that the high proportion of "locked-in" NGCs reduced the likelihood of regulation designed to stimulate NGC price competition bringing any consumer benefits over and above the current regulatory position.[294]

A8.491 Virgin Media argued that the prospect of price competition between SPs was extremely limited, because customers were 'locked in' to a particular SP (e.g. their bank, gas supplier, council, etc.) and had no choice around which number to call.[295]

Ofcom's response

A8.492 We disagree with EE that SPs are able to compete on price under the current system by advertising their component of the price. We understand EE's suggestion to be that SPs could advertise the termination rate that OCPs pay for calls to that SP.[296] However this information would not be relevant for consumers considering whether or not to make a call. This is because consumers cannot use the termination rate to infer the price of their call as the retail margin charged by their OCP is not published and may vary by time of day and depending on the particular number being called. Indeed we note that many mobile OCPs charge the same retail call price for SPs operating on the same number range but charge different termination rates. For example, if a 118 operator advertises that the termination rate it receives is lower than the termination rate charged by a rival 118 operator, this may provide consumers with no information about which service is cheapest to call.

A8.493 We accept that price competition is less likely on some number ranges than others. However, as discussed above, services provided over the 0871/2, 09, and 118 ranges are more likely to have alternatives and thus for these SPs, there is greater scope for competition over prices.

A8.494 We recognise that where consumers have no choice of SP, there will be limited scope for price competition between SPs. Where this is the case, the benefits from greater price competition are likely to come from competition between OCPs over access prices.

Ofcom has not captured SPs' primary concerns

Stakeholder comments

A8.495 Vodafone commented that it is not clear that the SPs' concerns identified by Ofcom, about price transparency and the impact on their incentives, were in fact the primary

[294] EE, December 2010 Consultation response, page 37, paragraph 15.
[295] Virgin Media, December 2010 Consultation response, page 15.
[296] In practice, the TCP would probably have to advertise the average termination rate. This is because the actual termination rate can vary by time of day and depending on the point at which the call is handed over from the OCP to the TCP. Moreover, an explicit termination rate does not exist where calls originate and terminate on the same network.

concerns of SPs themselves. Vodafone commented that the 2010 SPs survey in fact suggests that SPs concerns centred on the perception of their organisation and revenue/cost implications for them of using a particular type of number, which are invariant to OCP pricing other than in the special case of BT.[297]

A8.496 Virgin Media acknowledged that SP concerns did exist. For example, feedback from its hosted SPs suggested that a notable proportion of them regarded stability and certainty around numbering arrangements and the regime in general to be critical to the successful functioning of their businesses.[298]

Ofcom's response

A8.497 Evidence from the 2011 SPs Survey (as discussed above) suggests that concerns over low price awareness, lack of control of retail prices and reduced incentives to invest and innovate are important to SPs (regardless of whether they also have other material concerns).

A8.498 We do not agree that the revenue/cost implications of using a particular type of number have to be invariant to OCP pricing. As we set out above in our analysis of the vertical externality, OCPs do not have the incentive to take into account the preferences of SPs when setting the retail price of NGCs and this has a direct impact on SPs' revenues. In addressing the vertical externality, Ofcom is directly addressing this concern of SPs. With respect to improving the perception of SPs' organisations, we believe greater transparency will aid this. As highlighted above, the majority of respondents to a 2010 survey for PPP felt accuracy of price information would help improve trust in services on certain non-geographic numbers.

A8.499 We note the comment that SPs regard stability and certainty of the regime as important. Given the confusion over the regime currently experienced by many SPs, we argue that an improvement in price awareness by consumers and SPs, as well as SPs' greater control over retail prices, will improve the functioning of many SPs' businesses.

Other comments

Stakeholder comments

A8.500 Vodafone also commented that characterising NGCs as a two-sided market did not lend strong support to the proposition that SPs, rather than OCPs, should determine retail prices to callers. Vodafone suggested that the analysis might be more relevant in cases where the SP contracted with the OCP to charge a particular retail price to callers. This is the model through which the DWP enables calls to its benefit claims number to be free-to-caller from mobile networks, and showed that where there was economic demand from SPs, OCPs can and do take account of it. Vodafone argued the fact that SPs contracting with OCPs was rare was not, however, evidence of market failure; but simply a reflection that where supply and demand did not meet, there was no market clearing price.[299]

Ofcom's response

[297] Vodafone, December 2010 Consultation response, page 56.
[298] Virgin Media, December 2010 Consultation response, page 14.
[299] Vodafone, December 2010 Consultation response, page 57.

A8.501 We are not arguing that SPs should solely determine retail prices to callers. Under our proposals for unbundling the total retail price would be made up of charges from both the SP and the OCP. Our concern is that SPs have very limited influence on the retail charges set by OCPs and this is leading to several problems. Vodafone suggests that the market satisfies demand from all SPs who wish to negotiate specific deals with OCPs, but the evidence suggests this is not the case. Evidence from Annex 20shows that not all attempts by SPs to negotiate with OCPs are successful, which in our view reflects significant barriers to such deals (set out above).

Summary of Ofcom's position on SPs' experience at the retail level

A8.502 As a result of the three market failures, the current regime is not working well for SPs which in turn is having a negative impact on consumers. The evidence suggests that many SPs are not aware of the workings of the current regime. It is clear from survey evidence that some SPs want more control over retail prices and yet the current retail arrangements are not facilitating this. OCPs' are not incentivised to set retail prices that reflect SPs' preferences and prices are too high as a result. We accept that the potential for competition between SPs can be limited although this varies depending on the number range. In addition, SPs' lack of control over the price leads to uncertainty and exacerbates poor consumer price awareness, resulting in consumers being discouraged from making calls. Finally, SPs' incentives to invest in new, innovative services are weak and therefore consumers are missing out on a more diverse range of better quality services.

OCPs' experience at the retail level

A8.503 As well as the experience of SPs, we also considered the experience of OCPs at the retail level.

Summary of Ofcom's analysis in the December 2010 Consultation

A8.504 In the December 2010 Consultation, we highlighted that mobile OCPs currently accounted for relatively low volumes of NGCs and they appeared to have substantially higher charges, whilst fixed OCPs generated higher volumes of NGCs while their charges were lower than those of the mobile OCPs. In addition, in spite of this, fixed OCPs' charges were still relatively high compared to other calls. In terms of retention, we found that OCPs retained about half of the retail revenue generated by NGCs, but within this, retention was heavily skewed towards mobile OCPs. Consequently, while mobile OCPs accounted for only 11% of NGC volumes in 2009, they accounted for 49% of OCPs' retention. We did not interpret this as an indication that OCPs were earning unduly high profits overall. However, we highlighted that we might be concerned that high NGCs charges were the result of underlying market failures.

A8.505 In Section 4 of the December 2010 Consultation, we argued that callers were discouraged from making NGCs as a result of uncertainty about the price and their overestimation of NGC charges. In Section 5, we argued this reduction in demand had a negative impact on OCPs; specifically, that OCPs were forgoing revenue as a result. However, the overall impact on OCPs' returns seemed ambiguous because, via the operation of the tariff package effect, prices for other services might be higher than otherwise.

Stakeholders' responses

A8.506 We have reported and commented above on most of stakeholders' responses on OCPs' experiences at the retail level. We consider here only a small number of points which are not addressed above.

A8.507 EE considered the implication made by Ofcom that, looking at mobile OCPs' prices for NGCs on a standalone basis, these were charged so as to reap "unduly high profits", was a serious allegation to make and one that should only be made with substantiating evidence to back it up. EE considered Ofcom had failed to do this in the December 2010 Consultation.

A8.508 EE also commented that fixed OCPs might choose to subsidise NGC origination with revenues that they received from NGC termination/hosting as an option not available to mobile OCPs.[300]

Ofcom's response

A8.509 As set out above, in the December 2010 Consultation Ofcom clearly stated that we did not interpret high mobile retention as an indication that OCPs were earning unduly high profits overall.[301]

A8.510 With reference to EE's comment about fixed OCPs choosing to subsidise NGC origination with revenues that they receive from NGC termination/hosting, we note that this refers to the fixed tariff package effect (FTPE). As set out above, unlike the TPE (waterbed effect), there does not seem to be a causal link between higher TCP revenues and subsidised NGC origination (we discuss this in more detail in Annex 10. EE provides no evidence that such subsidisation is occurring.

Market in the absence of ex ante regulation

A8.511 In the December 2010 Consultation, we considered the market in the absence of ex ante regulation.

Structure of this section

A8.512 Firstly we summarise Ofcom's analysis in the December 2010 Consultation. We then set out stakeholders' comments on this analysis and highlight Ofcom's response. Finally we summarise Ofcom's current position on the market in the absence of ex ante regulation.

<u>Summary of Ofcom's analysis in the December 2010 Consultation</u>

A8.513 In the December 2010 Consultation, we considered how the retail market may look absent regulation. This meant that effectively we were assessing the options for regulatory change against a situation where the conditions set out in the NTNP and current restrictions on BT's call prices were removed, as were the requirements to provide PCAs for some calls (see Annex 1 of the December 2010 Consultation for the deregulation scenario).

A8.514 We noted that most OCPs are largely unregulated at present in any event, meaning that the above problems would continue in the market ex ante regulation. However,

[300] EE, December 2010 Consultation response, page 39, paragraph 7.
[301] See paragraph 5.41 of the December 2010 Consultation.

we considered that subscribers to these OCPs (and particularly BT subscribers) were likely to receive slightly less price information than they did at present. BT would have significant new freedom in a market without regulation compared to the situation today where it has a limited ability to raise non-geographic call prices. As a result, we considered that BT would have incentives to behave in a way similar to how others OCPs currently behaved. We also expected a rebalancing of BT's retail prices, namely higher charges for NGCs and lower charges for other services. We noted this could have a small effect on OCPs' profitability, although it seemed plausible that BT's commercial position would be improved relative to other fixed OCPs. Since BT was likely to currently exert some, though perhaps limited, degree of constraint on the NGC retail prices of other OCPs, removing the constraints on BT would probably reduce the competitive constraints on other OCPs.

A8.515 Thus in a market without regulation, even the existing limited certainties (the information on BT's prices) would no longer be present. The incentives underlying the vertical and horizontal externalities would remain. We argued that the environment for SPs, in the absence of ex ante regulation, would worsen as it was likely that BT would no longer offer the current level of predictability. While it was possible that the industry could self-organise, our view was that the diversity of participants and interests mitigated against such an outcome in the short to medium term. Furthermore, we felt there was no reason to believe that the outcome would be better for consumers.

<u>Stakeholders' responses and Ofcom's response</u>

Stakeholder comments

A8.516 Vodafone commented that it is not clear how BT would react in practice if de-regulated – if BT was able to act independently of competitors and customers, Vodafone argued that those were the classic hallmarks of a dominant operator which would normally justify ex ante regulation based on SMP. Vodafone considered there was little doubt that BT had a significant presence as both a OCP and a host of NTS.[302]

A8.517 The FCS noted that Ofcom had identified that a complete removal of regulation would exacerbate consumer issues due to the likelihood of BT behaving in a fashion similar to that practiced by other OCPs today, causing further consumers/SP detriment. The FCS argued that this was an important consideration and commented that it would expect Ofcom to maintain a consistent view with this.[303]

A8.518 BT commented that Ofcom should remove the current regulatory burden on BT for originating NGGs. It argued that any future regulation (BT agreed that there will have to be some form of regulatory framework in place if consumers and SPs were to be supported) must address only the problems identified as preventing the market from functioning as desired. BT commented that this was distorting the marketplace and affecting broader retail pricing as well. BT also commented that it should not be assumed that it would price excessively if removed from the constraints of NGCS regulation as, when presented with such commercial freedom in the recent past, it did not do so.[304]

[302] Vodafone, December 2010 Consultation response, page 58.
[303] FCS, December 2010 Consultation response, page 8.
[304] BT, December 2010 Consultation response, page 21.

Ofcom's response

A8.519 Regarding Vodafone's comments, as this is not a market review we have not assessed SMP, but our analysis of the negotiating strength of BT (and other OCPs and TCPs) at the wholesale level is set out in Annex 10.

A8.520 We do not know if BT's pricing would be at a level which is "excessive". However, in response to BT's comments, we would expect its behaviour (as an OCP) under a new regime to be similar to other OCPs. Indeed, BT considers asymmetric regulation places it at a commercial disadvantage. We also note that the current asymmetric treatment of BT is one of the motivations for the current review, as set out in paragraph 2.25 in the December 2010 Consultation and in Part A.

Summary of Ofcom's position on the market in the absence of ex ante regulation

A8.521 We have considered whether our concerns about the operation of the retail level would change in the absence of ex ante regulation. In these circumstances, the market failures we have identified (poor price awareness and the vertical and horizontal externalities) are unlikely to be mitigated (and no stakeholder has suggested that this would be the case). Indeed, it is possible the situation could worsen for consumers. This implies that deregulation is unlikely to address our concerns.

Annex 9

The provision of hosting services

Introduction

A9.1 In order to be able to deliver their services, SPs purchase various hosting services and engage TCPs, who terminate calls on the SPs' behalf.[305] In the December 2010 Consultation, the evidence available to us suggested that these arrangements, i.e. the hosting level, appeared to be operating well. However, we invited views from stakeholders.

A9.2 In this Annex we first re-visit Ofcom's analysis of the hosting market from the December 2010 Consultation. We then summarise stakeholder comments on our analysis and set out Ofcom's response. Finally we summarise Ofcom's overall position on the provision of hosting services.

Summary of Ofcom's analysis in the December 2010 Consultation

A9.3 Our analysis of the hosting level was set out at paragraphs 5.12-5.17 of the December 2010 Consultation and is summarised below.

A9.4 In the 2010 SPs survey, both the ultimate providers of the service in question (referred to as "IPs" or "information providers" in the 2010 SPs survey) and resellers/aggregators considered that they had sufficient choice of TCPs.[306]

A9.5 Furthermore, most SPs did not identify significant obstacles to switching provider or other problems with the operation of this level of the supply chain.[307] These views are consistent with the large numbers of TCPs operating in the market. In June 2009, BT interconnected with 158 TCPs.[308]

A9.6 A few smaller operators expressed some concerns about the arrangements for ported numbers. First, they stated that it was not possible for SPs to port non-geographic numbers between some TCPs, meaning that a SP that switched from one TCP to another might need to change its non-geographic number. Second, a reseller told us that SPs might no longer be able to receive a share of termination revenues if they ported their non-geographic number between TCPs. We were unsure whether this claim was representative of a more widespread issue and invited stakeholders' comments.

A9.7 We recognised that obstacles to SPs porting their number increased switching costs for SPs at the hosting level, which would tend to hamper competition. It would also lead to a more inefficient use of numbers, as providers would move to a new number along with their hosting provider, leaving behind unused numbers.

[305] Examples of additional services include recorded announcements and conditional call routing.
[306] The 2010 SPs survey stated at page 2 that "All respondents stated that they believe there is sufficient choice of TCPs in the market ... No problems were highlighted including any concerns over dominance of BT at this level of the value chain."
[307] 2010 SPs survey, pages 17 and 26-27.
[308] BT response dated 23 June 2010 to question A8 of our formal information request dated 2 June 2010.

A9.8 However, we concluded that this level of the supply chain appeared to be broadly working well for SPs: TCPs were by and large likely to be responsive to SPs' needs and to charge them reasonable prices.

Stakeholders' comments and Ofcom's response

Stakeholder comments

A9.9 EE commented that it was interested in seeing stakeholder views on switching, the impact of porting numbers on revenue share and any potential barriers to switching that may exist. EE argued that difficulties with number portability for non-geographic numbers might be hindering competition in the hosting market, and thus the hosting market was not as competitive as Ofcom had assumed.[309] However, EE provided no evidence to support this.

A9.10 The FCS stated that it agreed with the December 2010 Consultation that the hosting market for SPs was generally working well, with TCPs offering a "competitive and responsive service".[310] However, the FCS conducted a survey among its members active in the NGCs market and this highlighted a concern that non-geographic number portability was difficult, particularly as "some providers do everything they can to block ports".[311] The FCS commented that non-geographic number porting should be included in Ofcom's customer switching project to ensure a comprehensive framework for customer migration is in place in the UK.[312]

A9.11 [✂] agreed with Ofcom's assessment. It commented that the market for hosting was competitive. In support, it referred to the responses to Ofcom's May-June 2010 information request asking TCPs for data on the volume of call minutes to numbers (i) that have been ported-in from another TCP; and (ii) that have been ported away to another TCP.[313]

A9.12 BT regarded the hosting market as competitive and referred to the ease with which SPs can switch between TCPs.[314]

Ofcom's response

A9.13 We received very few substantial comments regarding the hosting market in stakeholders' responses to the December 2010 Consultation. Those responses that we did receive were generally supportive of the position in the December 2010 Consultation.

A9.14 While the FCS agreed that the hosting market was generally working well for SPs, some of its members nonetheless expressed concerns about the arrangements for SPs porting their numbers between TCPs.[315] We set out the reasons why we are not proposing to consider portability arrangements in this review in paragraphs

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[309] EE, December 2010 Consultation response, Q5.2 on page 34, paragraph 2.
[310] FCS December 2010 Consultation response, page 8.
[311] FCS December 2010 Consultation response, page 5.
[312] FCS December 2010 Consultation response, page 8.
[313] [✂]. In paragraphs A3.219-A3.220 of the December 2010 Consultation we set out the proportion of non-geographic calls to ported out numbers. It varied very significantly between TCPs and number ranges, from almost zero in some cases to 53% in the case of 0845 calls to 4D Interactive.
[314] BT, December 2010 Consultation response, Annex 4, paragraph 27
[315] EE also referred to obstacles to porting numbers between TCPs. However it does not have a material presence at the hosting level, and expressed its response in fairly tentative terms (referring to its "sense" of how the hosting market might be operating) and providing no supporting evidence.

A3.223 – A3.228 of the December 2010 Consultation. Stakeholders did not comment on this material. In particular:

- We explained that there is a fixed cost to putting in place porting arrangements between a pair of TCPs. As a result it is not commercially viable to establish porting arrangements if they are likely to be used infrequently. Two major TCPs might find it profitable to arrange the ability for SPs to port between them but two small TCPs may not.

- We explained that direct routing of calls would simplify porting (by avoiding the need for TCPs to put indirect routing arrangements in place). However in April 2010 we published a statement in which we concluded that regulatory intervention to move to direct routing for calls to ported numbers would not be appropriate in the prevailing circumstances.[316]

- We also referred to the 2010 SPs survey. While one respondent highlighted difficulties in porting numbers between TCPs, the majority of respondents considered that there were little or no barriers to switching supplier.[317] This appears consistent with the FCS's broad position, in that some respondents to its survey expressed concerns about porting but its overall position was that the hosting market was generally working well.

A9.15 Moreover, evidence presented in Annex 8 suggests that the problems at the retail level are of far greater concern than the issues associated with number portability.[318] It would therefore seem appropriate to focus our attention on the retail market, rather than portability arrangements.

Summary of Ofcom's position on the hosting market

A9.16 Overall, the available evidence suggests that the hosting market is broadly working well for SPs. In this document we focus on the operation of the retail and wholesale levels.

[316] *Routing calls to ported telephone numbers*, 1 April 2010 available at: http://stakeholders.ofcom.org.uk/binaries/consultations/gc18_routing/statement/statement.pdf

[317] 2010 SPs survey, page 26.

[318] We also made this point in the December 2010 Consultation at paragraph A3.228.

Annex 10

Wholesale concerns

Introduction

A10.1 In Annex 3 of the December 2010 Consultation, “How wholesale markets work: economic analysis”, we set out our detailed analysis of the wholesale level of the supply chain. That Annex explained how the wholesale level operates and set out our substantive analysis of how the wholesale level would operate in the absence of ex ante regulation of termination rates. We consulted on the view that we were not confident that the termination rates that would arise commercially (absent regulation or involvement by Ofcom) are likely to lead to desirable outcomes for consumers.

A10.2 This Annex considers the responses we received to the substantive analysis in Annex 3 of the December 2010 Consultation and presents our updated analysis of our wholesale concerns.[319]

A10.3 The purpose of this Annex is to assess whether there are market failures at the wholesale level (analogous to our assessment in Annex 8 of whether there are market failures at the retail level). We go on to consider how the problems that we identify might be alleviated in Parts B and C of this consultation, which deal with remedies. Note also that this is not a formal market review under sections 79 to 84A of the Act. We have not assessed whether any party possesses significant market power and do not consider that we need to do so for the purposes of this consultation.

A10.4 Annex 3 of the December 2010 Consultation was fairly complex and lengthy. Thus, in the interests of brevity, we do not repeat all the detail that was set out in that Annex. Rather, we summarise the 2010 analysis and then respond in detail to the representations that we have received. Therefore, this Annex needs to be considered in conjunction with the December 2010 Consultation.

A10.5 This Annex is structured as follows:

- A brief description of the supply chain.
- An overview of the position in the December 2010 Consultation.
- An overview of the responses to the December 2010 Consultation.
- A discussion of how the current operation of the wholesale level fits into our analysis.
- A discussion of whether we should have defined termination markets.
- A discussion of responses on the factors determining the balance of negotiating power.
- A discussion of responses on the consequences of unbalanced negotiating power.

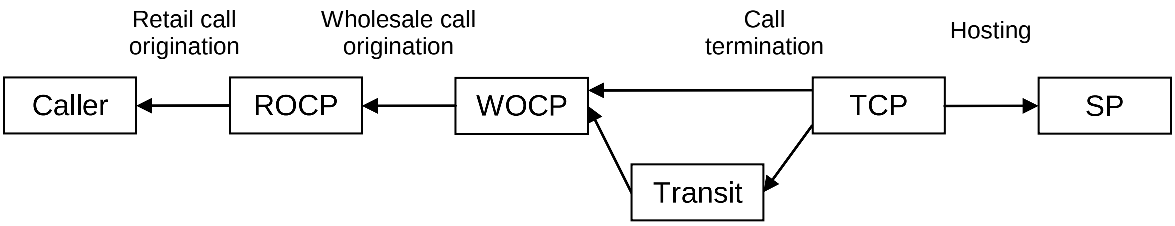
[319] The factual description of how the wholesale level operates has been moved to Section 3 of this document.

- Finally we set out our updated view.

The supply chain

A10.6 When analysing the wholesale level it is useful to distinguish between retail and wholesale call origination. This Annex therefore uses slightly different terminology to the rest of this consultation when referring to the OCP. To illustrate, Figure A10.1 below provides an overview of the supply chain.[320]

Figure A10.1: Overview of the supply chain



A10.7 The Retail Originating Communications Provider (‘ROCP‘) supplies retail call origination (as well as a bundle of other services) to callers. The Wholesale Originating Communications Provider (‘WOCP‘) supplies wholesale call origination to the ROCP. The WOCP may or may not be vertically integrated with the ROCP. For example, a virtual mobile operator such as Tesco Mobile is a ROCP that purchases wholesale call origination from O2 (the WOCP). O2 also directly retails call origination to callers and for these calls acts as both the ROCP and WOCP. Similarly, BT directly retails call origination using its fixed network (acting as both the ROCP and the WOCP) as well as supplying wholesale call origination to third party ROCPs, for example through carrier pre-selection.

