Determination to resolve a dispute between BT and each of Vodafone, T-Mobile, H3G, O2, Orange and Everything Everywhere about BT's termination charges for 0845 and 0870 calls

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Final Determination

Issue date: **10 August 2010**

Contents

Glossary of terms

2003 Act: the Communications Act 2003.

ARP: Average retail price.

BT: British Telecommunications plc (BT) whose registered company number is 1800000, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by Section 1159 of the Companies Act 2006;

C&W: Cable & Wireless Worldwide.

CARS: Customer acquisition, retention and service costs.

CAT: Competition Appeal Tribunal.

CC: Competition Commission

CCEB: Competition and Consumer Enforcement Bulletin, the bulletin Ofcom posts through its website when opening or updating a dispute.

CLI: Caller line identification, the term used when identifying the number that a call has originated from.

CMR: Ofcom Communications Market Report.

CP: Communications provider.

Direct effect: the impact of NCCN 985 and 986 on retail 0845 and 0870 call prices.

DNO: Donor network operator, the operator from which a customer has ported its number.

Draft Determination: The Draft Determination we published in relation to this Dispute, on 20 April 2010, entitled 'Draft Determination to resolve a dispute between BT and each of Vodafone, T-Mobile, H3G, O2 and Orange about BTs termination charges for 0845 and 0870 calls'.

EBITDA: Earnings before interest, taxes, depreciation and amortization.

EE: Everything Everywhere Limited is a joint venture between (a) the company formerly known as T-Mobile (UK) Limited, whose registered company number is 02382161, and (b) Orange Personal Communications Services Limited, whose registered company number is 2178917. We understand that Orange Personal Communications Services Limited to be a subsidiary of EE, such that EE is responsible for any contractual relations which Orange entered into prior to the creation of the joint venture.

Fixed charges: The pre-existing termination rates, immediately before the introduction of NCCNs 985 and 986, that applied to all 0845 and 0870 calls terminated on BT's network.

GC 14: General Condition 14, specifically GC 14.2 which sets out the rules for prominently advertising NTS numbers, 0870 numbers and Personal numbers, in the same way as for geographic calls, calls to mobile and call packages, including bundles.

H3G: Hutchison 3GUK Limited whose registered company number is 03885486, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by Section 1159 of the Companies Act 2006;

Indirect effect: the impact of NCCN 985 and 986 on service providers and, through improved services, callers, i.e. consumers of 0845 and 0870 calls.

Interested Parties: additional persons that have provided submissions in respect of the Dispute.

IVR: IV Response.

LRIC+: Long run incremental costs plus a mark-up contributing to the recovery of common costs.

MCT: Mobile call termination.

Mobile tariff package effect: the impact of NCCN 985 and 986 on the prices of other mobile services in the overall MNO offering to its customers.

MNO: Mobile Network Operator; Vodafone, Everything Everywhere, T-Mobile, O2, Orange and H3G are collectively referred to as the MNOs.

MTR: Mobile termination rate.

MVNO: Mobile Virtual Network Operator.

NCCN: Network Charge Change Notice, the mechanism by which BT notifies other communications providers of changes to its charges, including charges for the termination of calls to NTS numbers.

NCCN 985: Network Charge Control Notice 985 issued by BT on 2 October and applicable from 1 November 2009;

NCCN 986: Network Charge Control Notice 986 issued by BT on 2 October and applicable from 1 November.

NGCS Review: Non-Geographic Calls Service Review, a review currently being undertaken by Ofcom.

NTNP: National Telephone Numbering Plan.

NTS: Number Translation Services, telephone services using prefixes listed in the NTNP as "Special Services", which start with 08 and 09.

NTS Condition: NTS Call Origination Condition, one of a number of remedies for BT's market power in 'call origination on public fixed narrowband networks'.

NTS hosting: Call management and routeing services provided by the TCP to the NTS SP.

O2: Telefónica O2 UK Limited (O2) whose registered company number is 1743099, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by Section 1159 of the Companies Act 2006;

OCCN: Operator Charge Change Notice, the mechanism by which communication providers (other than BT – see NCCN) notify other communications providers of changes to its charges, including charges for the termination of calls to NTS numbers.