A10.8 The focus of this Annex is the relationship between WOCPs and TCPs. TCPs supply termination of non-geographic calls to WOCPs.[321] We refer to this service as “call termination”, and the revenue earned by the TCP is referred to as the “termination rate”. Where the WOCP does not directly interconnect with the TCP, the call will be transited via a third party transit provider.

A10.9 The TCP is supplying termination to the WOCP on behalf of SPs. Note that the TCP also supplies a bundle of services to SPs which we refer to as “hosting”. This may include the payment of any share of termination revenue as well as value added services such as recorded announcements or conditional call routing.[322]

[320] The arrows reflect the direction in which the service labelled in this Figure service is supplied. For example, hosting is supplied by the TCP to the SP and call termination is supplied by the TCP to the WOCP.

[321] An equivalent way of thinking of this service is the supply of origination of non-geographic calls by WOCPs to TCPs (see the 2004 NTS Termination Consultation, paragraph 3.20). These approaches are equivalent because, whenever a call is completed, it involves the WOCP supplying origination to the TCP and the TCP supplying termination to the WOCP i.e. the services are intrinsically linked and both are needed to complete the call.

[322] The NCCN 500 Decision, paragraphs 2.12-2.13.

Summary of the December 2010 Consultation

A10.10 In the December 2010 Consultation we assessed the balance of negotiating power at the wholesale level. Our analysis focused on the outcome of purely commercial negotiations, without regulatory involvement.[323]

A10.11 Predicting the outcome of negotiations in these circumstances is complicated. There are large numbers of heterogeneous WOCPs and TCPs. Our analysis of the factors that influence their negotiating strength suggested that different WOCPs and TCPs would likely be in different commercial positions. In other words, negotiations would depend upon the particular WOCP and TCP involved, rather than one side consistently being in a strong position. As a result we stated that commercial negotiations would likely produce a range of termination rates that depend on the parties involved. Termination rates that depend on the identity of the WOCP ('bespoke termination rates') would likely be commonplace.

A10.12 We identified a number of factors influencing the negotiating strength of a WOCP or TCP, in particular:

- WOCPs accounting for a high share of wholesale call origination would likely be in a stronger position than WOCPs accounting for a low share of call origination.
- Similarly, TCPs accounting for a high share of termination would likely be in a stronger position than TCPs accounting for a low share of termination.
- Vertically integrated firms would likely be in a stronger position than vertically separate firms of comparable size.

A10.13 BT is by far the largest WOCP and is also the largest TCP. We considered that BT would likely be in a strong position, both in its role as a WOCP and its role as a TCP. We also considered that C&W, the second largest TCP, would likely be in a strong position when negotiating with smaller WOCPs (albeit not when negotiating with BT). Similarly, TalkTalk and Virgin Media, the second and third largest WOCPs, would likely be in a strong position when negotiating with smaller TCPs (albeit not when negotiating with BT). Mobile OCPs' account for a smaller share of non-geographic call origination, compared to calls more generally. Nonetheless EE, Vodafone and O2 might be in a strong position when dealing the smaller TCPs.

A10.14 We consulted on the view that we were not confident that the termination rates that would arise commercially (absent regulation or involvement by Ofcom) are likely to lead to desirable outcomes for consumers. In particular:

- Some WOCPs might be able to drive termination rates down to a particularly low level. In the long run this would result in detrimental effects for SPs, harming service provision and innovation, which are not offset by significant benefits for callers.
- Some TCPs might be able to set high termination rates that allow SPs to exploit features such as weak competitive constraints on the price of their service. This would result in higher retail prices for non-geographic calls. If competition in hosting is effective, the proceeds would likely be passed

[323] With the exception of BT's end-to-end connectivity obligation. December 2010 Consultation, paragraph A3.100.

through to SPs. This is the opposite of the outcome described in the preceding bullet point – it results in the balance of prices between callers and SPs being tilted in the SPs' favour.

- Different TCPs would likely negotiate different termination rates. Over the longer term, this asymmetry between TCPs would likely to lead to consolidation in hosting. This potentially harms competition at that level, which would have detrimental impacts for both SPs and callers.

A10.15 Further details of the analysis in the December 2010 Consultation are set out below in order to help explain the consultation responses that we received and our views on those responses.

Overview of the responses to the December 2010 Consultation

A10.16 With the possible exception of BT, no respondent disagreed with our high level position, namely that we are not confident that the termination rates that would arise commercially (absent regulation or involvement by Ofcom) are likely to lead to desirable outcomes for consumers. However some respondents challenged the detail of our analysis.

A10.17 BT's position was mixed. BT did not agree that, absent ex ante regulation, commercially negotiated termination rates would "automatically" be undesirable for consumers.[324] In addition, BT stated that the December 2010 Consultation failed to substantiate the claim that TCPs hold market power.[325] However elsewhere in its response BT stated that it is "arguable" that the outcome might be "undesirable" absent Ofcom's involvement at the wholesale level, although it queried the reliability of our analytical framework.[326]

A10.18 C&W did not dispute that it would have a reasonable amount of negotiating power (as a TCP) when dealing with smaller WOCPs. However it disagreed that this would be the case when it dealt with mobile networks.[327]

A10.19 In contrast, mobile operators argued that TCPs enjoy a strong position:

- EE considered that TCPs are a bottleneck and that under any plausible market definition BT would be found to have SMP.[328] It considered that TCPs can set termination rates with "impunity".[329]

- O2 stated that it did not agree with much of our analysis of wholesale negotiating power and instead argued that TCPs enjoy "great market power".[330]

- Vodafone agreed that wholesale relationships are complex. It stated that, from a WOCP's perspective, the TCP is a "bottleneck".[331]

[324] BT, December 2010 consultation response dated 31 March 2011, pages 25-26.
[325] BT, December 2010 consultation response dated 31 March 2011, Annex 4, paragraph 40. However BT also stated that the NTS Call Origination Condition does not "constrain other large terminators from exercising their strong negotiating position as a large terminating operator [sic]." BT consultation response dated 31 March 2011, pages 26.
[326] BT, December 2010 consultation response dated 31 March 2011, Annex 4, paragraph 26.
[327] C&W, December 2010 consultation response dated 31 March 2011, pages 13-14.
[328] EE, December 2010 consultation response dated 11 April 2011, Q5.1, paragraph 8.
[329] EE, December 2010 consultation response dated 11 April 2011, Q5.4, paragraph 4.
[330] O2, December 2010 consultation response, 10 March 2011, paragraphs 170 and 172.

- Three stated that it is a relatively small OCP and that larger TCPs enjoy a strong negotiating position.[332] Three agreed that, absent regulation at the wholesale level, differences in negotiating power are likely to lead to a range of termination rates. Three agreed that vertically integrated CPs were likely to be in a relatively strong position. Three also agreed that the resulting levels of termination rates are likely to have undesirable consequences for consumers.[333]

A10.20 Virgin Media considered that the most significant problems lie at the wholesale level, although their effects ultimately manifest at the retail level.[334] Virgin Media disagreed with our views on the balance of negotiating power. Virgin Media stated that, where the OCP does not have SMP in call origination, the OCP effectively has no bargaining power. As a result, TCPs are able to charge "excessive" termination rates.[335]

A10.21 Verizon stated that BT has SMP both as a call originator and as a terminator but did not comment on the detail of our analysis.[336]

The current operation of the wholesale level

A10.22 We first discuss the role that the current operation of the wholesale level plays in our analysis.

Position in the December 2010 Consultation

A10.23 In the December 2010 Consultation we explicitly stated that we were assessing how the wholesale level would operate in the absence of ex-ante regulation.[337] In other words, we were not considering the actual operation of the wholesale level (although there are considerable similarities between the two scenarios). We also adopted the "modified Greenfield approach", namely assuming the absence of any regulatory intervention that arises or would arise from a finding of SMP. Under this approach, we also disregarded the possibility of ex post involvement using the dispute resolution powers specified in Sections 185-191 of the Act.[338]

Stakeholder responses

A10.24 A number of stakeholders commented on the current operation of the wholesale level, particularly the operation of the NTS Call Origination Condition and the recent disputes in relation to BT's termination rates for 080 and 0845/0870 calls.

A10.25 The NTS Call Origination Condition means that changes in BT's retail prices result in corresponding changes in the termination payments BT makes to other TCPs i.e. it links the termination rates paid by BT to BT's retail prices.

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[331] Vodafone, December 2010 consultation response, Q5.4 on page 59.
[332] Three, December 2010 consultation response, paragraphs 4 and 52.
[333] Three, December 2010 consultation response, paragraphs 53-55.
[334] Virgin Media, December 2010 consultation response, page 3. Also Q2.2 on page 5, Q5.3 on page 15.
[335] Virgin Media, December 2010 consultation response, Q5.4 on page 16. Also page 17.
[336] Verizon, December 2010 consultation response, Q5.1 on page 10 and Q6.2 on page 11.
[337] December 2010 Consultation, paragraph A3.4.
[338] December 2010 Consultation, paragraphs A3.92-A3.100.

- BT stated that this link between its payments to TCPs and its retail prices has caused commercial disagreements between BT and TCPs. This link creates uncertainty for TCPs about the amount of revenue they will receive (BT cited C&W's response to the Call for Inputs in support of this proposition).[339] BT also stated that the NTS Call Origination Condition confers market power on WOCPs that "do not comply with Ofcom's policy preference".[340]

- UKCTA expressed concern about the operation of the Call Origination Condition in relation to 0845 calls due to the linkage between termination rates and BT's retail prices. UKCTA considered that this means these termination rates are unpredictable and unduly controlled by BT.[341]

- Verizon stated that there are currently significant problems at the wholesale level.[342] In particular, it referred to the linkage between retail prices for 0845 calls and termination rates.[343]

A10.26 We also received other more general comments on the current operation of the wholesale level.

- EE stated that the recent series of disputes about termination rates is a concern for the industry.[344]

- Sky pointed to the series of disputes at the wholesale level and stated that deregulation is likely to result in further disputes.[345] Sky considered that the primary problems exist at the wholesale level.[346] Sky stated that regulatory changes to address wholesale arrangements could improve certainty and efficiency.[347]

- C&W considered that BT has sought to increase its retention at the wholesale level, pointing to BT's introduction of variable termination rates (which led to the 080 and 0845/0870 disputes) and NCCN 500. C&W considered that the "failure" in the wholesale market is a symptom of problems at the retail level.[348]

- Virgin Media stated that currently the wholesale level is effectively deregulated, with the exception of calls originated by BT.[349] Virgin Media stated that the dispute resolution regime does not effectively control TCPs because there is uncertainty about the outcome of disputes.[350]

Ofcom's current view

A10.27 Below we briefly explain how our analytical approach relates to the current operation of the wholesale level. We then explain where we respond to

[339] BT, December 2010 consultation response, page 20. Also page 25.
[340] BT, December 2010 consultation response, Annex 4, paragraph 41.
[341] UKCTA, December 2010 consultation response, section 1.3 on page 6.
[342] Verizon, December 2010 consultation response, paragraph 16.
[343] Verizon, December 2010 consultation response, paragraphs 17-19.
[344] EE, December 2010 consultation response, Q2.2, paragraph 3(h).
[345] Sky, December 2010 consultation response, paragraphs 1.6-1.7.
[346] Sky, December 2010 consultation response, paragraph 1.17.
[347] Sky, December 2010 consultation response, paragraph 1.8. Also paragraph 1.2.
[348] C&W, December 2010 consultation response, pages 10-11.
[349] Virgin Media, December 2010 consultation response, Q5.4 on page 16.
[350] Virgin Media, December 2010 consultation response, Q5.4 on page 17.

stakeholders' concerns about the effectiveness of the current regulatory tools that we use at the wholesale level.

Our analytical framework and the current operation of the wholesale level

A10.28 As explained in Section 5, in this current consultation we assess how the wholesale level currently operates (albeit within the framework of the modified Greenfield approach). In principle this slightly differs from the approach in the December 2010 Consultation, where we assessed how the wholesale level would operate in the absence of ex ante regulation. However, in practice this does not affect the substance of our analysis.

A10.29 In the December 2010 Consultation, because we were considering assessing the situation absent ex ante regulation, we disregarded the operation of the NTS Call Origination Condition. However, even if we had been considering the current situation in that document we would have nonetheless disregarded the NTS Call Origination Condition as a consequence of our adoption of the modified Greenfield approach.[351] As a result, the remainder of the reasoning in Annex 3 of the December 2010 Consultation would not have been affected and we would have consulted on the same (provisional) conclusions.[352]

A10.30 To summarise:

- In the December 2010 Consultation, we assessed how the wholesale level would operate absent the NTS Call Origination Condition (since we considered the deregulation scenario). We also disregarded our dispute resolution powers under the modified Greenfield approach.

- In this current consultation, we assess how the wholesale level currently operates. However we disregard both the NTS Call Origination Condition and our dispute resolution powers under the modified Greenfield approach.

Our response to stakeholders' concerns about current regulatory tools

A10.31 While the NTS Call Origination Condition and our dispute resolution powers are disregarded for analytical purposes, stakeholders have nonetheless questioned their effectiveness. We do not address stakeholders' concerns about these pieces of regulation in this Annex – rather they are relevant to our discussion of remedies. For the purposes of the substantive analysis in this Annex we continue to adopt the modified Greenfield approach and therefore disregard these pieces of regulation.

[351] The NTS Call Origination Condition is an SMP condition that was put in place to address BT's SMP in the provision of wholesale call origination on fixed narrowband networks. Such SMP conditions are disregarded under the modified Greenfield approach. Clearly if we did not disregard this condition we might conclude that the balance of negotiating power was not skewed in BT's favour, solely because of the presence of the NTS Call Origination Condition. This is precisely the circular situation described in paragraph A3.99 of the December 2010 Consultation that we wish to avoid. It is also consistent with the reasons for disregarding ex ante regulation set out in paragraph A3.60 of the December 2010 Consultation.

[352] As in the December 2010 Consultation, we do not disregard BT's end-to-end connectivity obligation. We stated that this obligation means that BT might find it more difficult than other buyers of non-geographic call termination to refuse to connect calls (assuming our dispute resolution powers were disregarded). It thus makes the fallback position of not connecting calls less attractive to BT. (December 2010 Consultation, footnote 372 to paragraph A3.100). Insofar as CPs other than BT are required to negotiate over connectivity then there might be a similar effect on other CPs.

This approach allows us to understand the underlying commercial relationships between WOCPs and TCPs.

A10.32 As explained below, we are not confident that the termination rates that would arise commercially (absent regulation or involvement by Ofcom) are likely to lead to desirable outcomes for consumers. We consider potential remedies for the retail and wholesale concerns that we have identified in Parts B and C:

- In those Sections we explain why only intervening at the wholesale level is not appropriate because it fails to address the substantial concerns we have about the operation of the retail level. This implies that, even if dispute resolution or the NTS Call Origination Condition were the best means of addressing our wholesale concerns, we would nonetheless need to consider interventions to address our retail concerns.

- Our preferred interventions are setting maximum retail prices for calls to 080 and 116 numbers and unbundling for other 08 and 09 numbers. These interventions have implications for both the NTS Call Origination Condition and the likelihood of disputes.

A10.33 Stakeholders expressed concerns about the incentives created by the NTS Call Origination Condition. We explain in Section 12 that we have begun a new review of narrowband call markets (including wholesale call origination) and expect to publish a 'Call for Inputs' in mid-2012 and detailed proposals early in 2013. We will consider the future of the NTS Call Origination Condition as part of that review, taking into account both our proposals for non-geographic calls and the effects that different regulatory options have.

A10.34 In terms of dispute resolution, we explain in Section 9 that the retail remedy we are proposing for most 08 and 09 numbers (the unbundled tariff) is also likely to reduce the level of disputes between OCPs and TCPs over termination payments. As well as making 080 and 116 numbers free to caller, we are also proposing to impose an ex ante access condition on all TCPs requiring them to purchase wholesale origination on reasonable terms and conditions (including charges). See Section 17 for further details. We intend to provide more specific guidance on what would be considered to be reasonable when we consult on the draft access condition. Providing guidance may the reduce likelihood of disputes (by providing OCPs and TCPs with greater clarity about the likely outcome) and provide greater certainty for stakeholders.

Defining termination markets

A10.35 We now discuss whether we should conduct a formal market definition exercise.

Position in the December 2010 Consultation

A10.36 In the December 2010 Consultation we did not assess whether or not any party has significant market power. Rather we were looking at the relative position of both sides in the wholesale negotiations i.e. the relative position of both the WOCP and the TCP. We did not set out a formal market definition.[353]

[353] December 2010 Consultation, paragraph A3.113.

Stakeholder responses

A10.37 EE considered that a "fundamental aspect" of this review should be reassessing Ofcom's historic approach to defining termination markets.[354] EE considered that TCPs are a bottleneck and that under any plausible market definition BT would be found to have SMP.[355]

A10.38 EE considered that our conclusions on market definition in the NCCN 500 Decision were inconsistent with the approach to other termination markets (where each network generally constitutes a separate market).[356] EE considered that TCPs' hosting and termination activities should be analysed as separate markets.[357] BT also referred to the NCCN 500 "precedence" [sic] and stated that it is not relevant.[358]

Ofcom's current view

A10.39 This project is not a formal market review under sections 79 to 84A of the Act. There is thus no requirement for Ofcom to define relevant markets. Rather the purpose of this project is to analyse the supply of non-geographic calls more generally and determine what regulatory action is appropriate, if any, using the full suite of powers that are available to us. In Section 9 we consider (and reject) intervening solely at the wholesale level, for example via a market review.

A10.40 Moreover EE's response only refers to the definition of termination markets, which is a precursor to assessing whether TCPs possess a degree of market power. We think it is equally important to consider whether some or all WOCPs are in a strong position. For example, Magrathea argued that it would be "commercial suicide" for a TCP not to terminate calls from a "major" WOCP (other TCPs have expressed similar views).[359] Indeed the current wholesale regulation of BT addresses BT's SMP as a WOCP. We consider that the framework we adopted in the December 2010 Consultation for assessing the balance of negotiating power between WOCPs and TCPs – to see whether either party is in a strong position – is well suited to this task.

A10.41 For the avoidance of doubt, we have not explicitly defined markets or assessed market power. This means that we are not making any finding that either WOCPs or TCPs have market power. However equally we are not concluding that no market power exists.[360]

A10.42 EE criticised the consistency of our 2008 NCCN 500 Decision and BT questioned its relevance. The NCCN 500 Decision reflects our assessment of the facts relating

[354] EE, December 2010 consultation response, Q5.1, paragraph 4. Virgin Media also advocated a review of the "NTS call termination market". Virgin Media, December 2010 consultation response, Q5.4 on page 18; also Q6.2 on page 19.
[355] EE, December 2010 consultation response, Q5.1, paragraph 8.
[356] EE, December 2010 consultation response, Q5.1, paragraphs 3-4. These paragraphs refer to Ofcom's historic view that "a separate call termination market does not exist" which we understand to be a reference to our conclusions in the NCCN 500 Decision.
[357] EE, December 2010 consultation response, Q5.1, paragraph 5. Also paragraphs 2 and 6.
[358] BT, December 2010 consultation response, Annex 4, paragraph 40.
[359] December 2010 Consultation, paragraph A3.112. See also Gamma, FleXtel and TNUK's comments at paragraphs A3.36-A3.37 and A3.110-A3.111.
[360] With the exception of our previous finding that BT has SMP in wholesale call origination on fixed narrowband networks in the UK excluding the Hull area. See Wholesale Narrowband Statement, paragraph 6.42.

to that case. It is important to recognise that we did not place particular reliance on the NCCN 500 Decision in the December 2010 Consultation. Rather we conducted a fresh analysis of the position at the wholesale level.[361] Indeed the NCCN 500 Decision relates to a particular period in time (May 2004 – January 2006) and, as we explained in the 0845/0870 Dispute Determination, there has been a material change in circumstances since then.[362]

A10.43 In summary, we do not agree with EE's view that a reassessment of our approach to market definition should form part of this current review.

Factors determining the balance of negotiating power

A10.44 We now consider the responses we received on our substantive assessment of the balance of negotiating power between WOCPs and TCPs. We first summarise our position in the December 2010 Consultation. We then consider the responses on the various analytical factors in turn. Finally we summarise our position on the factors determining the balance of negotiating power.

Position in the December 2010 Consultation

A10.45 In the December 2010 Consultation we explored the consequences if termination rates were determined through commercial negotiation. An overview of the steps in this analysis is set out below.

Focus on relative negotiating power

A10.46 In the absence of ex-ante regulation, it would be feasible for TCPs to charge different termination rates to different WOCPs for calls to the same number (we refer to this as "bespoke termination rates"). As a result, the termination rate paid by a WOCP would depend on that particular WOCP's negotiating strength.[363] The balance of bargaining power between a specific WOCP and TCP depends on their relative importance to each other.[364]

A10.47 WOCPs and TCPs are heterogeneous.[365] Table A10.2 below reproduces the broad overview that we presented in the December 2010 Consultation (this table is not intended to include all WOCPs and TCPs).[366]

[361] December 2010 Consultation, paragraph A3.102.
[362] Specifically that BT's billing system as a transit operator is no longer acting as a serious barrier to other TCPs choice of termination rate. This issue was this was a relevant consideration in the analysis of BT's dominance in the NCCN 500 Decision. 0845/0870 Dispute Determination, paragraphs 5.30-5.31 and 7.117.
[363] December 2010 Consultation, paragraphs A3.69-A3.72.
[364] December 2010 Consultation, paragraphs A3.73-A3.74.
[365] December 2010 Consultation, paragraphs A3.75-A3.84.
[366] December 2010 Consultation, Table A3.4. See also paragraph A3.76.

Table A10.2: Taxonomy of firms active at the wholesale level

	Very large TCPs	Large TCPs	Medium TCPs	Small TCPs/not active in termination
Very large WOCPs	[n/a]	BT	[n/a]	[n/a]
Large WOCPs	[n/a]	[n/a]	TalkTalk, Virgin Media	[n/a]
Medium WOCPs	[n/a]	C&W	[n/a]	EE, O2, Vodafone
Small WOCPs/not active in origination	[n/a]	[n/a]	[n/a]	Three, Magrathea

Source: Ofcom analysis based on 2010 Flow of Funds study

A10.48 Economic theory suggests that there are two underlying determinants of WOCP's and TCP's relative negotiating strength:[367]

- First, how unattractive is the 'fallback option' if no agreement is reached? The worse the fallback option is for a party, the weaker its negotiating position. We would expect that, where the consequences for one party are very serious should the WOCP and TCP fail to agree on termination rates, the other party knows that it can drive a harder bargain.

- Second, how would callers and SPs react to higher termination rates? For example, if consumers would respond to increases in termination rates by ceasing to make calls to non-geographic numbers hosted by the TCP in question then we would expect that this makes it harder for the TCP to successfully negotiate high termination rates.

A10.49 We summarise the position in the December 2010 Consultation in relation to these two factors below.

The fallback position

A10.50 As explained above, in the December 2010 Consultation we disregarded our dispute resolution powers. As a result, if the WOCP and the TCP fail to agree on a mutually acceptable termination rate then non-geographic calls will not be connected between them.[368] We considered the impact of this fallback position on both the WOCP (which depends on how its callers react) and on the TCP (which depends on how both callers and SPs will react).[369]

A10.51 In the December 2010 Consultation our provisional conclusion of the fallback position for the WOCP was as follows:[370]

[367] December 2010 Consultation, paragraph A3.115.
[368] December 2010 Consultation, paragraph A3.117.
[369] WOCPs were considered in paragraphs A3.126-A3.136 and TCPs in paragraphs A3.137-A3.144 of the December 2010 Consultation.
[370] December 2010 Consultation, paragraph A3.136.

- It is clearly unattractive for WOCPs not to originate calls to TCPs. The evidence is not clear cut as to how unattractive this fallback option is – it depends on a number of complicated factors which may vary between WOCPs and TCPs.

- The larger the TCP, the more detrimental the consequences of refusing to originate calls to that TCP. The greater the proportion of non-geographic numbers that are unavailable to a caller, the less likely that the caller is able to reach an alternative SP and the greater their annoyance. The greater the negative effect on subscribers originating calls via a particular WOCP, the more likely they are to switch elsewhere, thereby harming that WOCP's profits.

- The possibility that callers become unhappy with their current ROCP and switch their subscription elsewhere makes it risky for WOCPs to refuse to originate non-geographic calls. While the extent of caller switching is uncertain, the proportionate effect of it on the WOCP (compared to the alternative of acceding to the TCP's position on non-geographic calls) is relatively large because the WOCP would lose all of that consumer's purchases, not just non-geographic calls.

A10.52 In the December 2010 Consultation our provisional conclusion on the fallback position for the TCP was as follows:[371]

- It is clearly unattractive for TCPs if WOCPs do not originate calls to them. However, as in the case of the WOCP's fallback position, the evidence is not clear cut as to how unattractive this fallback option is for TCPs.

- The larger the WOCP, the more detrimental the consequences for the TCP of a refusal to originate calls. In particular, failing to reach agreement with large WOCPs is likely to weaken the TCP's position at the hosting level and encourage SPs to switch elsewhere. The proportionate effect of such switching would be relatively large on the TCP (compared to the alternative of acceding to the WOCP's position on non-geographic calls), because the TCP would lose incoming calls to that SP from all WOCPs, not just the specific WOCP in question.

Reaction to higher termination rates

A10.53 In the December 2010 Consultation we considered how callers and SPs might react if a TCP pressed for higher termination rates.[372] This depends on whether ROCPs would 'spread' the effects of higher termination rates, for example by increasing the retail price of all non-geographic calls, rather than just increasing the retail price of calls to numbers hosted by that TCP.[373] Our view was that:

- Fixed ROCPs are less likely to 'spread' any increase in termination rates than mobile OCPs, with the possible exception of the 080, 0845 and 0870 number ranges.[374]

[371] December 2010 Consultation, paragraph A3.144.
[372] December 2010 Consultation, paragraphs A3.145-A3.167.
[373] December 2010 Consultation, paragraphs A3.150-A3.155.
[374] December 2010 Consultation, paragraph A3.154.

- In contrast, mobile ROCPs are generally likely to 'spread' the impact of higher termination rates across whole number ranges.[375]

A10.54 Since higher termination rates are likely to result in higher retail prices, we considered how callers might react to higher retail call prices.[376] We also noted that if the volume of calls received by SPs falls then those SPs may respond by switching to another TCP, which weakens the TCP's position.[377] Our provisional conclusion was that the evidence on how callers would react is mixed. Evidence from previous reviews suggested that, while a significant proportion of callers are locked in to a particular SP, such calls are nonetheless in the minority. However this evidence was not complete. Similarly, the impact of poor caller price awareness was ambiguous.[378]

Impact of vertical integration

A10.55 Finally in the December 2010 Consultation we considered how vertical integration affects a firm's negotiating strength (i.e. firms that operate both as a TCP and as a WOCP/ROCP). We considered that vertical integration strengthens a TCP's position since callers might switch to the vertically integrated firm's ROCP business (in response to either higher termination rates or a failure to reach agreement). Similarly, vertical integration strengthens a WOCP's position since switching by callers (to different SPs) and by SPs (to different TCPs) may reinforce the vertically integrated TCP business. Moreover, the vertically integrated WOCP has an additional incentive not to agree to higher termination rates, since this would strengthen the position of the rival TCP in the hosting market.[379]

Provisional conclusions on the balance of negotiating power

A10.56 Our provisional conclusions in the December 2010 Consultation have already been summarised in paragraphs A10.10-A10.15 above.[380] In particular, we drew upon firms' shares of supply and whether or not they were vertically integrated.

Issues raised by stakeholders

A10.57 Below we discuss stakeholders' comments on the following aspects of our analysis:

- the fallback position;
- callers' reaction to higher termination rates;
- vertical integration;
- the interpretation of shares of supply;
- the impact of transit; and
- various miscellaneous issues.

[375] December 2010 Consultation, paragraph A3.155.
[376] December 2010 Consultation, paragraphs A3.156-A3.164.
[377] December 2010 Consultation, paragraphs A3.165-A3.166.
[378] December 2010 Consultation, paragraph A3.167.
[379] December 2010 Consultation, paragraphs A3.168-A3.172.
[380] These conclusions were originally set out in paragraphs A3.173-A3.177 of the December 2010 Consultation.

The fallback position

A10.58 We received responses in relation to three issues relevant to the fallback position, namely the nature of the fallback position, the likelihood of negotiations breaking down and the consequences of the fallback position for WOCPs and TCPs.

<u>Nature of the fallback position</u>

Stakeholder responses

A10.59 BT stated that it was "misplaced" to suggest that BT, as an OCP, would not originate calls if it failed to agree a termination rate with a TCP because it would mean that BT would forego the revenue associated with those calls.[381]

Ofcom's current view

A10.60 BT may be arguing that it (as an OCP) has an incentive to reach agreements with a TCP since otherwise it would forego the revenue associated with calls to that TCP. We agree that this incentive exists and discuss below the likelihood of negotiations breaking down.

A10.61 However in that the event that a WOCP and TCP are unable to agree a termination rate (i.e. in the fallback position), our analysis continues to proceed on the basis that calls between those parties would cease. Put simply, where the two parties to a transaction are unable to agree a price then that transaction cannot proceed. Moreover, as explained above, for the purposes of this analysis we have disregarded our dispute resolution powers. As a result, if a WOCP and TCP fail to agree on termination rates they cannot continue to originate and terminate calls while the regulator retrospectively determines what rate should have applied to those calls (as is currently the case during disputes under the Act).

<u>The likelihood of negotiations breaking down</u>

Stakeholder responses

A10.62 In support of its claim that commercially negotiated termination rates may not be undesirable for consumers, BT argued that TCPs and SPs are reliant on receiving calls and OCPs' customers wish to be able to make calls.[382] BT stated that it should be possible to reach agreement since failing to reach agreement in relation to non-geographic calls would have damaging "implications" for the wider commercial relationship between the parties:[383]

- BT stated that it would always expect to reach a negotiated agreement with large WOCPs and TCPs.[384]

- BT asserted that refusing to negotiate with smaller WOCPs or TCPs would not be commercially worthwhile given the likely damage to BT's reputation and the impact on end-users.[385]

[381] BT, December 2010 Consultation response, page 28.
[382] BT, December 2010 Consultation response, pages 25-26.
[383] BT, December 2010 consultation response, Annex 4, paragraphs 31-32.
[384] BT, December 2010 consultation response, Annex 4, paragraph 34.
[385] BT, December 2010 consultation response, Annex 4, paragraph 33.

- In support of its position BT stated that there is comparatively little blocking of non-geographic services, except where there are direct substitutes (e.g. DQ services).[386]

Ofcom's current view

A10.63 We agree with BT that it is unattractive for both WOCPs and TCPs if they fail to reach agreement – indeed we made this point in paragraphs A3.136 and A3.144 of the December 2010 Consultation. However, as explained above, the reason why we analysed the fallback position was because it determines the strength of parties' negotiating position. The worse the fallback option is for a party, the weaker its negotiating position.[387] Negotiations do not need to break down before the fallback position becomes relevant.[388]

A10.64 Thus, we agree with BT's argument that WOCPs and TCPs are likely to ultimately reach an agreement on termination rates (given the negative consequences for both parties if they fail to do so). However BT's argument somewhat misses the point. The reason that we analysed the fallback position in the December 2010 Consultation was to help understand whether whatever agreement is reached on termination rates is likely to be heavily skewed in favour of one party. We continue to believe that the fallback position is very relevant to the analysis of WOCPs' and TCPs' relative negotiating strength.[389]

<u>Impact of the fallback position on WOCPs and TCPs</u>

Stakeholder responses

A10.65 Some stakeholders argued that the fallback position is more unattractive for TCPs than for mobile WOCPs:

- BT stated that, even where a TCP has a high share of supply, SPs are readily able to switch away to an alternative hosting provider. BT contrasted this with the position of OCPs which are able to compete for callers despite setting relatively high retail prices for non-geographic calls.[390] BT stated that most callers with a BT landline are likely to have a choice over how to originate calls since they are likely to also have a mobile phone. BT stated that the converse may not be true, given the growing number of mobile only households.[391]

- C&W stated that, if mobile WOCPs did not originate calls to non-geographic number ranges hosted by C&W then this would only affect 1% of their traffic and that this proportion is too insubstantial to prompt mobile subscribers to change their behaviour. C&W considered that this weakens its negotiating power when dealing with mobile WOCPs.[392]

[386] BT, December 2010 consultation response, Annex 4, paragraph 35.
[387] December 2010 Consultation, paragraph A3.115, first bullet.
[388] This is consistent with economic analysis. For example, the Nash bargaining solution involves agreement between the parties (assuming that an arrangement that is a Pareto improvement to the fallback position exists) but is nonetheless dependent on parties' payoffs in the fallback position.
[389] We address BT's specific argument about the impact on its reputation of failing to reach agreement below.
[390] BT, December 2010 consultation response, Annex 4, paragraph 27, second bullet.
[391] BT, December 2010 consultation response, Annex 4, paragraph 37.
[392] C&W, December 2010 consultation response, page 14.

A10.66 In contrast, other stakeholders argued that the fallback position is more unattractive for mobile WOCPs than for TCPs:

- EE stated that it is unattractive for the WOCP not to connect calls to a TCP because doing so would make the WOCP less attractive from the perspective of callers. TCPs thus act as a “bottle-neck”.[393] EE acknowledged that a WOCP could refuse to originate calls to some substitutable services (such as horoscopes, sexual entertainment services and some information lines). However EE stated that the vast majority of services available via non-geographic numbers are not substitutable from callers’ perspective. EE did not provide any evidence to support this proposition.[394] As a result EE considered that TCPs – even if they have a comparatively low share of supply – can set termination rates with “impunity” without this risking their position in the hosting market.[395]

- O2 stated (without providing evidence) that callers expect to be able to connect to any dialled number. Failing to originate calls to a TCP is thus not a “legitimate” option for WOCPs.[396]

- Vodafone stated that TCPs are a “bottleneck” from a WOCP’s perspective. It stated that while the relative size of the TCP and WOCP may be relevant, the services offered via non-geographic numbers may also be relevant. Vodafone stated that whether or not callers to a particular non-geographic service are locked in may not easily be visible to WOCPs. Vodafone considered that this increases the risks to WOCPs of failing to reach agreement, since their callers may be unable to reach services for which they are locked in i.e. for which alternatives are not available.[397]

- Virgin Media stated that OCPs would be very unlikely to refuse to originate calls to numbers hosted by a TCP because callers expect to be able to access non-geographic numbers (e.g. for banks, utilities, government services).[398]

Ofcom’s current view

A10.67 As a preliminary point, the key issue is the relative unattractiveness of the fallback position for both the WOCP and the TCP. In short, is this position worse for one party than for the other? It is not sufficient to simply observe that the fallback position is unattractive for party X, for example because counterparty Y is a ‘bottleneck’. It is also necessary to consider whether the fallback position is unattractive for party Y. Indeed X may also be a ‘bottleneck’ from Y’s perspective.

A10.68 Turning to the detail of the particular points raised by stakeholders:

- BT argued that there were few obstacles to SPs switching away from TCPs. We highlighted TCPs’ concerns about this issue in the December 2010

[393] EE, December 2010 consultation response, Q5.4, paragraph 4. Also Q5.1 paragraphs 8-9.
[394] EE, December 2010 consultation response, Q5.4, paragraph 5.
[395] EE, December 2010 consultation response, Q5.4, paragraphs 4-5.
[396] O2, December 2010 consultation response, paragraph 172.
[397] Vodafone, December 2010 consultation response, Q5.4 on page 59.
[398] Virgin Media, December 2010 consultation response, Q5.4 on page 16.

Consultation and stated that the 2010 SP Survey suggests that barriers to SPs switching between TCPs are low.[399]

- BT attempted to draw a contrast with the position of OCPs, implying that callers did not switch between OCPs in response to non-geographic call prices. However, when considering the fallback position the focus is on how callers react to being unable to make non-geographic calls, rather than their reaction to higher prices.[400]

- This leads on to the next point, namely whether a mobile WOCP is likely to lose subscribers if it is unable to offer non-geographic calls to a TCP. C&W and BT argued that this was unlikely to happen whereas EE, O2, Vodafone and Virgin Media argued that this was a significant risk. These respondents did not advance any new argumentation beyond that already considered in the December 2010 Consultation.[401]

- We agree with Vodafone and EE that how costly the fallback position is depends on the mix of SPs hosted by a particular TCP. For example, if consumers cannot access a particular sexual entertainment service or DQ service then they could instead call a rival service offered by a SP hosted on a different TCP. As a result, the fallback position for the WOCP may not be particularly disadvantageous.[402] Indeed we note that negotiations to originate mobile calls to some DQ services have not successfully concluded.[403] In contrast, where a caller is unable to access their bank (an example cited by Virgin Media) the effects on the WOCP are likely to be more serious. We discussed these issues in the December 2010 Consultation.[404]

- In the December 2010 Consultation, we stated that the majority of households have access to both a mobile phone and a landline and observed that it is relatively easy for these households to make a non-geographic call via another WOCP.[405] BT stated that "most" subscribers with a BT landline are likely to have access to a mobile phone. However BT claimed this may not be the case for mobile networks. BT did not provide evidence to substantiate this latter claim and it does not appear to be correct. In 2011, 5% of households only had a landline, 15% of households only had a mobile phone and 79% of households had both.[406] It thus seems likely that only a minority of the consumers originating calls via a particular mobile WOCP are in mobile-only households.[407] Moreover, even if the majority of the consumers originating

399 December 2010 Consultation, paragraphs A3.140 and A3.143.
400 A distinction we emphasised in paragraph A3.118 of the December 2010 Consultation.
401 December 2010 Consultation, paragraphs A3.127-A3.135. In particular, in paragraph A3.129 we discuss the inferences that can be drawn from the low proportion of overall mobile call volumes accounted for by non-geographic calls (a point emphasised by C&W). In paragraphs A3.134-A3.135 we discussed the scope to instead call another SP (a point raised by EE, Vodafone and Virgin Media).
402 See Reaction 4 in Table A3.9 of the December 2010 Consultation.
403 BT referred to the lack of access to certain DQ services in BT consultation response dated 31 March 2011, Annex 4, paragraph 35.
404 In particular we referred to whether callers are likely to be "locked in" to a particular SP. See December 2010 Consultation, paragraphs A3.134-A3.135. That discussion also cross-referred to paragraphs A5.111-A5.117 of the December 2010 Consultation.
405 December 2010 Consultation, paragraph A3.139. The implications of the different ways in which callers may react are set out in paragraph A3.121-A3.123.
406 The Consumer Experience Report 2011, Figure 28 on page 25.
407 Of the 94% of households that have a mobile phone, 79 percentage points (i.e. 84%) also have a landline.

their calls via a particular WOCP only had access to a single device, the impact on the strength of that WOCP's bargaining position is not clear cut. On the one hand, if it makes it more likely that consumers would change their subscription (because they cannot call their favoured SP) then this is likely to weaken the WOCP's negotiating position. On the other hand, if it makes it more likely that they would call another SP (because the option of calling their favoured SP by using a different device is not available to them) then it is likely to strengthen the WOCP's negotiating position.[408]

A10.69 In summary, there was no consensus amongst respondents. Generally there was merit in many of the points made in response to the December 2010 Consultation. However respondents tended to consider (or to over-emphasise) the position of only one side, either WOCPs or TCPs. We consider it is important to take a balanced view, looking at both WOCPs and TCPs. We did not receive any further evidence on this matter from stakeholders and the issues that they raised were already considered in the December 2010 Consultation. Accordingly our views on the fallback position remain unchanged.

Callers' reaction to higher termination rates

Stakeholder responses

A10.70 We did not receive any responses on the analysis of callers' reaction to higher termination rates set out in paragraphs A3.145-A3.167 of the December 2010 Consultation. However:

- EE stated that TCPs' position is largely independent of the SPs' position because termination rates are set for blocks of numbers, rather than on a number by number basis.[409]
- The section of O2's response dealing with (wholesale) "market power" did refer to increases in termination rates for the three leading DQ providers.[410]

Ofcom's current position

A10.71 We deal first with EE's observations. We discussed the consequences of termination rates being set for blocks of numbers in the December 2010 Consultation.[411] We explained that the impact on different SPs of a rise in the termination rate for a number block will vary depending on those SPs' competitive position and referred to our previous observation that TCPs face competitive pressures based on the "average" type of call to that number block.

A10.72 Turning next to O2's comments, in paragraphs 5.31-5.33 of the December 2010 Consultation we explained why the effectiveness of competition between SPs such as DQ providers is being diminished by SPs' inability to control their retail prices.[412] In support of our argument we cited the fact that mobile OCPs set few (or, in O2's case, just one) price points for DQ providers.

[408] Contrast the impacts on the WOCP and TCP of caller reactions 3 and 4 in Table A3.9 in the December 2010 Consultation.
[409] EE, December 2010 consultation response, Q5.4, paragraph 6.
[410] [✂]. O2, December 2010 consultation response, paragraphs 174-175.
[411] December 2010 Consultation, paragraphs A3.162 and A3.166.
[412] Our views on this point remain unchanged – see Annex 8.

A10.73 This limited number of retail price points means that, if a DQ provider increases its termination rate then this is likely to have a diluted effected on the retail price of calls to its service. We discussed this dilution effect in paragraphs A3.150-A3.155 of the December 2010 Consultation. We consider that O2's evidence supports the view that diluting the relationship between retail prices and termination rates has the effect of weakening constraints on those termination rates. In other words, mobile OCPs' practice of diluting the effects of changes in termination rate tends to weaken their negotiating position when dealing with TCPs.[413]

A10.74 The factors highlighted by EE and O2 were both discussed in the December 2010 Consultation. We also highlighted uncertainty about the extent to which consumers are "locked in" to a particular SP and the impact of poor price awareness. Thus, in summary, our view remains unchanged from the position set out in the December 2010 Consultation, namely that the evidence of how callers would react to higher termination rates is mixed.[414]

Vertical integration

Stakeholder responses

A10.75 BT disagreed with our analysis of vertically integrated firms for a number of reasons:

- First, BT stated that Ofcom's analysis was inconsistent with our arguments in the 080 and 0845/0870 disputes that the "FTPE" (Fixed Tariff Package Effect) was not incentivised.[415]
- Second, BT disagreed that large OCPs and TCPs enjoy market power. As a consequence, BT considered that vertical integration was not important.[416]
- Third, BT stated that BT is not the only vertically integrated operator and that other WOCPs are capable of starting a hosting business.[417]

A10.76 C&W and EE both expressed concerns about the incentives created by vertical integration:

- C&W was concerned that, absent regulation, vertically integrated CPs such as BT would have the ability to "treat their own termination business to beneficial termination rates which competitors could not match".[418]
- EE stated that, absent the NTS Call Origination Condition, BT's position as a vertically integrated firm with significant WOCP and TCP businesses could cause EE competitive harm.[419]

[413] A point we made in paragraph A3.164 of the December 2010 Consultation.
[414] December 2010 Consultation, paragraph A3.167.
[415] BT, December 2010 consultation response, Annex 4, paragraph 42.
[416] BT, December 2010 consultation response, Annex 4, paragraph 27, third bullet.
[417] BT, December 2010 consultation response, Annex 4, paragraph 42.
[418] C&W, December 2010 consultation response, pages 13.
[419] EE, December 2010 consultation response, Q5.5, paragraph 3.

Ofcom's current position

A10.77 In the 0845/0870 dispute, we considered an argument by BT and C&W that if vertically integrated TCPs earn higher profits from termination of 0845/0870 calls they might pass on some or all of these increased profits to consumers via lower prices for services such as fixed access, fixed calls or broadband.[420] In response we stated that:

> "… no … clear incentive has been identified either by BT or C&W to underpin [this effect]. It is unclear how acquiring another voice customer or broadband customer leads the TCP to receive more 0845/0870 calls or earn increased profit from 0845/0870 termination (which depends on the hosting of SPs). As such, there is no clear profit-based incentive for [this effect]."[421]

A10.78 The effects of vertical integration that we identified in the December 2010 Consultation did not rely on a vertically integrated TCP using higher profits from termination to support lower prices for fixed consumers. Accordingly BT's claim that our position in the December 2010 Consultation is inconsistent with our position in the 0845/0870 Dispute Determination is not correct. Rather the effects identified in the December 2010 Consultation were:

- In the case of a WOCP that is negotiating with the vertically integrated firm's TCP business, callers may switch away from their current ROCP, either in response to that ROCP no longer originating calls to the vertically integrated firm's TCP business or in response to the vertically integrated firm raising its termination rates. Where callers switch to the vertically integrated firm's ROCP business then it earns additional retail revenue as a result. This will tend to strengthen the vertically integrated firm's position.[422]

- In the case of a TCP that is negotiating with the vertically integrated firm's WOCP business, callers may instead phone another SP hosted by the vertically integrated firm in response to the WOCP refusing to originate calls. In addition, if the WOCP refuses to originate calls to the TCP in question then SPs may switch away from that TCP to the vertically integrated firm's hosting business. Finally, if the WOCP were to agree to a higher termination rate for a rival TCP then this is likely to strengthen that rival TCP's position at the hosting level (since it can pay a larger revenue share to SPs). The TCP would thus impose a stronger constraint on the vertically integrated firm's hosting business. This makes it less attractive for the WOCP to agree to higher termination rates and strengthens its negotiating position.[423]

A10.79 Turning now to BT's second argument, this rests upon its proposition that the size of WOCPs and TCPs does not affect the strength of their negotiating position. As explained in paragraphs A10.87-A10.91 below, we do not agree with this proposition. Moreover, the reasoning behind our position is that the reaction of

[420] 0845/0870 Dispute Determination, paragraph 7.47. This effect was referred to as the "fixed tariff package effect" in that document. We do not use this terminology here, in order to avoid confusion with the discussion of the tariff package effect elsewhere in this document.

[421] 0845/0870 Dispute Determination, paragraph 7.53. We also observed that "… there are many complications in the pricing decisions made by operators supplying multiple services in competition against other players, which economic models are unlikely to fully capture. For this reason we do not exclude the possibility that [this effect] could arise…"

[422] December 2010 Consultation, paragraph A3.170.