OCP: Originating communications provider.

ONO: Originating network operator (i.e. alternative name for an OCP).

Orange: Orange Personal Communications Services Limited (Orange) whose registered company number is 2178917, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by Section 1159 of the Companies Act 2006;

The Parties: BT, Vodafone, T-Mobile, O2, Orange, and H3G are collectively known as the Parties to the Dispute.

ppm: pence per minute

Retention: Retention is the retail call price minus the applicable termination charge.

RNO: Recipient network operator, the operator to which a customer number has ported its number.

RPI: Retail price index.

Section 191 request: a request by Ofcom for the provision of information for the purpose of considering a dispute and making a determination for resolving it pursuant to Section 191 of the 2003 Act.

SIA: The Standard Interconnect Agreement.

SMP: The Significant Market Power test set out in European Directives.

SP: Service Provider, the organisations who use NTS numbers for consumers, citizens and business to contact them.

Supplementary Consultation: The Supplementary Consultation we published in relation to this Dispute, on 8 July 2010, entitled 'Supplementary Consultation to resolve a dispute between BT and each of Vodafone, T-Mobile, H3G, O2 and Orange about BT's termination charges for 0845 and 0870 calls.'

T-Mobile: T-Mobile (UK) Limited (T-Mobile) whose registered company number is 020302161, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by Section 1159 of the Companies Act 2006;

TAC: Target average charge (i.e. the regulated average charge in mobile termination price caps).

TCP: Terminating communications provider.

Variable charges: New termination charges introduced via NCCNs 985 and 986 in addition to the "fixed charges". The variable charges vary depending on the ARP of the MNO for 0845 and 0870 calls, and are only applied where the ARP is 12.5ppm or above.

Vodafone: Vodafone Group Services Limited (Vodafone) whose registered company number is 3802001, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by Section 1159 of the Companies Act 2006;

WTS: Wholesale Tariff Schedule

Section 1

Summary

1.1 On 23 December 2009, we received a dispute submission from Vodafone concerning termination charges for calls to 0845 and 0870 numbers imposed by BT under NCCN 985 and NCCN986 (both effective from 9 October 2009). On 4 March 2010 we decided that it was appropriate for us to handle this dispute and we informed Vodafone and BT of our decision under section 186(3) of the Communications Act 2003. We published details of the dispute, including the proposed scope, on our website (the "CCEB entry").[1]

1.2 This Determination sets out our resolution to the disputes referred to us by each of Vodafone, T-Mobile, H3G, O2, and Orange (together, the MNOs) against BT. These disputes were joined with the original dispute and we refer to these joined disputes collectively as "the Dispute" or "this Dispute".

1.3 The following MNOs were joined as parties to the Dispute:

- T-Mobile on 8 March 2010
- O2 on 12 March 2010
- Orange on 15 April 2010
- H3G on 15 April 2010

1.4 Each of these MNOs was joined as party to the Dispute and we refer to the MNOs and BT collectively as "the Parties". An updated CCEB entry stating that we had joined these MNOs to the Dispute was published on 20 April 2010. Each of the Parties' and interested parties' submissions made prior to the publication of the Draft Determination are summarised in section 3 below.

1.5 This Dispute concerns the introduction of additional termination charges by BT for calls to 0845 and 0870 numbers hosted on its network (for such calls BT is the TCP). BT's new 0845 and 0870 termination charges consist of the pre-existing termination rates (the "fixed charge") applied to all calls terminated on BT's network, plus a new charge that varies depending on the average retail price of calls to the relevant number range charged by the MNO (the "variable charge"). No variable charge is applied where the average retail price is less than 12.5ppm. Above 12.5ppm the variable charge is levied in increasing amounts as the average retail price increases, up to an additional charge of 13ppm (in respect of calls to 0845 numbers) and 15ppm (in respect of calls to 0870 numbers) where the average retail price is 32.5ppm or above. The variable charges are set out in Tables 1.1 and 1.2 below.