[423] December 2010 Consultation, paragraphs A3.171-A3.172.

callers and/or SPs to either a breakdown in negotiations or higher termination rates can create some extra beneficial effects for the other arm of a vertically integrated firm. None of BT's reasons for rejecting the relevance of share of supply figures (transit, collective bargaining by small parties, greater reputation risks for large TCPs) challenge the existence of these additional beneficial effects.

A10.80 In terms of BT's third argument, paragraph A3.168 of the December 2010 Consultation explicitly recognised that there are several vertically integrated firms, not just BT. BT's argument in relation to entry into hosting essentially appears to be suggesting that a WOCP can strengthen its negotiating position by launching its own TCP business i.e. by also becoming vertically integrated. This does not undermine our view that vertically integration strengthens a firm's negotiation position.

A10.81 Turning now to C&W's argument, clearly there is no 'negotiation' between the WOCP and TCP arms of a vertically integrated business. Even if a termination rate exists, it is simply an internal transfer within that business. However C&W's claim that a vertically integrated firm would have an incentive to 'pay' its TCP more favourable a 'termination rate' than other TCPs is an alternative way of articulating the issue set out in the second bullet point of paragraph A3.172 of the December 2010 Consultation (namely an extra incentive on a vertically integrated WOCP not to accede to a higher termination rate during negotiations with rival TCPs).

A10.82 In summary, we do not accept BT's criticisms and the point raised by C&W was already considered in the December 2010 Consultation. Accordingly our views on the effects of vertical integration remain unchanged.

The interpretation of share of supply figures

Stakeholder responses

A10.83 BT disagreed with the inferences that we drew from share of supply figures:

- BT stated (without providing evidence) that the damage to parties' reputations from failing to reach agreement could be larger for firms with a bigger customer base.[424]
- BT also referred to the possibility of "alliances" between parties to strengthen their negotiating position.[425]
- BT disagreed that larger operators enjoy a stronger negotiating position since small operators can use transit.[426]

A10.84 In support of the argument that TCPs have not been shown to possess market power BT stated that the supply of termination is fragmented and that barriers to entry are low.[427]

A10.85 Furthermore, BT stated that its share of origination does not provide a fair guide to its bargaining strength as a WOCP. This is because substantial volumes of traffic that would otherwise have originated on mobile networks are likely to have

[424] BT, December 2010 consultation response, Annex 4, paragraph 27, first bullet.
[425] BT, December 2010 consultation response, Annex 4, paragraph 30.
[426] BT, December 2010 consultation response, page 28. Also Annex 4, paragraph 33.
[427] BT, December 2010 consultation response, Annex 4, paragraph 40.

substituted to BT's network as a result of mobile ROCPs' current conduct at the retail level.[428]

Ofcom's current view

A10.86 Using figures from the 2010 Flow of Funds study we estimated that, in 2009, BT accounted for [✂] of non-geographic call origination minutes and [✂] of non-geographic termination volumes. It was thus by far the largest WOCP and also the largest TCP (being slightly bigger than C&W).[429] In its response, BT stated that approximately 45% of traffic to non-geographic numbers originates on its network and that it terminates roughly 25% of traffic to non-geographic numbers.[430] Share of supply figures played a major role in our view that BT is likely to have the upper hand when negotiating with other WOCPs and TCPs.[431]

A10.87 In terms of BT's criticisms of our interpretation of shares of supply:

- BT referred to "reputation effects" but did not provide any evidence. Moreover it did not elaborate on this point, for example by explaining with which customers its reputation would be damaged and how they would react. The 2010 Consumer survey provides some imperfect evidence on this point. We asked "what effect would it have on your choice of operator if you could access some [services from 08 and 09 numbers] but were unable to access all of them?"[432] Table A10.3 shows the responses broken down based on whether the respondent was a BT customer or not. There was no statistically significant difference between the two groups of respondent.[433] We highlighted some reasons to be cautious about the responses to this question in the December 2010 Consultation.[434] Nonetheless, it is notable that the limited evidence that we do have does not support BT's implicit assumption that its customers have different expectations compared to customers of smaller firms. In the light of this survey result and given BT's absence of reasoning and evidence, we do not accept that the "reputation effects" asserted by BT undermine our reliance on share of supply figures.

[428] BT, December 2010 consultation response, Annex 4, paragraph 36.
[429] December 2010 Consultation, Tables A3.5 and A3.8.
[430] BT, December 2010 consultation response, Annex 4, paragraph 36.
[431] December 2010 Consultation, paragraph A3.175.
[432] We referred to this in our analysis of the fallback position. December 2010 Consultation, paragraph A3.132.
[433] Similarly there was no statistically significant difference between the responses of BT and non-BT respondents to Q31 of the 2010 Consumer survey. This asked how respondents would feel if they were able to access some, but not all, numbers in ranges such as 0845 and 0870.
[434] December 2010 Consultation, paragraph A3.132.

Table A10.3: Effect on choice of operator of some 08/09 services being unavailable

	Respondents who were BT customers	Respondents who were not BT customers
It would make no difference to my choice of operator	40%	39%
I would not want to go with that operator	32%	34%
Don't know	28%	27%

Source: 2010 Consumer survey, Q32

- BT referred to "alliances" between parties. Where parties coordinate their behaviour then this may strengthen their negotiating position.[435] An example of such behaviour would be two TCPs credibly committing to act jointly (so that a WOCP must strike a deal with both of them, and if it fails to do so then it is unable to complete calls to either TCP). However, as we explained in the December 2010 Consultation, we assessed the relative negotiating position of individual WOCPs and TCPs, rather than a group of WOCPs or TCPs acting collectively.[436]

- BT's arguments in relation to transit are discussed in the next sub-section below.

A10.88 BT relied on TCPs' "fragmented" shares of supply to support its view that TCPs do not have market power. As explained in the December 2010 Consultation, we consider that a TCP's share of supply needs to be looked at in conjunction with the share of supply of the WOCP it is negotiating with. For example, we stated that C&W's termination business (which has a share of supply only a little lower than BT's) might be in a strong position when negotiating with smaller WOCPs but not when negotiating with BT.[437]

A10.89 BT also referred to low barriers of entry into termination. This issue fits into our analysis of wholesale negotiating positions in a number of ways and has already been discussed above. For example, if TCP X pushes for a higher termination rate then we have considered whether callers would respond by instead calling SPs hosted by rival TCP Y. Similarly, if TCP X fails to reach agreement with a WOCP, we have considered whether its SP customers may instead switch to TCP Y. The only additional aspect to BT's argument is that TCP Y could be a new entrant. this possibility does not affect our reasoning.

A10.90 Finally BT argued that, if concerns about mobile ROCPs' conduct were addressed, the wholesale shares of supply of mobile WOCPs would be higher and BT's share of supply would be lower. We agree with BT that the interventions we are proposing (particularly in relation to 080) may result in material substitution between fixed and mobile non-geographic calls. However, in this Annex we are assessing how the wholesale level currently operates (rather than how it might operate in the event

[435] The analogy is that suppliers that coordinate their behaviour may collectively enjoy a stronger market position than they would individually.
[436] December 2010 Consultation, paragraph A3.119.
[437] December 2010 Consultation, paragraph A3.175.

that our concerns about the retail level were addressed). We discuss the issue of what wholesale regulation is appropriate, alongside our proposed retail interventions in Sections 13 and 17.

A10.91 In conclusion, we do not accept BT's criticisms of our use of share of supply figures.

Transit

Stakeholder responses

A10.92 BT disagreed that larger operators enjoy a stronger negotiating position, since small operators could use transit.[438] C&W also stated that the potential to transit calls via another network limits TCPs' negotiating power.[439]

A10.93 O2 argued that, where WOCPs transit calls via BT to third party TCPs, those TCPs are able to "adopt" BT's market power. This is because BT simply presents other TCPs' charges in the same way that it presents its own. O2 referred to increases in termination rates for 0845, 0870 and DQ calls as evidence of this process in operation.[440]

A10.94 EE argued that, rather than enter into negotiations with small TCPs, it is likely to simply pass traffic to these TCPs through transit carriers. EE thus considered that negotiating power would remain with the large transit carriers.[441]

Ofcom's current view

A10.95 We first discuss BT and C&W's claims that transit weakens the negotiating position of TCPs. We then discuss EE and O2's argument that transit strengthens TCPs' position.

Transit and weaker TCP negotiating positions

A10.96 Neither BT nor C&W unpacked the reasoning behind their position on transit. However their arguments appear to be predicated on the assumption that, in the case of transited calls, the TCP is unable to identify the WOCP. This assumption implies that:

- the TCP is unable to charge a different termination rate for transited calls originating on a third party WOCP's network compared to calls originating on the transit provider's own network. This arbitrage opportunity undermines the ability of TCPs to charge third party WOCPs a higher termination rate than that paid by the transit network;[442] and

- if a WOCP fails to reach agreement with a TCP about the level of termination rates, it could still send calls to the TCP by instead using transit and attracting whatever termination rate the transit provider pays. In other words, the fallback position is different.

[438] BT, December 2010 consultation response, page 28. Also Annex 4, paragraph 33.
[439] C&W, December 2010 consultation response, page 14.
[440] O2, December 2010 consultation response, paragraphs 173-174.
[441] EE, December 2010 consultation response, Q5.4, paragraph 9.
[442] As seen with other telecoms services (e.g. international termination), CPs often seek to take advantage of any arbitrage opportunities that exist.

A10.97 We have considered whether TCPs can identify the network on which transited calls ultimately originated:

- In the December 2010 Consultation we explained why we think that it would be feasible for TCPs to charge different termination rates to different WOCPs for calls to the same number ("bespoke termination rates").[443] This was on the basis that BT and other TCPs have introduced such termination rates.[444] This suggests that TCPs believe they have at least some ability to identify which WOCP originated a call.

- BT has claimed that, as a transit provider, it is able to accurately identify which WOCP originated a call and to pass this information onto TCPs.[445] We understand that calls to some of the TCPs that have introduced bespoke termination rates (such as IV Response) are often likely to make use of a third party transit provider.

- However, in the December 2010 Consultation we identified the risk that in some circumstances WOCPs may be able to route calls in a way that conceals their identity. This is because, where a caller has ported their number, Calling Line Identification ("CLI") would relate to the original number range holder rather than the current WOCP.[446]

A10.98 In summary, the presence of bespoke termination rates suggests that TCPs believe that they can identify WOCPs with a reasonable degree of accuracy. However bespoke termination rates are a recent development and are the subject of ongoing litigation. As a result, the industry may not yet have had the opportunity to fully work through the practicalities, including the scope for transit to be used to conceal the identity of the WOCP that originated a call.

A10.99 We thus cannot rule out the possibility that, for transited calls, some TCPs may be unable to identify the WOCP. However in these circumstances we would still have concerns about the likely operation of the wholesale level.

A10.100 Where a TCP is unable to identify the WOCP on transited calls, the effect is likely to be asymmetric. This is because it is the WOCP that decides how to route the call. As a result, a WOCP that is directly interconnected with a TCP might threaten not to originate calls to that TCP at all, in order to secure a lower termination rate than that paid by the transit provider. In contrast, a TCP would find it difficult to charge a termination rate that is much above that paid by the transit provider, given the WOCP could always opt to transit the call.

A10.101 As a result, small WOCPs may be able to use transit to conceal their identity and mitigate the effects of larger TCPs' negotiating strength (assuming, of course, that those larger TCPs are unable to identify the WOCP). In particular, smaller WOCPs may be able to secure comparable termination rates to those paid by the large transit providers. However, our concerns about larger WOCPs, including the major transit providers, enjoying a strong negotiating position when dealing with smaller TCPs would persist.

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[443] December 2010 Consultation, paragraphs A3.69-A3.71.
[444] [✂].
[445] BT, December 2010 consultation response, Annex 4, paragraphs 44-45.
[446] December 2010 Consultation, paragraphs A3.197-A3.200. This issue was also discussed in the course of the 080 and 0845/0870 disputes and subsequent appeals.

Transit and stronger TCP negotiating positions

A10.102 Neither O2 nor EE unpacked the reasoning behind the claim that transit can strengthen TCPs' negotiating position.

A10.103 It is possible that O2 and EE's arguments about a small TCP "adopting" strength of a transit provider rest upon an assumption that the TCP and the transit provider act collectively.[447] This would imply that, for example, the fallback position involves both the transit provider and the third party TCP declining to terminate calls from the WOCP. However as explained above we are assessing the relative negotiating position of individual WOCPs and TCPs, rather than groups of firms acting collectively.[448] Accordingly we are not persuaded that O2 and EE's arguments in relation to transit are relevant to our analysis.

Miscellaneous

Stakeholder responses

A10.104 Responses to the December 2010 Consultation also contained a number of observations that do not fit neatly into the topics discussed above:

- C&W stated that its negotiating power when dealing with mobile WOCPs is weakened because mobile OCPs also purchase geographic transit from it and it wishes to maintain good relations with mobile operators in this other market.[449]

- Virgin Media discussed whether traffic flows between vertically integrated firms are balanced. [✂].[450]

- BT stated that, as recognised in the December 2010 Consultation, the large number of CPs limits the scope for individual negotiations. Rather, in order to be practical, commercial negotiations would need to be standardised.[451]

- Virgin Media reiterated its previous submission that the terms of BT's Standard Interconnect Agreement ('SIA') allow TCPs, including BT, to unilaterally impose termination charges. These charges act as a "benchmark", particularly given the potential to transit calls via BT, even where BT is not involved in conveying a call.[452]

- BT stated that its billing systems are able to accurately identify which WOCP originated traffic and that this functionality is also provided where BT acts as a

[447] This effect might also arise if the OCP is unable to decide not to originate traffic to a particular TCP while continuing to maintain its relationship with a third party transit provider. Our understanding is that this is not the case. Rather OCPs can identify which number blocks are associated with a particular TCP and decline to originate calls to those number blocks (while continuing to originate calls to other number blocks).
It seems plausible that an OCP could decide not to originate calls
[448] December 2010 Consultation, paragraph A3.119.
[449] C&W, December 2010 consultation response, page 14.
[450] Virgin Media, December 2010 consultation response, Q5.4 on page 17.
[451] BT, December 2010 consultation response, page 26.
[452] Virgin Media, December 2010 consultation response, Q5.4 on page 16.

transit operator. BT stated that other transit operators would seek to resolve any practical issues. BT did not regard billing accuracy as a material issue.[453]

- In support of its view that TCPs (including BT) have been able to exploit their market power and set high termination rates, EE referred to the introduction by TCPs of variable termination charges.[454]

Ofcom's current view

A10.105 C&W's concern is presumably that mobile OCPs might respond by reducing the volume of geographic transit they purchase from C&W if it were to attempt to drive a hard bargain in relation to termination rates for geographic calls. While it is complex to analyse this point, our initial view is that the effect identified by C&W is ambiguous:

- Where a mobile WOCP purchases transit from C&W this is presumably mutually beneficial for both parties. The mobile WOCP benefits from a lower price, compared to other transit providers, while C&W benefits because the incremental transit revenue exceeds its incremental costs. By reducing these transit volumes a mobile WOCP makes both itself and C&W worse off. This is similar to the effects of the fallback position (discussed above) i.e. both parties are made worse off. This suggests that – as with the fallback position – the influence on C&W and the mobile OCP's relative negotiating position depends on which party benefits the most from the transit relationship.

- To illustrate, suppose the majority of the benefits from transit accrue to the transit provider (C&W). This would occur if: (i) C&W's transit price were only just below the price charged by other providers (so there are few benefits for the mobile OCP picking C&W rather than BT, say); and (ii) C&W's transit price significantly exceeds the incremental costs of providing transit (so this service is significantly incrementally profitable for C&W). In these circumstances, by threatening to reduce the amount of calls transited via C&W, the mobile OCP would make C&W significantly worse off at little cost to itself. Accordingly this might strengthen the mobile OCP's position when negotiating with C&W in connection with termination rates for non-geographic calls.

- The converse would occur if the majority of the benefits accrued to the purchaser of transit (the mobile OCP). In other words, the interrelationship with the transit market might strengthen C&W's position.

- In summary, if negotiating positions in relation to termination rates for non-geographic numbers are interlinked with the transit in the way argued by C&W then the impact of this linkage is not clear cut. Rather it depends on conditions in the transit market.

A10.106 Virgin Media's reasoning is predicated on its view that "[WOCPs] effectively have no bargaining power" and there is "a significant lack of constraint on TCPs.[455] Virgin Media then goes on to consider what the position is when two vertically integrated firms negotiate, given that each acts as a TCP for the other and is thus (in Virgin Media's view) in a strong position when carrying out that role. Virgin Media argues

[453] BT, December 2010 consultation response, Annex 4, paragraphs 44-45.
[454] EE, December 2010 consultation response, Q5.4, paragraphs 7-8. Also Q6.2, paragraph 12
[455] Virgin Media, December 2010 consultation response, Q5.4 on page 16.

that only when they terminate the same amount of traffic as the other (i.e. they are of equal size) is negotiating power evenly balanced. However, as explained above, we do not agree that negotiating power consistently sits with TCPs. Accordingly, since we do not accept the premise underlying Virgin Media's position, we do not consider this argument further.

A10.107 We agree with BT that a degree of standardisation is likely to occur. As we stated in the December 2010 Consultation:

> "Clearly given the large number of TCPs and WOCPs, we would not expect each OCP to negotiate with each and every TCP … While bespoke termination rates are feasible … in practice it seems likely that there would be a degree of standardisation between WOCPs and TCPs in similar positions. For example, a TCP might have a standard set of termination rates that it charges to the majority of WOCPs plus a different set of termination rates that it charges to a few large WOCPs. …"[456]

A10.108 In terms of Virgin Media's arguments concerning the SIA, in the December 2010 Consultation we stated that the asymmetric contractual positions in the SIA are not specific to non-geographic calls and did not consider them further.[457] On 14 February 2012 we opened a dispute between BT and EE in which we are considering whether the operation and/or effect of paragraphs 12 and 13 of BT's SIA is such that they constitute fair and reasonable terms or conditions.[458] We do not wish to pre-empt our consideration of the effects of the SIA in that dispute and therefore do not consider them further in this current consultation.

A10.109 In the December 2010 Consultation we explained that bespoke termination rates require the TCP to identify which WOCP originated a particular call. We explained that there may be technical obstacles to this, so some WOCPs may receive inaccurate bills for termination or deliberately route calls to try and conceal the identity of the network that originated the call. We stated that the magnitude of these effects was unclear.[459] BT argues that the industry can resolve any practical difficulties. Following the introduction of variable termination rates by BT and other TCPs, communications providers are currently working through the issues associated with bespoke termination rates. Our view is that issue remains unclear until the industry has had the opportunity to complete this process.

A10.110 Finally, EE referred to the introduction of variable termination rates by various TCPs. However we do not regard this as reliable evidence as to whether those TCPs possess a strong negotiating position. This is because both the introduction of those variable termination rates and WOCPs' reaction to them are likely to be significantly influenced by the disputes and subsequent litigation in relation to BT's variable termination rates. That litigation is ongoing, with the Court of Appeal considering appeals against the 08x CAT Judgment. Thus TCPs introduction of these rates is not a reliable guide to how TCPs and WOCPs would behave in the absence of dispute resolution. We do not regard these changes as reliable evidence that the balance of negotiating power is consistently in TCPs favour.

[456] December 2010 Consultation, paragraph A3.84.
[457] December 2010 Consultation, paragraph A3.233.
[458] O2 and Three were subsequently joined as parties to this dispute. http://stakeholders.ofcom.org.uk/enforcement/competition-bulletins/open-cases/all-open-cases/cw_01083/
[459] December 2010 Consultation, paragraph A3.197; see also paragraphs A3.198-A3.200.

Summary of Ofcom's analysis of the balance of negotiating power

A10.111 For the reasons set out above, our views on the balance of wholesale negotiating power remain unchanged from the position set out in paragraphs A3.173-A3.177 of the December 2010 Consultation, with one possible exception.

A10.112 BT and C&W argued that the scope to transit calls may weaken TCPs' negotiating positions. This appears to rest upon an assumption that TCPs are unable to identify the network on which transited calls ultimately originated. It is not clear whether this assumption is correct, particularly as TCPs are currently setting bespoke termination rates, but we cannot rule out this possibility in some circumstances. If it is the case that TCPs are unable to identify which WOCP originated transited calls then smaller WOCPs may be able to secure comparable termination rates to those paid by the large transit providers. However this would not alter the overall position in the December 2010 Consultation, namely that there are likely to be significant imbalances in wholesale negotiating positions.

Consequences of imbalanced negotiating power

A10.113 We now consider the final aspect of our wholesale analysis, namely the consequences of imbalanced wholesale negotiating power.

Position in the December 2010 Consultation

A10.114 In the December 2010 Consultation we considered the impact on callers and SPs (lower returns for SPs affects service availability and innovation). We explained why:[460]

i) it is harmful to consumers if the balance of negotiating power is heavily in favour of the WOCP;

ii) it may be harmful to consumers if the balance of negotiating power is heavily in favour of the TCP;

iii) it might be harmful to consumers if there are significant asymmetries between TCPs;

iv) it is unclear whether significant asymmetries between WOCPs are harmful to consumers; and

v) it is harmful to consumers if vertically integrated firms pursue a strategy of degrading the attractiveness of rivals when competing at the retail or hosting levels.

Stakeholder responses

A10.115 BT stated that if the balance of negotiating power was skewed in the WOCPs favour there is the potential for consumer detriment. BT stated that, in theory, refusing to originate non-geographic calls or unduly low termination rates could cause

[460] We also stated that the consequences of bespoke termination rates for the accuracy of wholesale bills are unclear. December 2010 Consultation, paragraphs A3.181-A3.200.

detriment. BT also "acknowledge[d]" that a detrimental effect was unduly high retail prices (a detriment we purportedly identified in our wholesale analysis).[461]

A10.116 Virgin Media stated that TCPs are able to significantly affect retail prices. Virgin Media stated that, where vertically integrated CPs increase termination rates to other OCPs, this places those other OCPs at a competitive disadvantage at the retail level and harms consumers.[462] In contrast, BT considered that Ofcom failed to substantiate the existence of market power by terminators and, since as it has not been demonstrated that any TCP holds market power, the issue of asymmetries between TCPs does not arise.[463]

A10.117 BT considered that suggestions that it would use its SMP as a WOCP to "abuse" its negotiating strength when dealing with other CPs are "unfounded". In support of this view BT cited its past conduct, including the absence of infringement findings against BT.[464] Further, BT stated that its end-to-end connectivity obligations prevent it from refusing to originate or transit traffic to TCPs.[465]

Ofcom's current view

A10.118 First, we consider the case where the balance of negotiating power is heavily in favour of the WOCP. The December 2010 Consultation discussed the harmful consequences that could result from unduly low termination rates.[466] We thus agree with BT identifying this as a concern. We also accept that a strong WOCP refusing to originate calls can lead to consumer harm. A vertically integrated firm could engage in this conduct in order to provide an advantage to its TCP business.[467]

A10.119 BT also asserted that we identified high retail prices as a detrimental effect if the WOCP is in a significantly stronger negotiating position than the TCP. BT did not provide a cross reference to the December 2010 Consultation to support this claim. In fact, we did not identify this as a consequence of our wholesale concerns – indeed we actually highlighted lower retail prices as a potential consequence of WOCPs forcing down termination rates.[468] While we did express concerns about high retail prices for non-geographic calls, these are a consequence of the concerns we identified at the retail level.

A10.120 We now turn to the case where the balance of negotiating power is heavily in favour of the TCP. We agree with Virgin Media that this can lead to higher retail prices (a point that we made in the December 2010 Consultation).[469] We also agree that, where the TCP is vertically integrated, this has the potential to affect competition between ROCPs.[470] In contrast, BT's observations are predicated on its view that it

[461] BT, December 2010 consultation response, Annex 4, paragraph 39.
[462] Virgin Media, December 2010 consultation response, Q5.4 on page 17.
[463] BT, December 2010 consultation response, Annex 4, paragraph 40.
[464] BT, December 2010 consultation response, page 20. Also, page 25 and 26. BT also criticised the effects of the NTS Call Origination Condition on BT's retail behaviour (e.g. page 25). We discuss the future of this condition in Sections 12 and 17.
[465] BT, December 2010 consultation response, page 20. Also Annex 4, paragraph 42.
[466] December 2010 Consultation, paragraph A3.183-A3.184.
[467] This is a particularly stark example of the asymmetries between TCPs discussed in paragraph A3.190 of the December 2010 Consultation.
[468] December 2010 Consultation, paragraph A3.184.
[469] December 2010 Consultation, paragraph A3.189.
[470] This is a particularly stark example of the asymmetries between WOCPs discussed in paragraphs A3.191-A3.192 of the December 2010 Consultation.

has not been demonstrated that the balance of negotiating power is ever in TCP's favour. We do not accept BT's underlying premise for the reasons set out above.

A10.121 Finally, BT argued that Ofcom should not be concerned about it exerting its negotiating strength when dealing with other communications providers. BT referred to its past conduct. Note, however, that BT's conduct is constrained by the NTS Call Origination Condition which was put in place to address the risks arising from BT's significant market power as a WOCP. Moreover, with regard to BT's position as a TCP, we do not accept that it is "unfounded" to have concerns that the largest TCP would exert its negotiating strength when it is in its commercial interests to do so.[471]

A10.122 In summary, our position on the consequences of imbalance in wholesale negotiating power remains unchanged from the December 2010 Consultation.

Our updated view on wholesale concerns

A10.123 We now summarise our analysis of the wholesale level.

A10.124 In a slight change from the December 2010 Consultation, we now analyse the current position at the wholesale level. However (as in the December 2010 Consultation) this analysis is conducted by applying the modified Greenfield approach. As a result the substance of our analysis is unaffected. In particular, we continue to put aside the possibility of Ofcom involvement via the dispute resolution powers specified in Sections 185-191 of the Act.

A10.125 In terms of the substance of our analysis, there was merit in many of the points made by respondents. Indeed we had already considered most of the issues raised by respondents in the December 2010 Consultation. While respondents set out argumentation in support of their position, in general they did not present any further evidence. Overall our position remains unchanged from the December 2010 Consultation. In particular, we are not confident that the termination rates that would arise commercially (absent regulation or involvement by Ofcom) are likely to lead to desirable outcomes for consumers. With the possible exception of BT, no respondent disagreed with this high level position.[472] More specifically:

- In the absence of ex-ante regulation, WOCPs and TCPs would negotiate over the level of termination rates. There are inherent tensions in the relationship between WOCPs and TCPs: WOCPs always prefer lower termination rates whereas TCPs generally prefer higher termination rates.

- Predicting the outcome of negotiations in these circumstances is complicated. There are large numbers of WOCPs and TCPs. Our analysis of the factors that influence their negotiating strength suggests that different WOCPs and TCPs are likely to be in different commercial positions. In other words, negotiations will depend upon the particular WOCP and TCP involved, rather than one side consistently being in a strong position. As a result, commercial negotiations are likely to produce a range of termination rates that depend on the parties involved.

[471] In terms of BT's end-to-end connectivity obligation, our position was set out in footnote 372 to paragraph A3.100 of the December 2010 Consultation. There we stated that this obligation means that BT might find it more difficult than other buyers of non-geographic call termination to refuse to connect calls (assuming our dispute resolution powers were disregarded). It thus makes the fallback position of not connecting calls less attractive to BT.

[472] Although respondents did disagree with the more detailed aspects of our analysis and conclusions.

- We identify a number of factors influencing negotiating strength, in particular:
  - WOCPs accounting for a high share of wholesale call origination would likely be in a stronger position than WOCPs accounting for a low share of call origination.
  - Similarly, TCPs accounting for a high share of termination would likely be in a stronger position than TCPs accounting for a low share of termination.
  - Vertically integrated firms would likely be in a stronger position than vertically separate firms of comparable size.
- We consider that BT is likely to be in a strong position, both in its role as a WOCP and its role as a TCP. We also consider that C&W, the second largest TCP, is likely to be in a strong position when negotiating with smaller WOCPs (albeit not when negotiating with BT). Similarly, TalkTalk and Virgin Media, the second and third largest WOCPs, are likely to be in a strong position when negotiating with smaller TCPs (albeit not when negotiating with BT). Mobile OCPs' account for a smaller share of non-geographic call origination, compared to calls more generally. Nonetheless EE, Vodafone and O2 may be in a strong position when dealing the smaller TCPs.

A10.126 In terms of the impact on consumers, in the absence of regulation or involvement by Ofcom:

- Some WOCPs may be able to drive termination rates down to a particularly low level. In the long run this would result in detrimental effects for SPs, harming service provision and innovation, which are not offset by significant benefits for callers.
- Some TCPs may be able to set high termination rates that allow SPs to exploit features such as weak competitive constraints on the price of their service. This results in higher retail prices for non-geographic calls. If competition in hosting is effective, the proceeds are likely to be passed through to SPs. This is the opposite of the outcome described in the preceding bullet point – it results in the balance of prices between callers and SPs being tilted in the SPs' favour (although there be some offsetting benefits to callers through SPs having improved incentives to enhance service availability, quality or innovation).
- Different TCPs are likely to negotiate different termination rates. Over the longer term, this asymmetry between TCPs is likely to lead to consolidation in hosting. This potentially harms competition at that level, which would have detrimental impacts for both SPs and callers.

A10.127 The one possible change in our analysis is if TCPs are unable to identify the network on which transited calls ultimately originated. It is unclear whether this is the case, particularly as TCPs are currently setting bespoke termination rates, but we cannot rule out this possibility in some circumstances. In these circumstances smaller WOCPs may be able to secure comparable termination rates to those paid by the large transit providers. However this would not alter our view that there are likely to be significant imbalances in wholesale negotiating positions. Nor would it alter our view that these imbalances can lead to detrimental effects for consumers.

A10.128 We thus remain of the view that we are not confident that the termination rates that would arise commercially (absent regulation or involvement by Ofcom) are likely to lead to desirable outcomes for consumers.

Annex 11

Innovation evidence

Introduction

A11.1 One of the consequences of the market failures in NGCs we have identified is that they undermine innovation in the sector.

A11.2 By their very nature, it is difficult to predict what innovative services may arise. For example, Oftel did not foresee the large growth in the use of 084 numbers to provide dial up internet access in the late 1990's.[473] Notwithstanding this inherent difficulty, in this Annex we explore why innovation may be affected by the current regime and set out some examples of innovation that might be available or more prevalent in a reformed regulatory regime.

Why would innovation be affected by the current regulatory regime?

A11.3 NGCs offer facilities for SPs to manage calls (call routing); incentivise contact with customers (Freephone or 03); or take micropayments from consumers which either might be used to offset the cost of contact or at higher charge levels act as a primary revenue source for the service.

A11.4 All three facilities are available under the current regime so theoretically any services which would rely on one or more of these features can be offered and should be available to consumers.

A11.5 However, the available evidence suggests that SPs are deterred by characteristics of the current market which may:

- undermine the NGC facility (e.g. Freephone is not free on mobiles therefore not as effective in incentivising contact);
- undermine the level of consumer demand for the service rendering it less viable (e.g. price is overestimated or uncertain, actual retail charge is too high); or
- remove options completely as a given charge level cannot be guaranteed (again cannot offer a truly free service on Freephone, or a call at geographic call prices on 0845 or 0870).

A11.6 The effect on innovation and on demand from consumers for these services both in the UK and elsewhere (where the regulations are similar) is evident in recent studies by PhonepayPlus ('PPP').

[473] In 2004 we gave dial up pay as you go internet access as an example of the new, innovative services that had been facilitated by the regime for non-geographic numbers. *Number translation services: Options for the future*, Ofcom consultation, 22 October 2004, paragraph 5.5. Available at: http://stakeholders.ofcom.org.uk/binaries/consultations/ntsoptions/summary/nts_future_op.pdf

A11.7 PPP notes that high mobile charges are dampening use of PRS as micropayment or billing systems.[474] PPP also notes that addressing the lack of consumer trust linked to the lack of accurate pricing is the single most important change to improve use of phone-paid services (73.9% of their sample of SPs) and that there are significant new opportunities in the area of micro payments (giving the example of buying virtual currencies for on-line transactions[475]) if trust issues are overcome.[476]

What innovation is being affected

A11.8 PPP notes in its recent study[477] that since

> "payment via SMS or premium voice are generally used to pay small sums of money, PRS offer a comparatively cheap method to collect payments in comparison with other methods. Alternative payment methods such as credit cards might require physical infrastructure to be installed (for example to accommodate credit card payment for pay and display parking), or have high processing fees, making them less attractive to providers of services which need to reach a broad and unpredictable audience requiring small payment services.
>
> While this market presents growth opportunities for PRS, a number of mobile payment services in the UK have opted to bypass a phone-payment mechanism for alternative options"

A11.9 PPP refers to the City of Westminster council's decision to implement a "Pay by phone" system to replace parking meters. However, this system takes payment directly from credit/debit cards, rather than putting the charge onto the users' phone bill.

A11.10 Similarly, Arriva Buses has implemented a mobile ticketing system. The user must download a smartphone app and pre-load credit either via credit/debit card or at a PayPoint outlet, before activating the ticket on the phone at the time of travel.

A11.11 PPP also notes that mobile payment may be particularly suited for other types of mobile micropayments including buying cinema/concert tickets, renting DVDs, paying for restaurant bills, or making purchases at a vending machine.

A11.12 Other examples include the opportunity to bypass the app payment mechanism on Apple or Android systems which frequently includes a large revenue cut to the software owners.

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[474] *Current and emerging trends in the UK premium rate services market 2010, Analysys Mason for PhonePayPlus* ("2010 PPP Report"), page 4. Available at: http://www.phonepayplus.org.uk/For-business/~/media/Files/PhonepayPlus/Research/2011_CurrentandemergingtrendsintheUKPRSmarket2010AnalysysMasonreport.pdf

[475] Virtual currencies are used on-line to generally to buy virtual services and products. For example Zynga, the games site linked to Facebook, reported that direct purchases of virtual currency and goods accounted for most of its more than $100 million in revenue for 2009. Another example of a virtual currency is Ven which is the first virtual currency to be used in the financial markets and the first used in commodity and carbon credit trading. Ven can be spent at Hub Culture Pavilions or used for micropayments on the Internet at large. The value of Ven is determined on the financial markets from a basket of currencies, commodities and carbon futures. It trades against other major currencies at floating exchange rate.

[476] 2010 PPP Report, pp. 7 and 12.

[477] 2010 PPP Report, p.105

A11.13 With sufficient adoption by product and service vendors, phone-payment mechanisms have the potential to become a mainstream payment method. But this would require confidence in prices by both consumers and SPs.

A11.14 Price confidence has also led to migration from traditional PRS to shortcode systems for some services (e.g. broadcast competitions). The shortcode structure offers the ability to guarantee a price to the consumer. Yet this comes at a higher cost to SPs than traditional '09' numbers.[478]

A11.15 Even in established services the current structure can undermine services. When directory enquiries ('DQ') was deregulated one anticipated benefit was increased use of follow-on calls i.e. the caller being connected to the company/person being asked about.

A11.16 However, with the DQ provider unable to control retail prices and the frequent charging by mobile OCPs of DQ calls on a high flat ppm basis, this service can be expensive[479] and when used by consumers can be a source of bill shock.[480]

A11.17 Similarly in the UK, TNUK offers a 'no frills' DQ service via the 118 811 number alongside its main 118 118 DQ service. Callers to the former service can only get information about a single telephone number. Calls to the 118 811 number are cheaper than calls to 118 118 from a BT landline. However in March 2011 mobile OCPs such as O2 and Vodafone charged the same retail price for calls to both services. Three and Orange also now charge the same amount (only T-Mobile charges less for the 118 811 number).[481] [✂].[482]

A11.18 DQ is also a source of considerable international innovation, most of which we have not seen in the UK. Examples include:

- DQ numbers offering real time connections to tradesmen who have immediate availability (and who bid for the chance to offer the service to the caller – thus paying for the call service);
- specific sector services e.g. restaurant identification and bookings; and
- sponsored enquiry services including advertisements and coupons.

A11.19 The above discussion largely focuses on revenue sharing ranges, but there are clearly also concerns with respect to Freephone. 080 not being free from all OCPs clearly devalues the service this range offers and undermines the value of this for attracting contact.

A11.20 Resellers[483] have indicated how they have seen demand for Freephone numbers decline over recent years. We recognise that there are likely to be several causes for this. In particular, as noted in Annex 8 overall demand for non-geographic calls is declining for a range of reasons, not just as a consequence of the current regulatory regime. Nonetheless, these comments from resellers suggest that SPs

[478] Pages 112-113, section 5.2.2 in the PPP report.
[479] [✂].
[480] For example, a couple of the consumer complaints to Ofcom listed in Annex 15 to the December 2010 Consultation concerned bill shock on calls forwarded by DQ providers.
[481] Confirmed by checking prices on respective mobile OCP websites in March 2012.
[482] TNUK, December 2010 Consultation response, p.8, and [✂].
[483] Performance Telecom, email to Ofcom 26 October 2011, [✂] and NSL Telecom, email to Ofcom 8 November 2011

which previously may have used this range to attract contacts no longer consider this a valuable resource.

A11.21 This has an impact on innovation as well as supply. Freephone, as well as acting to attract customers, can also be used as a basis for services to be provided free to the caller which might otherwise be linked to revenue sharing ranges (with funding coming from other sources e.g. advertising). One example of this is free directory enquiries services[484] which use advertising or in some cases direct payments from tradesmen and other organisations to whom the caller is connected. Similarly in Section 16 and Annex 23 we summarise responses to the 2011 SPs survey that indicate that a significant proportion of 080 SPs are concerned that mobile charges are affecting the number of 080 calls that they receive. We also highlight the delays faced by a reverse charge service in securing free calls from mobiles.

[484] http://www.freedirectoryenquiries.com/aboutus.htm

Annex 12

The cost of migrating

Introduction

A12.1 This Annex sets out our estimates of the costs to SPs of migrating away from a particular number range.

A12.2 We recognise that the interventions that we are proposing may prompt some SPs to migrate services to a different non-geographic number. There are a number of possible motivations for migration:

- in some cases, it may be because a number range becomes more attractive. For example, if consumers were more aware that all calls to 080 were free then SPs may seek to transfer services from 03 and 084x numbers to 080; and

- in other cases, it may because a number range becomes less attractive from the perspective of SPs on that range. For example, some SPs may be unwilling to pay higher 080 origination payments, or some SPs may not wish to have the amount they receive from 0845 calls revealed to consumers under the unbundled remedy.

A12.3 Therefore, as part of our assessment of the costs of unbundling and of intervening in 080/050, we estimate the total costs of migration. Those total costs depend on the number of SPs that migrate and the costs per SP. This Annex considers the second of these factors, namely the cost of migrating for an SP. We also discuss the related issue of misdialling costs.

A12.4 This Annex is structured as follows:

- an overview of our analysis;

- an explanation of how we have taken the transition period into account;

- a discussion of the different categories of migration cost;

- our provisional conclusions (on which we are consulting) about the average cost of migrating; and

- a discussion of misdialling costs.

Overview

A12.5 In Annex 8 of the December 2010 Consultation we set out preliminary estimates of the average cost per SP of immediate migration and discussed the extent to which these costs might be reduced if we specified a transition period. We also discussed misdialling costs.[485] These preliminary estimates were largely produced by uplifting

[485] For migration costs per firm, see paragraphs A8.13-A8. 31 of the December 2010 Consultation, for the impact of the transition period see paragraphs A8.32-A8.36 and for misdialling costs see paragraphs A8.37-A8.38.

figures from 2009 to reflect inflation.[486] Those 2009 figures were, in turn, an update of older estimates from 2005 and 2006.[487] We previously stated that the 2009 estimates "should be treated with caution as we have limited information to base some of the assumptions used."[488]

A12.6 None of the respondents to the December 2010 Consultation commented on the figures set out in Annex 8. C&W did state that anecdotal evidence suggested that we had underestimated the costs of migration in 2009.[489] It also provided comments from a couple of its SP customers.[490]

A12.7 In the absence of responses from stakeholders, we have asked TCPs and hosting providers to provide us with data on the telecoms services used by SPs that migrated away from 0870. We have also directly contacted a small number of SPs to ask their views on migration costs or, where they have changed numbers in the past, for estimates of the costs involved in that previous migration.

A12.8 It is clear that SPs are extremely diverse and that this leads to substantial differences in migration costs. Moreover, the cost of migrating different numbers operated by the same SP may also vary substantially. This means that it is extremely difficult for us to obtain reliable data on the costs of migration. While the material provided by SPs was valuable, we cannot be confident that these firms are representative of SPs in general.

A12.9 Given the difficulties in obtaining reliable data on migration costs, we have adopted the following approach. After considering the impact of the transition period, we then discuss the various categories of migration costs that we identified in the December 2010 Consultation. For each of those categories we consider qualitatively whether the actual level of costs is likely to be higher or lower than the figures we presented in the December 2010 Consultation. Finally we draw together this analysis to form a judgement about a reasonable estimate of migration costs to use when assessing the options for intervention.

Impact of the transition period on migration costs

A12.10 As explained in Section 6, we intend to publish a final statement in late 2012 / early 2013. Our current view (on which we are consulting) is that SPs would have between 12 and 18 months of forewarning between the date of the statement and the date on which any changes would be implemented.

A12.11 In the December 2010 Consultation we estimated the average cost per firm of immediate migration. However by picking the time at which they migrate, firms may be able to avoid some of these costs. For example, suppose that a firm will naturally replace its stationery in six months time. By migrating at that point then it could update its stationery as part of the normal replacement cycle and thus avoid additional stationery costs as a result of migration.

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[486] The 2009 figures were taken from the 0870 Statement, Annex 4.

[487] *NTS: A Way Forward*, 28 September 2005 (the "2005 NTS Consultation"), Annex 14. These were updated in *NTS: A Way Forward*, 19 April 2006 (the "2006 NTS Statement"), Annex 2.

[488] 0870 Statement, paragraph A4.42. See also paragraphs A4.25 and A4.34.

[489] C&W, December 2010 consultation response dated 31 March 2011, page 48.

[490] C&W, December 2010 provided a testimonial from an (unnamed) SP that it referred to as "customer A" (C&W, December 2010 consultation response, annex 1). C&W subsequently confirmed that "customer A" was amongst the SPs that said they were willing to be contacted by us. Accordingly, to avoid the risk of presenting that SP's views twice (once as "customer A" and once as an interviewee) we have not set out the testimonial provided in annex 1 of C&W's response.

A12.12 As explained in the December 2010 Consultation, how the point at which migration occurs affects costs depends on the extent to which replacement of stationery, advertising and promotional material and signage are in sync. We did not have any information on this issue and thus made some pragmatic assumptions about the rate at which migration costs change over time.[491]

A12.13 In addition, choosing the time at which migration occurs also incurs an opportunity cost. To illustrate, consider the case of an SP that is currently on number range X but, following Ofcom's intervention, wishes to move to number range Y. That SP presumably prefers X to Y prior to Ofcom's intervention (which is why it is on number range X in the first place) but instead prefers Y to X after Ofcom's intervention (which is why it wishes to move):

i) Early migration: consider the case where the SP migrates to Y before Ofcom introduces its intervention. Until the date that Ofcom's intervention comes into effect, the SP incurs an opportunity cost from locating on a suboptimal number range (namely Y). This opportunity cost reflects the pre-intervention difference between X and Y from the SP's perspective.

ii) Late migration: consider the case where the SP migrates to Y after Ofcom introduces its intervention. From the date of Ofcom's intervention until the date at which the SP migrates, the SP incurs an opportunity cost from locating on a suboptimal number range (namely X). This opportunity cost reflects the post-intervention difference between X and Y from the SP's perspective.

A12.14 In deciding the time at which it migrates, the SP presumably trades off the impact on its costs against the opportunity cost of being located on a suboptimal number range.

A12.15 In this consultation we have adopted a different approach to assessing the impact of a transition period for two main reasons:

i) First, the absence of reliable data on how forewarning affects costs such as the replacement of stationery and advertising/promotional material. The discussion of the various categories of migration costs has made us more aware of the uncertainties around our cost estimates. Neither stakeholder responses to the December 2010 Consultation nor our further discussions with SPs allow us to be confident about precisely how migration costs change over time.

ii) Second, the absence of reliable data on the opportunity cost of temporarily being located on a suboptimal number range. We do not have accurate data on the level of opportunity costs.

A12.16 For us to make assumptions about a schedule showing the rate at which migration costs change risks spurious accuracy. Moreover we do not know what point on that schedule a particular SP would pick because we do not know what opportunity costs it faces.

A12.17 We have therefore instead adopted a qualitative approach. We discuss the time period over which a particular cost item is naturally replaced. Where an item is replaced comparatively quickly then it is easier to sync the natural replacement of that item with the time at which migration occurs. Migration costs are thus likely to be lower.

[491] December 2010 Consultation, paragraphs A8.33-A8.35.

Categories of migration cost

A12.18 In the following paragraphs we discuss the different costs associated with migration that SPs may incur:

a) replacement of stationery (e.g. letterheads, business cards);

b) replacement of advertising and promotional material (e.g. brochures, leaflets);

c) replacement of signage (e.g. signs on vehicles and buildings);

d) telecommunications costs (e.g. temporarily operating the 'old' number in parallel with the 'new' number); and

e) administrative and other costs (e.g. staff time, mail shots to actively inform customers of the change).

A12.19 Some of the SPs that we contacted had previously migrated to one or more of their non-geographic numbers and we asked them to rank the three largest cost items. This is summarised in Table A12.1 below. We set out these SPs' comments in further detail below.