1.6 Each of the MNOs offers its customers the ability to call 0845 and 0870 numbers (and when a customer calls a number, the MNO offering that call is the OCP in respect of those calls). BT hosts certain number ranges within the 0845 and 0870 ranges. BT considers that each of the MNOs charges its own customers more than

[1] The entry on the Competition and Consumer Enforcement Bulletin can be found at http://www.ofcom.org.uk/bulletins/comp_bull_index/comp_bull_ocases/open_all/cw_01042/

12.5 ppm on average for calls to BT's 0845 and 0870 numbers and is therefore subject to BT's new variable charges in addition to the fixed charge.

1.7 BT notified the industry of these new charges on 2 October 2009 via NCCN 985 and NCCN 986, and the charges took effect from 1 November 2009. The variable charges in dispute are set out in Tables 1.1 and 1.2 below.

Table 1.1: BT Termination Charges for calls to 0845 numbers following NCCN 985

Fixed charge (ppm)			**Variable charge linked to OCP retail tariff (ppm)**	
Day	**Evening**	**Weekend**	**OCP retail tariff (ppm)**	**Variable charge (ppm)**
2.6654	0.8430	0.6422	0.00 – 12.49	0.0
2.6654	0.8430	0.6422	12.50 – 17.49	2.0
2.6654	0.8430	0.6422	17.50 – 22.49	4.5
2.6654	0.8430	0.6422	22.50 – 27.49	7.0
2.6654	0.8430	0.6422	27.50 – 32.49	10.0
2.6654	0.8430	0.6422	32.50 and above	13.0
A call set-up fee of 2.0171 pence applies to all calls.				

Table 1.2: BT Termination Charges for calls to 0870 numbers following NCCN 986

Fixed charge (ppm)			Variable charge linked to OCP retail tariff (ppm)	
Day	Evening	Weekend	OCP retail tariff (ppm)	Variable charge
0.5600	0.2600	0.2000	0.00 – 12.49	0.0
0.5600	0.2600	0.2000	12.50 – 17.49	2.0
0.5600	0.2600	0.2000	17.50 – 22.49	4.5
0.5600	0.2600	0.2000	22.50 – 27.49	7.0
0.5600	0.2600	0.2000	27.50 – 32.49	10.0
0.5600	0.2600	0.2000	32.50 and above	15.0

Scope of the Dispute

1.8 Following discussions with the Parties, we determined the scope of the Dispute as follows:

a) to determine whether it is fair and reasonable for BT to apply new termination charges for calls to 0845 numbers hosted on its network, which are based on the level of the retail charge made by OCPs for calls to these numbers, as specifically set out in BT's NCCN 985 dated 2 October 2009; and

b) to determine whether it is fair and reasonable for BT to apply new termination charges for calls to 0870 numbers hosted on its network, which are based on the level of the retail charge made by OCPs for calls to these numbers, as specifically set out in BT's NCCN 986 dated 2 October 2009.

The Draft Determination

1.9 We issued our Draft Determination to the Parties and interested parties on 10 June 2010, and published a non-confidential version of the Draft Determination in the CCEB entry on our website on 11 June 2010. We asked for responses to the Draft Determination to be submitted no later than 5pm on 24 June 2010.

1.10 We received responses to the Draft Determination from BT, T-Mobile/Orange[2], Vodafone, H3G, O2, C&W, Virgin Media and IVR. These responses contained substantive comments on the analysis set out in the Draft Determination and also provided new evidence.[3]

[2] We were informed in their response to the Draft Determination, that T-Mobile and Orange will operate under a single company, Everything Everywhere Limited, from 1 July 2010. We received one response to the Draft Determination from T-Mobile/Orange to reflect their comments.

[3] BT provided a further report by Professor Dobbs ("Dobbs 4") which extends the framework used in Dobbs 3. Three of the MNOs; Vodafone, O2, and H3G, commissioned an economic report prepared by Frontier Economics (the "Frontier Report").

1.11 The MNOs and Virgin Media were in broad agreement that we were correct in provisionally concluding that NCCN 985 and NCCN 986 are not fair and reasonable. However, they did not agree with the way that we had assessed the issues.