Table A12.1: Ranking of migration costs

SP	Largest cost item	Second largest cost item	Third largest cost item
[✂]	Mail shot	Staff time	Changing printed advertising material
[✂]	Changing stationery	Staff time	Changing printed advertising material
[✂]	Staff time	Changing printed advertising material	Changing stationery

A12.20 In our qualitative assessment of the different cost categories we take into account two important factors. Both of these factors will tend to reduce the migration costs associated with the interventions we are considering:

i) First, the SPs that choose to migrate will tend to have somewhat lower migration costs. This is because SPs with very high migration costs are unlikely to choose to change number.[492]

ii) Second, SPs can choose when they migrate. This allows them to coordinate migration with other changes in their business (e.g. the routine replacement of

[492] There are limits to the extent to which this lowers migration costs. Whether or not an SP migrates depends on both the costs and benefits of migration. There may be some correlation between the costs and the benefits. For example, a large SP may incur higher migration costs but also reap higher benefits (since those benefits apply to a greater number of calls). As a result, simply because an SP incurs large costs does not imply that it would not migrate. In general, the extent to which the average migration cost for those SPs that choose to migrate is lower than the average migration cost for all SPs depends on the extent to which costs and benefits are correlated.

stationery) in order to reduce costs. This factor is most likely to reduce migration costs for items that are naturally replaced fairly frequently.

A12.21 We now discuss the cost categories set out above.

Replacement of stationery

A12.22 If they were to change their non-geographic number(s), some SPs may incur design/artwork costs associated with updating letterheads, compliments slips and business cards to show the new telephone number(s).

Position in the December 2010 Consultation

A12.23 In the December 2010 Consultation, our preliminary estimate was that for firms that incur stationery costs these would vary between £110 and £1,072 per firm (depending on its size). Staff costs of £199 per firm were added to this. This gives a total of £309 to £1,271 for each firm that incurs these costs (weighted average £675). We assumed that 50% of SPs include non-geographic numbers on letterheads etc and would thus incur stationery costs. This gave a final figure of £337.[493]

A12.24 In the December 2010 Consultation we assumed that stationery was normally replaced every four years.[494]

Further evidence from SPs

A12.25 The following observations emerge from our contact with SPs:

- [✂] (a small charity) told us that these costs were negligible.
- [✂] (a vehicle parts distributor) considered that making this change was straightforward.
- [✂] (an insurance provider) said that letterheads were printed at the same time as the letter. It estimated that changing stationery would require two days of staff time. This is comparable to the preliminary estimate of staff time that we used in the December 2010 Consultation (2½ days).
- [✂] (a major bank) identified this as the largest source of migration costs because of the hundreds of different types of letter that it generates.

A12.26 C&W also provided a quote from one of its "major" SP customers. That SP stated that it sends millions of letters to customers that refer to its 0845 numbers and that there could be significant costs if it needed to make "fast" changes.[495]

A12.27 The SPs that we contacted generally told us that they replaced stationery more frequently than the four years we assumed in the December 2010 Consultation:

- [✂] (a small charity) said that it replaced stationery every 6 months.

[493] December 2010 Consultation, paragraphs A8.15-A8.17.
[494] December 2010 Consultation, paragraph A8.34.
[495] C&W, December 2010 consultation response, page 48.

- [✂] (an insurance provider) said that business cards were replaced every year.

- [✂] (a financial services company) said that it replaces its stationery every six months, with the exception of customer packs which are replaced every two to three years.

Provisional conclusion on stationery costs

A12.28 In the December 2010 Consultation we estimated that the average stationery cost per firm was £337, excluding any reductions due to the time at which firms migrate. Most of the SPs that we contacted suggested that stationery is not a major source of migration costs. Moreover, SPs may replace stationery much more frequently than we previously assumed, which increases the scope to reduce these costs by aligning migration with that natural replacement cycle. There may be some SPs, for example banks, for whom these costs are considerably higher than the figures in the December 2010 Consultation (probably of the order of thousands of pounds). However, as discussed, SPs that would incur very high costs are less likely to migrate.

A12.29 In our judgement the average stationery cost per firm is likely to be lower than our previous £337 figure once reductions due to the timing of migration are taken into account.

Replacement of advertising and promotional material

A12.30 If they were to change their non geographic number, SPs may need to replace advertising and promotional material such as leaflets, brochures etc.

Position in the December 2010 Consultation

A12.31 In the December 2010 Consultation we simply updated figures from the 0870 Statement to reflect inflation. The figures in the 0870 Statement were an estimate of the costs of adding compliments slips and sticky labels to advertising and promotional material. This was on the basis that SPs would presumably choose the least cost means of updating this material.

A12.32 Our preliminary estimates of these costs depended on how many minutes of calls a non-geographic number received. For non-geographic numbers that received 1-10 minutes of calls per month we estimated that these costs would be zero. For non-geographic numbers that received more traffic, these costs rose from £480 to £1,440. These costs are only incurred when the SP has enduring advertising material that needs to be replaced. We assumed that the proportion of SPs with enduring advertising material was higher in the case of non-geographic numbers that received large amounts of traffic. Depending on traffic, the proportion of businesses with enduring advertising material was assumed to vary from 5% to 50%. Overall our preliminary estimate of the weighted average cost of replacing advertising and promotional material was £58 to £116 (excluding any reductions due to the time at which firms migrate).

A12.33 In the December 2010 Consultation we assumed that advertising and promotional material was normally replaced every year.[496]

[496] December 2010 Consultation, paragraph A8.34.

Traffic profile of non-geographic numbers

A12.34 We asked BT and C&W (the two largest TCPs) to segment their SPs based on the amount of traffic that they receive each month. The results are set out in Table A12.2 below, alongside the numbers we used in the December 2010 Consultation.[497]

Table A12.2: Mix of SPs by volume of minutes

		BT			C&W		
Minutes of calls/month	**Previous**	**080**	**0845**	**0870**	**080**	**0845**	**0870**
Up to 10	48%	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
10-99	26%	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
100-999	18%	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
1000 or more	8%	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

A12.35 [✂].

A12.36 [✂].[498]

Further evidence from SPs

A12.37 None of the SPs that we spoke to spontaneously said that they would use sticky labels to mitigate the costs of replacing advertising and promotional material.

A12.38 The following observations emerge from our contact with SPs:

- [✂] (a vehicle parts distributor) considered that this aspect of migration was straightforward.
- [✂] (a small charity) estimated that replacing this material would cost £7,000 to £8,000 plus involve two weeks of staff time.
- [✂] (an insurance provider) estimated that changing advertising and promotional material would require two days of staff time. It stated that it holds about 20,000 units of promotional material in stock, which is slightly higher than the estimate we used for large SPs in the December 2010 Consultation (namely 15,000).
- [✂] (a sporting body) said that updating this material would require two weeks of work from 1-2 members of staff.

[497] BT, response dated 11 November 2011 to question 14 of our information request dated 21 October 2011. C&W response dated 11 November 2011 to question 14 of our information request dated 21 October 2011. The December 2010 Consultation figures were ultimately based on responses to a 2005 information request.
[498] [✂].

- [✂] (a major bank) said that it produced huge amounts of leaflets and other literature. It also highlighted the costs of recalling old versions of this material. It said that a forced reprint of this material could cost over £0.5m.

A12.39 Responses from SPs are broadly consistent with the assumption we made in the December 2010 Consultation that advertising and promotional material is normally replaced every year (although there may be exceptions):

- [✂] (a small charity) said that it replaced this material every six months.
- [✂] (a major bank) said that it reviews this material every six months but does not always replace it that frequently. One reason why it tends to replace material over a longer period is to minimise the number of copies it has to dispose of.
- [✂] (an insurance provider) said that brochures were replaced every year.
- [✂] (a sporting body) said that it replaces this material every year.
- [✂] (a motoring organisation) told us that printed material may persist for up to five years.

A12.40 C&W provided a quote from one of its "major" SP customers. That SP said it had around 8,000 printed leaflets and forms, many of which display contact telephone numbers. These forms are replaced approximately every two years. Changes made outside of this replacement cycle could cost around £7,500 per form.[499]

<u>Provisional conclusion on advertising and promotional material</u>

A12.41 In the December 2010 Consultation we estimated that the average promotional and advertising cost per firm was £58 to £116, excluding any reductions due to the time at which firms migrate. This cost estimate reflects the significant proportion of SPs that receive relatively few calls, and which presumably do not promote their non-geographic number in advertising and promotional material. [✂]. This, in turn, suggests that the figures in the December 2010 Consultation may be an underestimate.

A12.42 The further evidence from SPs also raises concerns that we underestimated promotional and advertising costs in the December 2010 Consultation. We need to be cautious, however. As discussed above, we do not know how representative the SPs that we interviewed are. In particular, none of the SPs that we interviewed are likely to reflect the position of those SPs that receive very few calls per month.

A12.43 An important factor that may mitigate these costs is the short lifespan of advertising and promotional material (perhaps a year or less). Nonetheless in our judgement the average advertising and promotional cost per firm is likely to be significantly higher than our previous estimate of £58-116, even when reductions due to the timing of migration are taken into account.

Replacement of signage

A12.44 If they were to change their non geographic number, some SPs may need to replace signs on fleet vehicles and buildings.

[499] C&W, December 2010 consultation response, page 48.

Position in the December 2010 Consultation

A12.45 In the December 2010 Consultation, our preliminary estimate was that for firms that incur vehicle signage costs these would vary between £359 and £2,887 per firm (depending on its size). We assumed that SPs receiving less than ten minutes of calls per month were unlikely to incur these costs. For SPs receiving larger volumes of calls, up to 10% would need to replace vehicles signage. This gave an overall figure of between £8 and £39 per firm.[500] We assumed that vehicle signage was normally replaced every four years.[501]

A12.46 In the December 2010 Consultation we did not estimate the costs of building signage, since non-geographic numbers are not commonly displayed on buildings.[502]

Traffic profile of non-geographic numbers

A12.47 As shown in Table A12.2 above we have obtained more recent data on the mix of SPs, based on the amount of traffic they receive. [✂].

Further evidence from SPs

A12.48 The following observations emerge from our contact with SPs:

- [✂] (a vehicle parts distributor) considered that this was likely to be the largest source of migration costs.
- [✂] (a motoring organisation) told us that signage on over 2,000 vehicles would need to be changed. This would involve over six months' work for a team of 10-20 people.

A12.49 Both [✂] (a vehicle parts distributor) and [✂] (a motoring organisation) told us that vehicle signage is generally not replaced i.e. it has the same lifetime as the vehicle.

A12.50 None of the SPs that we contacted identified replacement of building signage as a cost.

Provisional conclusion on signage costs

A12.51 In the December 2010 Consultation we estimated that the average vehicle signage cost per firm was £8 to £39, excluding any reductions due to the time at which firms migrate. It seems reasonable to assume that only a minority of SPs would incur vehicle signage costs, meaning that even a large cost for some firms has a small impact on the average cost per firm. This suggests that we should not make large adjustments to our overall average cost.

A12.52 Nonetheless, [✂], then this implies that the figures in the December 2010 Consultation may be an underestimate. The much higher estimate of these costs from [✂] (a motoring organisation) also raises concerns that we may have underestimated these costs, although we recognise that this SP is unlikely to be particularly representative. The infrequency with which vehicle signage is replaced

[500] December 2010 Consultation, paragraphs A8.23-A8.24.
[501] December 2010 Consultation, paragraph A8.34.
[502] December 2010 Consultation, paragraph A8.22.

implies that there is limited scope to mitigate these costs by aligning migration with any natural replacement cycle.

A12.53 In our judgement the average vehicle signage per firm is likely to be slightly higher than our previous estimate of £8 to £39, even when the (limited) scope for reductions due to the timing of migration are taken into account.

Telecommunications costs

A12.54 To ensure continuity, some SPs may continue to offer services via their old number in parallel with their new number. SPs may also operate a pre-recorded announcement on their old number that instructs callers to dial the new number.

Position in the December 2010 Consultation

A12.55 Table A12.3 below repeats Table A8.5 from the December 2010 Consultation and sets out the assumptions we made about the proportion of SPs that operate two numbers simultaneously and/or make use of a pre-recorded announcement. In addition, we assumed that the cost of three months line rental for an additional line is £46 (for firms operating two numbers in parallel) and the cost of operating a pre-recorded announcement for three months is £87. Overall our preliminary estimate of the average telecommunications cost per firm was £60.[503]

Figure A12.3: December 2010 Consultation assumptions about the proportion of SPs incurring additional telecoms costs

SP's traffic profile	Number of months that SP operates two numbers in parallel			Number of months that SP operates a pre-recorded announcement		
	6	3	0	6	3	0
1-10 minutes of calls/month	0%	50%	50%	0%	0%	0%
11-99 minutes of calls/month	50%	25%	25%	0%	0%	0%
100-999 minutes of calls/month	75%	25%	0%	0%	25%	75%
1,000 minutes of calls/month	100%	0%	0%	33%	33%	33%

Traffic profile of non-geographic numbers

A12.57 As shown in Table A12.3 above we have obtained more recent data on the mix of SPs, based on the amount of traffic they receive. [✄].

[503] We also rounded estimates to the nearest £1. The £59 figure given in paragraph A8.28 of the December 2010 Consultation was influenced by how many decimal places we used for input variables in the underlying calculations. Treating decimal places on a consistent basis, and continuing our practice of rounding the final figures to the nearest £1 yields a corrected figure of £60.

Telecoms services purchased by SPs that migrated away from 0870

A12.58 As a result of the changes we made to 0870 in 2009, significant numbers of SPs migrated away from that number range. We asked TCPs and hosting providers the following questions about this change:

i) what proportion of SPs temporarily operated an additional number (i.e. continued operating the 'old' 0870 number as well as their new number) and, on average, how long they continued to operate the 'old' 0870 number in parallel with their new number; and

ii) what proportion of these additional numbers only operated a pre-recorded announcement and, on average, how long they operated this announcement for.

A12.59 The responses are summarised in Table A12.4 below.[504] There are two caveats. First, TCPs and hosting providers had generally not retained this information and thus provided approximate figures based on their recollection of events. Second, a TCP might only know whether or not the SP purchased a service from it (e.g. it may not know if the SP operated an announcement itself).[505]

A12.60 TCPs told us that how long an SP operated two numbers in parallel and/or an announcement depended on its individual business. For example, those with regular callers would only need an announcement for a few months. In contrast, those with numbers that are called rarely would need an announcement for a longer period. It also depended on the way in which the SP promoted the new numbers and how long it had operated the old number for.[506] Indeed some SPs appear to still be operating announcements more than two years after the changes to 0870.[507]

[504] [✂].
[505] [✂].
[506] [✂].
[507] [✂].

Table A12.4: Behaviour of SPs that migrated away from 0870

Respondent	Proportion of SP's operating an additional number	Proportion of those SPs that operating a pre-recorded announcement
[✂]	100%	None
[✂]	100% for average of 3-6 months	100%
[✂]	Nearly 100% for average of 6 months	n/a
[✂]	Majority for a period that varied considerably	Small proportion
[✂]	Majority	Announcements are still live
[✂]	Approx 90% for 3-6 months or more (period varied)	25%. Average duration 1 year
[✂]	n/a	Very high – offered free to the SPs that migrated to 0845. Used for around 6 months
[✂]	30% for average of 1½ months	30%
[✂]	Approx 20%	80% for average of 6 months
[✂]	2.4% for an average of 1 year (only captures SPs taking a particular offer)	n/a

Further evidence from SPs

A12.61 None of the SPs that we spoke to identified telecoms costs as one of the top three costs of migration. The following observations emerge from our interviews with SPs:

- [✂] (a financial services company) said that the length of the period for operating the old and the new number in parallel depends on the type of service operated via that number (e.g. if customers call in response to receiving a letter then the transition period would be shorter). It indicated that the period might be two to six months.

- [✂] (an insurance provider) said that when it had previous migrated a number it ran the 'old' and 'new' numbers in parallel for 12 months.

- [✂] (a major bank) said that when it closes a number it plays a pre-call announcement for three months (or longer, depending on whether consumers are still calling the 'old' number). Once it is no longer providing services via the old number it retains a recorded announcement advising consumers of the new number. It said that if it were changing a contact number printed on credit and debit cards then it would need to operate two numbers in parallel for around three years.

Provisional conclusion on telecoms costs

A12.62 The evidence from SPs suggests that telecoms costs are not large. TCPs' and hosting providers' responses suggest that take up of these services varies. This further data is broadly consistent with the assumptions we used in the December 2010 Consultation. The one exception is that some SPs still seem to be operating recorded announcements two years after the change whereas we had previously assumed that they generally would not do so for more than six months. Moreover [✂].

A12.63 In our judgement the average telecoms cost per firm may be slightly higher than our previous estimate of £60.[508]

Administrative and other costs of migration

Position in the December 2010 Consultation

A12.64 In the December 2010 Consultation we assumed staff time required to arranging migration was low: ½ day for a cost of £88 per firm. In addition there was a one off charge from their hosting provider of £29.[509] This is in addition to the staff time involve in organising new stationery, advertising or promotional material (which are discussed above).

Further evidence from SPs

A12.65 Some SPs considered that there could be large staff costs:

- [✂] (a financial services company) said that several members of staff were involved in organising migration of services. It estimated that changing some lines might involve 40-50 hours of work whereas changing a customer services line might involve 1,000 hours of work.

- [✂] (a major bank) said that the numbers it had closed to date had been small scale and thus the costs were minimal. However migrating a major number could involve significant costs. Managing the changes could require two full time employees, potentially for a long period of time. Elsewhere in its response it said that total staff costs could exceed £100,000.

A12.66 In addition to these costs, [✂] (a financial services company) said that it may need to send several mail shots to its customers to alert them of the changes. Each mail shot cost could cost around £100,000.

A12.67 There was a consensus amongst the SPs that we interviewed that the cost of changing websites was not a major cost item.[510]

508 In line with the position in the December 2010 Consultation, there seems little opportunity for SPs to avoid telecoms costs by varying the time at which they migrate.

509 December 2010 Consultation, paragraph A8.30.

510 [✂] (a vehicle parts distributor) said that it regularly updates its website so this would not result in additional migration costs. [✂] (a financial services company) said that changes to its website were not difficult and that they normally required 4-6 weeks to be put into effect. [✂] (a major bank) did highlight the need to ask partners and marketing agencies to also update references to its numbers on their websites.

Provisional conclusion on administrative and other costs

A12.68 As noted above, it is difficult to judge how representative the SPs quoted above are. Moreover, those SPs that would incur a very substantial cost are less likely to choose to migrate their number. Nonetheless, we recognise that some SPs consider that these costs are much larger than the figures we quoted in the December 2010 Consultation.

A12.69 In our judgement the average administrative and other costs per firm may be significantly higher than our previous estimate of £117.[511]

Provisional conclusion on the cost of migrating

A12.70 Table A12.5 summarises the discussion above.

Table A12.5: Categories of migration cost

Cost category	2010 estimate of average cost per firm (excludes any reductions due to the time at which firms migrate)	Revised position
Replacing stationery	£337	Lower
Replacing advertising/ promotional material	£58-116	Significantly higher
Replacing vehicle signage	£8-39	Slightly higher
Telecoms costs	£60	Slightly higher
Administrative and other costs	£117	Significantly higher
Total	**£580-669**	

A12.71 The estimate that we built up in the December 2010 Consultation was that the average migration cost per firm was £580-£669, before any reductions due to the timing of migration are taken into account. However, as summarised in Table A12.5, the subsequent material we have received suggests that most categories of migration costs are higher. This suggests that our previous estimate was too low.

A12.72 As discussed above, some SPs gave cost estimates that are considerably higher than the December 2010 Consultation figures. For example, even [✂] (a small charity) gave an estimate of advertising and promotion costs of several thousand pounds while [✂] (a major bank) said a forced reprint of this material might cost half a million pounds. These costs may be mitigated by synchronising migration with the natural replacement of advertising and promotional material. Nonetheless they are considerably higher than the figures in the December 2010 Consultation. Similarly a few SPs indicated that staff costs could be substantial, namely [✂] (a financial services company and a major bank).

[511] In line with the position in the December 2010 Consultation, there seems little opportunity for SPs to avoid staff costs by varying the time at which they migrate.

A12.73 That said, we recognise that the SPs mentioned in the preceding paragraph may not be representative of SPs in general. Moreover it is important to take into account the two following factors:

i) those SPs that choose to migrate their number will tend to have lower migration costs; and

ii) SPs can choose when they migrate, which will tend to reduce the costs.

A12.74 Given the diversity of SPs and the difficulties we have experienced in obtaining information from them (particularly as some have not considered migration before), there will be considerable uncertainties around any estimate that we make. Accordingly we have selected a relatively wide range. Having weighed up the factors discussed above, for the calculations in this consultation we have used a range of £1,000 to £2,500 for the average migration cost per SP.

A12.75 We would welcome further evidence from stakeholders that would help shed light on these costs.

A12.76 Note also that our range for average migration costs may be an underestimate of the costs associated with closing a number range.[512] Closure would mean that even those SPs with very high migration costs must move.

Misdialling costs

A12.77 In addition to the costs for SPs discussed above, in the 0870 Statement and the 2006 NTS Statement we also estimated the cost of misdialled calls following SPs migration to new numbers.

Position in the December 2010 Consultation

A12.78 In the December 2010 Consultation we calculated the number of calls to migrating SPs (assuming that the average call duration was three minutes). We assumed that no more than 10% of calls were likely to be misdialled in the year after an SP migrates and that the average cost per misdialled call was 29p.[513]

Further evidence from TCPs and hosting providers

A12.79 We asked TCPs to provide data on the scale of misdialled calls following the changes to 0870 in 2009 but they were unable to provide us with figures.[514] We also spoke to hosting providers and resellers who provided mixed responses:

- On the one hand, some hosting providers highlighted the use of parallel numbers and pre-recorded announcement by SPs and suggested that these would mitigate the number of misdialled calls.[515] For example, one hosting provider ([✂]) said “pretty much all our customers ran numbers in tandem so misdial [sic] wasn’t really an issue”.

[512] This is one of the reasons why we intend to separately consult on the future of the 0500 number range.
[513] December 2010 Consultation, paragraph A8.38.
[514] [✂].
[515] [✂].

- On the other hand, other hosting providers suggested that considerable numbers of consumers continued to dial ‘old’ 0870 numbers. For example, one hosting provider ([✂]) stated that in the three months after migration ‘old’ 0870 numbers were receiving approximately 70% of their normal call volumes (although this depended on where the numbers were issued in the public domain and how long the old numbers were in circulation).[516] Another hosting provider ([✂]) answered the same question by saying that it varied widely between SPs, from a few calls a day to hundreds in the case of one large SP.[517] Finally, another hosting provider ([✂]) said that even two years after the 0870 changes, some old 0870 numbers are still receiving 30% of their previous call volumes.[518]

The 2011 Consumer survey

A12.80 In the 2011 Consumer survey we asked consumers where they obtained information on non-geographic numbers from (respondents could give multiple answers). The results are summarised in Table A12.6 below.[519]

Table A12.6: Sources for non-geographic numbers

Source	Proportion
The internet	46%
Letter/bill/leaflet from company being called	28%
Telephone directory	23%
The number is stored in my phone	7%
Just know the number	7%
Someone gave me the number	5%
Written advert	5%
Advert on TV/radio	2%
have not called this type of number	4%

A12.81 Where consumers have stored a number in their phone or “just know” the number then they seems particularly likely to dial an SPs’ ‘old’ number. In contrast, sources such as the internet, letters, bills, leaflets and adverts are more likely to be up to date (although this may not eliminate all errors e.g. where the consumer has retained an old leaflet). The assumption in the December 2010 Consultation that 10% of calls in the first year are misdialled thus seems broadly consistent with these survey results.

516 [✂].
517 [✂].
518 [✂].
519 2011 Consumer survey, question GL14: “Thinking about the last time you needed to call a company, shop or public organisation, which of the following did you use to get the telephone number?”

Updated estimate of the number of calls

A12.82 We asked OCPs to provide the average duration of 080, 0845 and 0870 calls. The results are set out in Table A12.7 below.[520] These suggest that the assumption in the December 2010 Consultation that the average call duration was 3 minutes might be too low.

Table A12.7: Average call duration

	080 calls	0845 calls	0870 calls
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]		[✂]	
[✂]	[✂]	[✂]	[✂]

A12.83 In order to calculate the total number of calls to 080, 0845 and 0870 numbers we did the following:

- The 2010 Flow of Funds study contains data on the total number of fixed and mobile call minutes to each of these number ranges in 2009.
- Based on the evidence set out in Table A12.7 we assumed that the average duration of fixed calls to 080, 0845 and 0870 is 6.5, 4.7 and 4.3 minutes respectively. The average duration of mobile calls to these number ranges is assumed to be 4.0, 4.0 and 3.5 minutes respectively.[521]
- Dividing the total number of call minutes by the average call duration implies that in 2009 there were 1.8bn 080 calls, 2.0bn 0845 calls and 0.6bn 0870 calls.

Provisional conclusion on misdialling costs

A12.84 Given the diverse range of responses from hosting providers, which is probably linked to variation in the take up of services such as parallel numbers and recorded announcements (see Table A12.4 above), we have found it difficult to judge the likely extent of misdialled calls. Since it is broadly consistent with the 2011 Consumer survey and in the absence of clear further conflicting evidence we have retained the assumption that we used in the December 2010 Consultation, namely that, on average, 10% of calls in the first year to SPs that migrate are misdialled.

[520] [✂].

[521] The data on call minutes implies that, for these number ranges, between 5% and 16% of call minutes are originated from mobiles. The results are thus fairly insensitive to the assumed duration of mobile calls.

A12.85 The financial cost of misdialling varies between number ranges and depends on the particular regime that applies to a number range. This cost item is thus discussed in Part C, Section 13 for the revenue-sharing ranges and Part C, Section 16 for the Freephone ranges and is combined with the above figures on the prevalence of misdialling and call numbers in order to form part of our assessment of the costs of intervention.

Annex 13

Mobile Shortcodes

Introduction

A13.1 In response to the December 2010 Consultation a number of stakeholders questioned whether mobile shortcodes were within the scope of the NGCS review and a number of mobile OCPs highlighted the mobile shortcode regime as an example of where deregulation could work effectively.

A13.2 We have responded directly to stakeholders' comments in the main document (in particular Annex 8). However, for context, this Annex sets out background details about mobile shortcodes, including a description of the current regulatory framework relevant to these numbers, the allocation process and how they operate.

What are mobile shortcodes?

A13.3 Mobile shortcodes are five or six digit telephone numbers that are accessible from certain mobile networks; there are two different types SMS shortcodes and voice shortcodes. They can be used to offer a variety of different services, many of which are similar to those provided via NGCS, for example voting, quizzes, charitable fund-raising, news alerts and ringtone downloads.

A13.4 They are distinct from other shortcodes (e.g. directory enquiry 118 shortcodes, the 112 Emergency services number, 116 harmonised numbers for services of social value etc.), which are accessible from both mobile and fixed networks.

A13.5 This Annex is concerned only with mobile shortcodes, which as we discuss below, are outside the scope of the Numbering Plan.

The regulatory framework

A13.6 Mobile shortcodes are not covered by the current Numbering Plan. The decision not to include them within the Numbering Plan was adopted after a 2003 consultation[522] issued by the Oftel on the structure of the first Numbering Plan.

A13.7 The statement[523] that followed the consultation identified three basic types of Telephone Numbers, according to their regulatory status:

i) those regulated by Ofcom (then Oftel);

ii) those not regulated by Ofcom but which might be subject to future regulation; and

iii) those not regulated by Ofcom and subject to an Exclusion Order by the Secretary of State for Trade and Industry (The numbers that fall under this category

[522] Oftel, *Proposals to publish a National Telephone Numbering Plan; A consultation document issued by the Director General of Telecommunications*, 19 March 2003, http://www.ofcom.org.uk/static/archive/oftel/publications/numbering/2003/ntnp0303.pdf

[523] Oftel, *The National Telephone Numbering Plan; A statement issued by the Director General of Telecommunications following consultation on proposals to publish a National Telephone Numbering Plan,* 9 July 2003, paragraphs 2.2 to 2.9. http://www.ofcom.org.uk/static/archive/oftel/publications/numbering/2003/ntnp0703.pdf

according to the Telephone Number Exclusion Order 2003[524] are domain names and internet addresses).

A13.8 The numbers in the first category are set out in the Numbering Plan and General Condition 17 (‘GC17’).

A13.9 Shortcodes fall under the second category, meaning that they are outside the Numbering Plan and GC17 but they could come within Ofcom’s remit in the future. In the 2003 Statement, Oftel stated about this number category that:

> “if it was considered necessary to regulate such numbers at any point in the future, then the Director or, once they assume their duties, Ofcom would be bound to carry out a full public consultation on any extension of areas of regulation in numbering” and
>
> “all those telephone numbers may continue to be used by operators subject only to the possibility that the industry may request, or market forces may require, future regulatory intervention. Of course such intervention would then be subject to consultation”.[525]

The role of PhonepayPlus (‘PPP’)

A13.10 Shortcode numbers are often used for the provision of Premium Rate Services (‘PRS’)[526], for example subscription services such as text alerts about sports scores or for ringtone downloads. These services come under the remit of the PRS regulator, PPP and required to comply with PPP’s Code of Practice which sets out a number of different obligations, including presentation of pricing information to consumers.[527]

International experience

A13.11 Similar to the UK, mobile shortcodes are largely outside the scope of the National Numbering Plans of most other countries within the EU, with some exceptions.[528]

Allocation of mobile shortcode numbers

A13.12 In the UK, the mobile shortcode number allocation process is under the management of the mobile network operators (‘MNOs’). From the mobile shortcodes available for allocation, there are two distinct categories:

i) mobile shortcodes that are managed by the Shortcodes Management Group (‘SCMG’);[529] and

ii) mobile shortcodes outside the SCMG number ranges.

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[524] http://www.legislation.gov.uk/uksi/2003/3281/pdfs/uksi_20033281_en.pdf
[525] Oftel, *The National Telephone Numbering Plan; A statement issued by the Director General of Telecommunications following consultation on proposals to publish a National Telephone Numbering Plan,* 9 July 2003, paragraphs 2.2 to 2.9.
[526] Which are defined under section 120 of the Act.
[527] http://www.code.phonepayplus.org.uk/
[528] Based on responses to a BEREC questionnaire in June 2011.
[529] http://www.short-codes.com/

Mobile shortcodes managed by the SCMG

A13.13 The SCMG is a group formed by the four largest MNOs (O2, Everything Everywhere, Vodafone and Three) in order to be able to collectively manage and provide shortcodes on a common basis across their networks.

A13.14 Historically, there was an informal agreement between these MNOs that they would issue shortcodes with an initial number which was specific to the operator. SPs thus obtained shortcodes for services with each network issuing a code which fell into "their" range, so one service could have a number of different shortcodes depending on the network to which the end-users were connected.

A13.15 When MNOs identified a demand for the provision of shortcodes which would be the same across a number of networks for one service, they formed the SCMG, which manages the availability and allocation of shortcodes and agrees on guidelines related to services operating on available shortcodes.[530] For any shortcode allocated under this scheme, the SCMG has agreed that it will be used exclusively for the SP to whom it has been allocated and under the rules of the scheme.

A13.16 These mobile shortcodes are not, however, available from all virtual mobile network operators ('MVNOs').[531] It depends on the individual agreements between the MVNOs and the mobile network from which they operate. The table below presents the common shortcode structure, as agreed in the SCMG Code.

Table A.13.1 List of SCMG shortcode designations

Shortcodes	Designation
50000 – 59999	A service provider can apply to the UK SCMG for a 5xxxx short code if they meet the following conditions: • Commercially and technically connected to both UK and R.O. Ireland networks • Running a current service in ROI on a 5xxxx short code • The promotion of that service is likely to be seen by both UK • and ROI audiences • Has (and can supply) a valid certificate of allocation of that short code from ComReg plus approval to run the service from RegTel
60000 – 68999	Open-ended fee per message or call (as a fixed fee) or open-ended time dependent services that are aimed at an adult (18 years and over) audience.
70000 – 70999	Charity short codes.
71000 – 77999	Reserved for future expansion
78000 – 78999	To be used for payment facilities for products or services where the product or service is not delivered to the mobile phone.
79000 – 79999	To be used for payment facilities for products or services aimed at an adult (18 years and over) audience and where the product or service is not delivered to the mobile phone.
80000 – 88999	Open-ended fixed fee per message or call or open-ended time dependent services.
89000 – 89999	Open-ended fixed fee per message or call or open-ended time dependent

[530] See the Code of Practice for Service delivery of Common short-codes in the UK - http://www.short-codes.com/media/Co-regulatoryCodeofPracticeforcommonshortcodes170206.pdf
[531] The SCMG website notes that their mobile shortcodes are only available from 'some MVNOs': http://www.short-codes.com/pages/what_is_short_codes

	services aimed at an adult (18 years and over) audience

Mobile shortcodes outside the SCMG management

A13.17 Each network can use any other shortcode (outside the SCMG common shortcode ranges in the Table above) for its own purposes. Furthermore, an SP can request (upon negotiation) a particular mobile network to provide a shortcode (outside the common shortcode ranges) for the provision of a service. However, this shortcode would normally only be activated on that particular network.[532]

Operation of mobile shortcodes

A13.18 Therefore, when an SP wants to obtain one of the mobile shortcodes listed above, it must approach the relevant mobile operator and negotiate an agreement, which will include the retail price point. We understand, however, that very few SPs negotiate directly with the mobile OCPs to obtain shortcodes, instead, there are a number of aggregators who carry out this role on the SPs behalf and then lease out the shortcodes to SPs.[533]

A13.19 For PRS providers, these shortcodes are generally more expensive to set up and rent than traditional 09 numbers.[534] [✂].

A13.20 In terms of pricing, mobile shortcodes can either be charged at the 'standard network rate', i.e. the same rate that the mobile OCP normally charges for a text message or a mobile call, or they will be charged at a price point which can be anything from 25p to £10.[535] As highlighted above, where the price is above the standard MNOs charges, mobile shortcodes services fall within the remit of PPP's Code of Practice and SPs are therefore required to adhere to the relevant pricing publication requirements to ensure consumers are made fully aware of the charges.

[532] http://www.short-codes.com/pages/faqs.php
[533] See the list of these aggregators here: http://www.short-codes.com/pages/service_providers
[534] Analysys Mason, *Current and Emerging Trends in the UK Premium Rate Services Market 2010; report for PhonepayPlus*, http://www.phonepayplus.org.uk/About-PhonepayPlus/Annual-Report-2010-11/~/media/Files/PhonepayPlus/Research/2011_CurrentandemergingtrendsintheUKPRSmarket2010AnalysysMasonreport.pdf, p. 112.
[535] http://www.phonepayplus.org.uk/~/media/Files/PhonepayPlus/Policy%20_Industry%20support/PhonepayPlus_Shortcodes_and_text_subscription_services_Information_Sheet.ashx

Annex 14

Summary of Industry Working Group outputs

Introduction

A14.1 Ofcom initiated and facilitated a series of working groups from May to October to discuss various aspects of our proposals on NGCs.[536] There were three groups:

- Commercial
- Technical; and
- Communications.

A14.2 The groups were largely chaired by industry members. The Commercial and Technical groups were attended by members of the NGCS Focus Group (an industry working group which meets every six weeks to discuss NGCS issues more generally). The Communications Group was attended by representatives of the CPs with a particular focus on those with working in marketing or communications.

A14.3 The output of each group was as follows:

i) **Commercial Working Group ('CWG')**: a summary document of the discussions was produced which was agreed by the members and is reproduced below;

ii) **Technical Working Group**: the group drafted a list of questions and assumptions that it considered needed be taken into account in assessing the implementation and systems costs of Ofcom's proposed options in the December 2010 Consultation. Various group members inputted into this list of questions but they were not formally agreed by the group and we have therefore provided our own summary of the main discussion points and key questions/assumptions below; and

iii) **Communications Working Group:** Ofcom produced a summary of the discussions which was circulated to the group members and is reproduced below.

A14.4 Notes of all the meetings are available on our website.[537]

[536] Slides setting out Ofcom's proposals for the working groups are available here: http://stakeholders.ofcom.org.uk/binaries/telecoms/groups/nts/NGCS_Working_Groups_Ofcom1.pdf

[537] http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-28072011

Commercial Working Group

This following is Ofcom's summary of the discussions held at the NGCS Commercial Working Group ('CWG') from 17 June 2011 to 29 September 2011.[538] This output was agreed by the attendees of the working group.

The issues covered were those identified by the group in relation to the implementation of either the unbundled or maximum tariff options proposed in Ofcom's December 2010 Consultation.

Issues covered

1) Migration to Service Charges ("SCs")
    (i) Level of caps
    (ii) Migration process
    (iii) Publication of SCs

2) Granularity - Service Charge Price points
3) Process for notifying Service Charge changes
4) Time of Day
5) VAT
6) Assumed Handover Point & Transit
7) Access Charge
8) Maximum Prices
9) Porting differentials
10) PP+ regulation

Ofcom indicated in the summary table and under each issue below its understanding of whether the group reached a consensus on the different issues, or where there was at least a majority view in favour of certain approaches. We have also set out where there was a division of opinion over the best approach. We have indicated our current position on how this will feed into our next consultation document as part of the NGCS review.

Table A.14.1 Summary of CWG discussions

Issue	Summary of CWG views	Ofcom action
Migration to SCs		
i. Level of caps	Consensus that Ofcom needs to take account of the effect of call set up fees on current POLOs in setting caps for SCs.	Ofcom will consult on SC caps taking account of call-set up fees affect on POLOs.
ii. Migration process	Consensus that there needs to be a mapping process from existing chargebands to new price points	Ofcom to present proposals for simplified set of price points. Mapping process from existing chargebands to be carried out separately in discussion with industry.
iii. Publication	Majority consensus that there should be a central, public database detailing all SCs. Range of options for who should be responsible for that database.	Ofcom to explore ability to impose database requirement and potentially consult on range of options for database of SCs.

[538] The group met a total of seven times, on the following dates: 30 June, 14 July, 28 July, 11 August, 1 September, 15 September and 29 September.

Granularity	Broad consensus that number of price points can be simplified from existing chargebands. Range of options as to appropriate/necessary level of price points.	Ofcom to consult on simplified set of price points.
Process for notifying changes to SCs	Consensus that there needs to be a standardised process and majority consensus that something like one month/every quarter (with appropriate advance notice to allow for implementation) could be appropriate. Process dependent on existence of database.	Ofcom to seek to consult on obligations for TCPs to notify price changes and a standardised timeframe for doing so. Ofcom to consult on view that OCPs will not be subject to requirement to notify customers of SC changes, as per General Condition 9.
Time of Day	Majority view that TOD should not be permitted on the SC.	Ofcom to consult on no TOD variation in the SC but note concerns of some parties and explore whether exceptions could be made.
VAT	No clear consensus as to whether prices in the NTNP should be ex or inc VAT.	Ofcom to consult on both options and set out pros and cons.
AHP & Transit	No consensus on AHP (near-end, far-end, mid point), and who pays transit (OCP or TCP). Some support, however, that the payment arrangements should be standardised.	Ofcom to seek to consult on both options. Ofcom advises the CWG that its current preference is for far-end AHP and OCP pays transit model.
Access Charge	Majority consensus that AC should be ppc as well as ppm. Broad consensus from OCPs (consultation responses) that more than one AC would be needed	Ofcom preference remains ppm but will consult on option of ppc (as well as ppm) and consider options for the number of ACs permitted.
Maximum prices	Broad consensus that maximum prices model unworkable without some form of wholesale regulation but concerns raised about Ofcom's legal powers to do this.	Ofcom to set out view of maximum price option in condoc.
Porting Differentials	Consensus view that SCs should not vary beyond 10k or 100k number blocks to avoid porting differentials	Ofcom to consult on the basis that SCs will not vary beyond existing number blocks.
PP+ Regulation of SCs	Majority against PP+ regulation of SCs for 08, some support for removal of 0871. No clear consensus on alternative enforcement mechanisms, but possibility of different approaches depending of the level of the SC, and potential to use database of SCs as information point for consumers.	Ofcom to consult on range of options for ensuring transparency of SCs to consumers.

1. Migration to Service Charges (including cap levels, migration process, publication of SCs)

Discussed at meetings on: 30 June[539] & 15 September[540]

Issues identified/Summary of CWG Discussion

Levels of caps

- Current caps in the NTNP for 08/09 are misleading because they don't take into account call-set up fees that flow through to the POLOs.

- If the SC reflects the current NTNP cap this could be seen as price inflation to the consumer.

Migration

- Existing chargebands will have to be mapped across to new price points prior to implementation to prevent existence of bespoke SCs.

- Noted that once price points are known, TCPs will need to have commercial negotiation with SPs on which price point they could move to.

- There may be issues with ensuring smaller SPs are aware of the changes.

- Numbers are charged in blocks of 10K (or sometimes 1k). A block may be in use by many different SPs who may differ in which price point they prefer. TCPs will need to manage any change.

- Ofcom will need to issue new Number range certificates; there will need to be a clear process for this.

- BT considers there may be contractual issues in changing SPs existing price points.

- There needs to be clarity about who the regulation applies to, e.g. the rangeholder or TCP.

Publication

- There will need to be a central point which holds information on all service charge price points for the number blocks. A number of different options for this were discussed:

    - BT (an extension of its current role with the CPL)

    - Ofcom (by setting the price points within the NTNP)

    - Other?

[539] http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-30602011
[540] http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-150911

- This central information point will need to be available publicly but particularly to OCPs to ensure they can bill correctly, and can direct consumer complaints appropriately.

- There will need to be an obligation on TCPs to keep this database updated.

Ofcom summary/action points

Ofcom will need to take account of call-set up fees in considering caps on SCs.
There will need to be mapping process from existing chargebands to new price points.
CWG agree that there needs to be a central, publicly available repository of all SCs. Some of the group were in favour of BT taking this role. Another section of the group suggested Ofcom should have this role.

Therefore Ofcom to:

- consult on SC caps in next document taking account of call-set up fees; and

- explore ability to impose requirement to have database of SC and potentially consult on range of options for this.

2. Granularity (number of SC price points)

Discussed at meetings on: 30 June[541], 14 July[542], 11 August[543] & 29 September[544]

Issues identified

- Currently more than 300 price points, including 125 for DQ. Generally accepted view that there does not need to be this many price points and there is a case for rationalising them.

- If 0845 and 0870 included in unbundling then number of price points could increase.

- Some OCP billing systems not able to bill to that number of price points, but under unbundled approach would have to pass through the SC.

- IV Response proposal (11 August) for 40 chargebands from 1p to £1.50, noting that if each chargeband had a structure of ppm, ppc and ppm plus ppc, the number of chargebands would increase to 120.

- Ofcom summary of use of existing chargebands (11 August) noting that G6 and G7 were most commonly used, and 97% of traffic within top ten chargebands, for PRS this increased to top twenty.

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[541] http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-30602011
[542] http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-14072011
[543] http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-110811
[544] http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-290911

- Noted that SPs currently might be merging towards the higher price points because under the existing regime they have no oversight of the total retail price to the consumer.

- Having ppm and ppc variants is important, particularly on the 09 ranges.

Ofcom summary/action points
CWG broadly agree number of chargebands can be rationalised and reduced from current numbers. Some OCPs support a significantly reduced number of price points. Some have technical limitations in their billing systems over the number of price points they can support.

Therefore Ofcom to:

- Consult on a proposed number of price points reduced from the current chargebands.

3. Process for Notifying Service Charge Changes

Discussed at meeting on: 1 September[545]

Issues identified

- Some difficulties with the current process, OCPs that are not directly interconnected with TCP hosts do not necessarily receive sufficient notice (Vodafone – 30th June)

- Under an unbundled approach, OCPs would need to bill the SC correctly, and be able to access data on the SC because they would need to deal with customer complaints.

- Broad consensus for the view that OCPs should not be obligated to inform customers of SC price changes, as per General Condition 9.

- Management issue; if SCs allowed to change on a regular basis OCPs would need to have people monitoring price constantly in order to update their billing systems.

- General consensus that a standardised process for notifying SC changes was necessary and that there needed to be an adequate lead time for implementation.

- Noted that SC changes might be less frequent under unbundling, because SCs would be advertised, and if SCs were confined to 10k or 100k number blocks the whole block would need to change in order to change the SC. Some form of "data freeze" may be appropriate.

- Could be a requirement that SCs could not change within the first 12 months to allow the system to settle in (IV Response).

- DQ may be a special case, as is likely to want price changes more frequently.

- Options discussed for the timing of price notifications were:

[545] http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-010911

  - Every month
  - Every quarter
  - Every six months

- Some support for this being a monthly or quarterly process, six months was noted as possibly being too long (118118).

Ofcom Summary/action points

Broad consensus that a process for notifying SC changes was necessary but no clear consensus on what that process should be. Acknowledgement that it would be useful for Ofcom to set out its view on possible timescales.

Therefore, in next document Ofcom will:

- Consult on obligations for TCPs to notify price changes within a standardised timeframe; and
- Ofcom to consult on view that OCPs will not be subject to requirement to notify customers of SC changes, as per General Condition 9.

4. Time of Day ("TOD")

Discussed at meeting on: 30 June[546] & TWG on 8 September[547]

Issues identified/summary of discussion

- If POLOS are migrated directly to SCs then there will be some TOD variation in the SC.
- Some agreement in the group that TOD variation on the SC may not be necessary, risk that it would increase the complexity of the SC without any obvious benefits.
- DQ may be a special case that needs to be treated differently (as with the number of price points).
- In the TWG (see meeting note from 8 Sep) it was noted that the TOD variation would need to be consistent across industry, to avoid billing problems. On the basis of the additional complexity it would create, the TWG recommend that there is no TOD on the SC.
- Noted that any TOD would need to be consistent across the OCP and TCP, because some billing systems can only handle one variant of TOD. EE noted that this would impossible where the SC is set by the TCP by number range but the AC is set by the OCP.

[546] http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-30602011
[547] http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-080911

- Noted (in the TWG) that there could be TOD on the SC as part of the commercial negotiation between the TCP and SP.
- Magrathea has strong view that TOD should be permitted on the SC.

Ofcom summary/action points

- Ofcom to consult on the basis that TOD will not be permitted on the SC but note that some parties may have concerns about this and explore whether exceptions can be made.

5. VAT

Discussed at meeting on: 30 June[548]

Issues identified

- The SC advertised to the consumer will need to include VAT.
- There may be an issue of rounding.
- Ofcom will need to decide whether the NTNP prices will be ex or inc VAT.
- Ofcom will need to build in a mechanism for reviewing the NTNP in cases where VAT is changed (and prices are inc-VAT).
- There may need to be two sets of SC price points, ex-VAT and inc-VAT, as some advertising is direct to businesses (Magrathea).

Ofcom summary and action points

- Ofcom consult on options of prices in the NTNP that are either inc-VAT or exc-VAT.
- If it sets inc-VAT prices it will also set out and consult on a clear process for reviewing the prices in the event of a VAT change (to be consulted on in next document).

6. Assumed Handover Point (“AHP”) and Transit

Discussed at meeting on: 14 July[549]

Summary of discussion/Issues identified

- Options discussed:
    - Near-end AHP, i.e. BT DLE or first point at which signals can be exchanged by operators

[548] http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-30602011
[549] http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-14072011

  - Far-end; the TCP receives the call at a point which it nominates
  - Mid-point, Single Tandem; TCP receive the full SC without building out to the DLE level, OCPs incur the cost of carrying the call to the ST

- Noted that the status quo is an option. Everything Everywhere questioned whether it is necessary to change if there are no issues with current approach.
- If the AHP is near-end, it will not be the actual AHP in the majority of cases and would require TCPs to build out to DLEs which was not always efficient or practical (Magrathea).
- Will depend on how the AC and SC are defined by Ofcom.
- Some agreement that there should be a consistent convention for transit and any changes as a result of this review could be an opportunity to standardise the process.
- Points raised by various CWG members included the following:
  - Only the TCP knows the most efficient route for the call (BT). The routing decision is the responsibility of the TCP (Vodafone).
  - If the AHP is set at a point nominated by the TCP it would not provide sufficient incentive to the TCP to build out their network and encourage inefficient routing.
  - BT stated that its DLEs are not designed to transit calls.
  - C&W noted that under the TCP pays model, the vast majority of traffic it handles is where the OCP and TCP are directly connected but chose to use transit, because there is no financial incentives to route efficiently.
  - For 080, if it was an OCP pays transit model, the origination charge would need to take account of any transit costs.
  - Responsibility should lie with who made the decision about where to route the call (C&W).
  - Noted that Ofcom's most recent decision on 0870 changed the model to OCP pays but that this involved the recategorisation of the range to geo-rated.

Ofcom summary/action points

No clear consensus on what the AHP should be.
Some agreement that there should be a consistent convention for payment of transit but no clear consensus on whether it should be OCP or TCP.

- Ofcom to consult in detail on both options. Ofcom advised the CWG that currently its preference is for far-end AHP and OCP pays transit although it notes that several CWG members do not support that option.

7. Access Charge

Discussed at meeting on: 11 August[550] and 15 September[551]

Issues identified

- The more variants in the AC, the greater chance of reduced transparency to consumers
- Although Ofcom has expressed a preference for the AC to be ppm only, there may be reasons for a ppc AC when the SC is ppc, for example with regards to calls for voting.
- Question about what Ofcom would regulate in relation to the pass-through for resellers, and what guidance there would be for them to make a margin.
- Majority view from OCP consultation responses (not directly discussed in CWG discussions) that more than one AC would be required, in particular a separation between premium rate and business rate.

Ofcom summary/action points

- to consult on option for the AC to be ppc when the SC is ppc.
- To consider whether more than one AC should be permitted and consult on options.

8. Maximum Prices

Discussed at meeting on: 28 July[552]

Issues identified

- Still questions about what maximum prices means in practice, an extension of the NTNP?
- Ofcom does not consider that an extension of the Call Origination condition is a viable option. CWG noted that this was a long, difficult process for BT only and therefore applying to whole industry was unlikely to be practical.
- If Ofcom were to regulate through the NTNP, it would have to control the chargebands including the allocation of any new price points.
- Biggest issue is negotiating rates between OCPs, and TCPs and whether there was a mechanism for making that process work more effectively.
- Several group members considered mandating maximum prices would not be appropriate.

[550] http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-110811
[551] http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-150911
[552] http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-28072011

- Broad agreement, with exception of Magrathea, that without some form of regulation at the wholesale level, the maximum price model proposed by Ofcom in the December consultation was unlikely to be workable.

- An alternative option might be a capped AC and SC, which was effectively a form of maximum prices.

- Vodafone noted it was of the view that Ofcom did not have the legal powers to cap the AC.

Ofcom summary/action points

- CWG broad consensus that maximum prices unworkable without form of wholesale regulation

- Whether capped AC and capped SC is an option, and to respond to arguments on its legal powers to do this.

9. Porting Differentials

Discussed at meeting on: 28 July[553]

Issues identified/summary of discussion

- Porting is out of scope of the NGCS review.

- NGN differentials exist in current process and are limited to fixed calls.

- If SC is constrained to the 10k or 100k number block any issues with porting differentials will be reduced. There needs to be a mechanism for controlling the SC in this way in order to avoid porting differentials.

- Restricting the SC to 10k or 100k number blocks will restrict SPs ability to compete on price; if SPs want to advertise at a different price, they will need to change number.

Ofcom summary/action points

- SCs will need to be restricted to 10k or 100k number blocks to avoid an issue with porting differentials.

10. Regulation of the advertising of the SC (PhonePayPlus role)

Discussed at meeting on: 29 September[554]

Issues identified/summary of discussion

- Noted that extension of PP+ regulation to 084 could provide the highest level of consumer protection but fear that any light touch approach would not be sustained.

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[553] http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-28072011

[554] http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-290911

- Noted that number of complaints about 0871 is very low; highest is premium SMS.
- SPs are put off taking 0871 numbers now because of the additional layer of regulation and requirements for due diligence etc. If PP+ regulation extended to all non-geo numbers could put people off those numbers all together.
- Noted that an alternative option would be to take out all 08 numbers from PP+ regulation and put an obligation on the TCP to ensure the SP advertised its SCs. However, little support for this option.
- For SCs that are very low, e.g. 1p-2p, suggested that forcing SPs to advertise that could be overkill, given that geographic and mobile prices were often higher.
- Suggestion that regulation through the ASA was an alternative option but not clear about their enforcement powers.
- Question about where advertising stops and starts and where the SC would have to appear. Suggested that for lower SCs could only be required in certain central points, e.g. not in every ad.
- Noted that if there is a central database of SCs, consumers will able to check prices there and advertising could refer to that weblink.

Ofcom summary/action points

Majority of the group against extension of PP+ regulation of 084, some support for removing 0871 if possible. No clear consensus on alternative mechanisms for enforcing advertising of SCs, but possibility of different approaches depending of the level of the SC, and potential to use database of SCs as information point for consumers

- Ofcom to consult on range of options for ensuring transparency of SCs to consumers.

Technical Working Group

A14.5 The Technical Working Group discussed implementation aspects of Ofcom's proposals in the December 2010 Consultation during two sessions on 11 August 2011 and 8 September 2011.[555]

A14.6 These sessions were chaired by industry and Ofcom participated as an observer. The working group did not discuss cost information, which the members considered as commercially sensitive for a discussion in an open forum. Ofcom also discussed these implementation aspects with stakeholders during bilateral discussions.

A14.7 The group developed a list of questions and assumptions about the design of Ofcom's proposals in the December 2010 Consultation, in particular in relation to the unbundled tariff, which it considered would need answering or confirming in order to assess the potential impact on operators retail and wholesale billing systems.

A14.8 The issues discussed and questions/assumptions agreed during the group meetings are summarised below. This summary does not cover all the issues that were raised but merely highlights the key points.

Presentation of information on customer bills

A14.9 The group discussed a number of issues related to how pricing information would be presented to customers on bills. It was recognised that changes to billing systems to facilitate the presentation of this information was likely to lead to costs. The issues discussed (and listed in the questions and assumptions document produced) included:

i) presenting ACs and SCs separately, as an aggregated charge, or presenting a statement of the AC. The group noted that presenting disaggregated charges was likely to involve greater costs than a single charge;

ii) whether, as an interim measure, ACs and SCs could be merged as a single call charge until billing systems had been updated;

iii) whether disaggregated ACs and SCs would be required for pre-pay customers, corporate customers, or when the access charge was within bundles. The group on the whole agreed that disaggregated billing would not be required for pre-pay mobile customers;

iv) what the requirements would be for the presentation of VAT on customer bills; and

v) an assumption that there was no requirement to present the identity of the SP on bills;

[555] Meetings notes available here, 11 August 11, http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-110811 and 8 September 11: http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-080911. The list of questions/assumptions produced was also discussed at a CWG meeting on the 15 September 2011: http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-150911.

Structure of Access and Service charges

A14.10 The group noted that how the AC and SC were structured would also impact billing costs. The factors discussed included:

i) the amount of flexibility permitted in the structure of the AC and SC, for example whether charges contained both pence per minute charges and a pence per call charges (and whether these could be different for the AC and SC, which might cause issues if they were presented as a single charge. The group considered that it would be simpler if the AC and the SC had the same structure, e.g. if one was ppc for a particular call then the other would also be ppc);

ii) the duration rounding requirements for the SC and whether these would differ by number range, and whether AC rounding could be different to the SC. The group assumed there would be no requirement for duration rounding accurate to the hundreds of a second;

iii) whether it would be possible for an OCP to offer a capped price non-geographic call, for OCPs to set minimum call charges, or to support minimum SCs, and whether any of these structures would be applied differently to different number ranges;

iv) whether time of day variation would affect either the SC or the AC. The group noted that time of day variation in the SC could create significant additional implementation issues if every SP could have a different time of day variation;

v) the inclusion/exclusion of VAT in published charges;

vi) an assumption that bespoke SCs would not be permitted; and

vii) what level or number block granularity would determine the SC.

Changes to SCs and publication requirements

A14.11 As also highlighted in the CWG discussions, the group noted that there would need to be a process for TCPs to notify OCPs of any changes to SCs to ensure that OCPs were able to bill their customers correctly. The issues discussed included:

i) what the process for TCPs notifying any changes to SCs to OCPs would be, and how much notice OCPs would be given of those changes;

ii) whether TCPs would be required to publish SC rates;

iii) whether there would be any time/date restrictions over when a TCP could change its SCs; and

iv) whether there would be any restrictions on the frequency of changes to SCs.

Pre-call announcements ('PCAs')

A14.12 The group noted that any requirement for PCAs would have an impact on billing development. The group acknowledged that Ofcom's unbundled tariff proposals were unlikely to require the implementation of PCAs, but that consideration might be given to the use of PCAs when considering raising the PRS cap. The group highlighted that implementation costs were likely to be lower if these changes were made at the same time as any other billing changes and requested that Ofcom take that into account.

Transit and assumed handover point

A14.13 The group noted the following questions in relation to the transit charge or 'TWIX' (which is the term used to describe the transit element cost of transiting the BT network) and the assumed handover point:

i) whether the BT TWIX would remain the same and whether it would be charged to one CP, or spilt;

ii) whether billing systems would still need to have the ability to charge the TWIX to either the sender or recipient, or whether it would be standardised;

iii) whether the TWIX would be a separate transaction or whether it would be amalgamated into the AC (if it was OCP pays), or the SC (if it was TCP pays);

iv) how an OCP pays TWIX model would work if 080 was made free to caller;

v) what the assumed handover point would be and how settlements would work if the call were picked up before or after that point.

Exceptions

A14.14 The group also raised a number of questions about which number ranges would be in scope of the changes, and highlighted a number of areas where it considered exceptions should apply. These included:

i) an assumption that the unbundled tariff structure would not apply for international roaming;

ii) an assumption that there would be no changes to the Payphone Access Charge ('PAC') methodology and principles of cost recovery;

iii) an assumption that Universal International Freephone Services ('UIFS') would be outside the scope of Ofcom's NGCS review; and

iv) a question from BT over whether payphones would continue to be able to charge a minimum fee, and what the interconnect regime would operate for those calls.

Communications Working Group

Consolidated note of Communications Working Group

Representatives from the main communications providers met three times over the summer and autumn to discuss the communications aspects of Ofcom's non-geographic numbering review.[556]

Those companies who attended include BT, Virgin Media, C&W Worldwide, Vodafone, Three, BSkyB, TalkTalk, Colt, Daisy, Gamma, The Number UK as well as PhonepayPlus, the Advertising Association, the Committee of Advertising Practice ('CAP') and the FCS. The meetings were chaired by Ben Carter from Virgin Media and Juliette Spenceley from C&W Worldwide.

There was also valuable input from other organisations including Wonderland WPA, Ofcom's design company who produced a number of mock up designs for possible wording that could be used with any unbundled system of pricing if Ofcom decided on this option.

The discussions hinged around a future imagined scenario in which Ofcom had decided that unbundled tariffs were the best option. This is because it would require new information to be communicated to consumers (maximum tariffs would be much simpler messages to communicate). The meetings included a combination of presentations, general discussion and break-out sessions.

The idea of the group was not necessarily to come to any firm conclusions or consensus, rather to discuss and debate issues, come up with ideas and give Ofcom an overview of some of the communications implications for making changes to pricing of 08, 09 and 118 numbers.

Ofcom presented suggested logos, pictures and mock-ups to act as stimuli for discussion, (they were not intended to be finished proposals).

General issues that the group raised:

Overall simple is best – the simpler the better for designs for any pictorial representation, wording for call cost guides and strap lines.

Advert wording

The wording and strap lines that would accompany adverts relating to call costs is a crucial element of getting communications to consumers right.

The group did not come to a decision on what any wording for any strap line wording but made a number of suggestions. The two options that the group came up with were:

> "Your vote will cost 90p per minute plus your phone company charge."

[556] 20 July 2011 (http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-200711), 9 September 2011 (http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-090911) and 7 October 2011 (http://stakeholders.ofcom.org.uk/telecoms/groups/nts-focus-group/notes-of-meetings/ngcs-070911)

"Your vote will cost 90p per minute plus your phone company access charge."

With the word 'vote' being interchangeable with other actions i.e. calls will cost.
If access charge were used, there would need to be information available on CP websites and via Ofcom around what it means.

A call cost guide would be useful for consumers

Some form of call cost guide on Ofcom's website would serve as a useful tool, however the group felt that this should not be mandated for CPs to include in their literature. Ofcom would encourage PhonepayPlus as well as consumer information websites including moneysupermarket.com and moneysavingexpert.com, Which? and others to include it on their websites.

During the discussions it became apparent that using logos to represent various call costs could be confusing for consumers. Some parties suggested that if logos were to be used, there would need to be a more careful and detailed education programme to explain what they mean. This may not help the process.

The group suggested that this may need to include information about the difference between access and service charges.

Future considerations for CPs

The communications challenge should not be under-estimated with various factors to consider. The group suggested that CPs would need a minimum of three months lead in time to implement any required change.

Some of the main issues that CPs would need to consider include:

- Planning for the change;
- Billing changes / technical changes, legal changes;
- Internal comms including to sales and account managers, service, project and operational managers, inbound call centre agents and outbound telemarketing call centre agents;
- External comms including website publishers, with company terms and conditions and social media / bloggers / tweeters; and
- Printing literature and materials

Ofcom should also look to try and ensure that information is correct, particularly on high-profile media such as BBC and other broadcaster screen shots of call costs.

What are the next steps?

Ofcom to talk to consumer groups and the plain English campaign to seek their input.

Ofcom should also consider enlisting the help of the BBC and consider whether there are forthcoming public high profile events that may help embed the new system (for example Children in Need when they used an 03 number for the first time).

The group also came up with a helpful list of consumer-facing groups that Ofcom should seek input from on this issue.

Annex 15

Equality Impact Assessment

Introduction

A15.1 Over and above our duties to promote the interests of consumers, we are required by statute to take into consideration any potential impact our proposals may have on different equality groups. We fulfil these obligations by carrying out an Equality Impact Assessment ('EIA'), which examines the potential impacts our proposed policy is likely to have on people, depending on their background or identity. The equality groups we are required to consider are:

- Age;
- Disability;
- Gender reassignment;
- Pregnancy and maternity;
- Race;
- Religion or belief;
- Sex;
- Sexual orientation;
- Religious belief/Political Opinion (Northern Ireland only); and
- Dependants (Northern Ireland only);

A15.2 Below we summarise the potential positive and negative impacts of our proposals (which we have set out in detail in Parts B and C of this document) on consumers and which particular groups of consumers are more likely to be impacted, before considering whether any of the above equality groups are likely to be particularly affected.

Positive impacts

A15.3 We consider that the proposals on which we are consulting are likely to have significant benefits for consumers, in particular:

- improved price awareness;
- prices for NGC services that better reflect consumer preferences;
- improved access to socially important services, particularly for vulnerable consumers; and
- better service variety, innovation and availability through the increased demand for NGC services.

A15.4 We consider that these benefits will apply equally to all consumers. There may nevertheless, be some particular benefits for vulnerable consumers, by which we mean (as set out in Section 5) consumers that have a low income (i.e. less than £11,500 a year) or belong to low socio-economic groups, i.e. DE, in particular because a larger proportion of these consumers are in mobile only households (26%).[557] We also consider that consumers that are involuntarily mobile-only and elderly and/or disabled consumers that are dependent on telecoms should be included in this category.

A15.5 We have a particular concern about the current regime's impact on vulnerable consumer's access to socially important services including government agencies, health, utilities and some key charities. As the less mobile in the community (either due to physical or financial limitations or both) are particularly dependent on the telephone for access to such services, we expect the benefits of change to offer particular advantages to these groups. In particular because currently these vulnerable consumers can be deterred from accessing socially important services, whereas our proposals will help improve access for these consumers by creating greater awareness of prices as well as a level of prices that better reflects consumer preferences.

A15.6 In particular, our proposal to make 080 calls free from mobile phones should improve access to socially important services provided on these ranges. Many respondents to the December 2010 Consultation highlighted the positive impact that such a remedy is likely to have, especially on low income mobile-only callers that use their mobile to access socially important services and who are now disproportionately impacted by the prices of 080 calls. The Citizens Advice Bureau ('CAB'), amongst others, emphasized the benefit that low income mobile-only households could experience.[558] In addition, in the 2009 Hung Up report published by Leeds CAB[559], it was stressed that people with physical disabilities, home caring responsibilities and mental health problems are often more severely affected by the currently high cost to contact socially important services.

Negative Impacts

A15.7 We do not consider that any group will be specifically negatively impacted on by our proposals. The principal issues that the current consultation tries to address, such as the lack of price transparency and the subsequent consumer confusion and access to services, have an adverse effect on all segments of society and, therefore, all the consumers of those services are likely to benefit from the proposed remedies.

A15.8 The only potential area of concern lies with the tariff package effect as reductions in call charges for some calls could to lead to a restructuring of call charges. Similarly, the proposed reduction in the charge for Freephone and greater certainty of

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[557] Ofcom, 2011 CMR, p.319, Figure 5.90.

[558] In November – December 2010, CAB conducted a survey of CAB clients about the detriment caused to people, particularly those on low incomes, who have to rely on mobile phones to make calls to non-geographic numbers ("essential calls") such as 0800 or 0845. In total, 3,850 responses were received from 80 bureaux that took part across England and Wales. Results from the national survey revealed that; 40 per cent of respondents had *only* a mobile phone; of those who had only a mobile phone, 74 per cent had been put off calling either a government or other helpline because of the high call costs; and 20 per cent of respondents who had only a mobile phone had asked their local CAB to call a helpline on their behalf because they could not afford to make the call themselves.

[559] http://www.leedscab.org.uk/forms/hungupreport.pdf

charges for the other numbers is expected to lead to a rebalancing of the volume of non-geographic calls between fixed and mobile (currently only 10% of non-geographic calls are made on mobiles compared to over 50% of geographic calls – we would expect the changes to lead to non-geographic demand being more similar to geographic).

A15.9 For our unbundled proposals we do not expect to see a significant tariff rebalancing effect. For our Freephone proposal, based on our Impact Assessment Range for the mobile origination charge, we do not expect to see a particular impact on mobile prices, however, we recognise that there could be some tariff rebalancing for fixed customers, which is linked to the volume changes we discuss below. Nevertheless, putting volumes changes aside initially, tariff rebalancing should allow consumers to choose tariffs that better reflect their call preferences, which should be positive for all groups.

A15.10 The impact of volume changes is more complicated. For users of mobiles, we estimate net revenue impact is likely to be positive (see Part C, Section 16). For fixed lines, there is a risk of net revenue decline, which could lead to a rebalancing of prices which may particularly impact fixed-only households. However, it is not clear how material this will be given currently more of these calls are within call bundles and the revenue from Freephone calls is relatively low. In addition, we also note that on fixed lines, particularly disadvantaged consumers are already protected by specific social tariffs which should cushion, if not cancel, the impact of any change.[560]

A15.11 Therefore we consider that no specific group is likely to be particularly negatively effected by our proposals.

Equality impact groups

A15.12 In order to understand how particular equality groups might be impacted, we have compared the composition of the vulnerable consumer groups outlined above (in particular mobile-only, low income households as well as fixed only households). The Table below shows the proportion of each of groups of consumers we have identified as being potentially impacted (i.e. vulnerable consumers) who belong to equality groups.

Table A15.1: Proportion of total population and proxy groups who belong to equality Groups

[560] In particular under the Universal Service Obligation ('USO'), BT and Kingston Communications are required to offer a Special Tariff scheme that targets users with low incomes. http://stakeholders.ofcom.org.uk/telecoms/ga-scheme/specific-conditions-entitlement/universal-service-obligation/

Category	Population as a whole (%)	Mobile-only households (%)	<£11.5K pa / DE (%)	Fixed only households (%)
Female	52	14	57	7
Minority Ethnic Group	9	12	24	3
Over 55	34	5	48	18
With a disability	15	18	42	20

Source: Ofcom Technology Tracker Q3 2011[561]

A15.13 From the above table, the instances where there are statistically significant differences between specific socio-demographic groups and the general population are:

- Women are statistically more likely to be in households with mobile and fixed-line services and with an income of less than £11.5k or in the DE socio-economic group;
- Ethnic minority (non-white) groups are statistically less likely to be in households with fixed-only telephony services;
- Those with a disability are statistically more likely to be in households with mobile and fixed-line services and with an income of less than £11.5k or in the DE socio-economic group;
- Those over 55 are more likely to have an income under £11.5k and live in fixed only households and not live in mobile only households; and
- Those with a disability are statistically more likely to be in households with fixed-only services.

A15.14 Given that the equality groups we have identified above are often more highly represented in the vulnerable consumer groups, we consider that our proposals are likely to have a positive impact on race, disability and gender groups.

A15.15 The group which we noted above could be potentially at risk from a negative impact was those in fixed only households. The figures above show that those with a disability and those over 55 are more likely to be represented in that group. However, we also note that those with a disability are also more likely to be in mobile-only households, who are more likely to see particular benefits from our proposals. Furthermore, as highlighted in paragraph A15.10 above, it is not clear that the negative impact on fixed-only households will be material and there are additional protections already in place for those consumers.

A15.16 Therefore, overall we consider that our proposals will have a positive impact on equality groups. However, we welcome stakeholder comments on our impact assessment and have set out a specific question in Section 5.

561 http://stakeholders.ofcom.org.uk/market-data-research/statistics/