1.12 BT did not agree that the overall assessment of whether NCCN 985 and NCCN 986 are fair and reasonable is 'finely balanced'. BT considered it has more than met all of the concerns which we have raised to its analysis and that there is no additional material it could reasonably access to demonstrate that NCCNs 985 and 986 will reduce the prices charged by MNOs. C&W and IVR agreed that the Parties should be able to negotiate to determine an ARP and that the 'finely balanced' finding in Principle 2 should lead to this principle being met. C&W were also of the view that we should reach an unequivocal view on whether tiered pricing structures are fair and reasonable.

1.13 The Parties and interested parties also commented on concerns raised in the Draft Determination. These were regarding practical complexities, the wider implications and unintended or unforeseen effects which might arise if we were to find that NCCNs 985 and 986 are fair and reasonable. We also noted that if we were to consider Principles 1 and 2 were met then we would need to give further consideration to these issues.

The Supplementary Consultation

1.14 Following consideration of these submissions we amended some of our reasoning and provisional conclusions, although our overall provisional conclusion that NCCNs 985 and 986 are not fair and reasonable remained unchanged. We felt it was appropriate for stakeholders to have an opportunity to comment on these changes. Accordingly, we published the Supplementary Consultation on 7 July 2010.[4]

1.15 We asked for responses on the Supplementary Consultation no later than 5pm on 21 July 2010 and we received submissions from BT, T-Mobile/Orange, Vodafone, H3G, O2, C&W and IVR.

1.16 Further details of the Supplementary Consultation are set out in Section 6 below.

Summary of analysis

1.17 In analysing the matters in dispute we have taken due account of our statutory duties, in particular the effects on competition and consumers of the charging arrangements. Consistent with our approach in our recent 'Determination to resolve a dispute between BT and each of T-Mobile, Vodafone, O2 and Orange about BT's termination charges for 080 calls' (the "080 Determination"),[5] which concerned similar matters, we have adopted an analytical framework for assessing the matter in dispute based on three cumulative principles ("the three Principles"), as set out below. These principles substantively incorporate the six principles of pricing and

[4] http://stakeholders.ofcom.org.uk/binaries/consultations/dispute-BT-termination-charges/summary/Supplementary_Consultation.pdf

[5] Determination to resolve a dispute between BT and each of T-Mobile, Vodafone, O2 and Orange about BT's termination charges for 080 calls http://stakeholders.ofcom.org.uk/binaries/consultations/draft_deter_bt_tmobile_vodafone/nonconf.pdf

cost recovery[6] which we have often previously used as a basis for an analytical framework.

1.18 The three Principles we have considered are:

Principle 1: The MNOs should not be denied the opportunity to recover their efficient costs of originating calls to 0845/0870 numbers hosted on BT's network. In the context of this Dispute, we consider that this means it is not fair and reasonable for BT to impose variable termination charges unless the average retention by each of the MNOs (which is the average retail price minus the termination charge) is sufficiently large relative to the retention obtained on geographic calls.

Principle 2: The charges in NCCN 985 and 986 should:

- provide benefits to consumers, taking into account (i) the impact on retail 0845/0870 call prices (the Direct effect) (ii) the impact on service providers and, through improved services, callers, i.e. consumers of 0845/0870 calls (the Indirect effect) and (iii) the impact on the overall MNO offering to its customers (the Mobile tariff package effect); and

- avoid a material distortion of competition among: (i) TCPs; (ii) transit operators; (iii) OCPs in retail services; and (iv) MNOs in wholesale sales to MVNOs.[7]

Principle 3: The charges in NCCN 985 and 986 should be reasonably practicable to implement.

1.19 We have developed and applied these principles in the context of Ofcom's existing policy for 0845 and 0870 calls. In summary, this is that all originating networks should price 0845 and 0870 calls in the same way as local and national calls to geographic numbers respectively. In relation to MNOs, this means for instance that where geographic calls (i.e. mobile-originated calls to fixed geographic numbers, anywhere in the UK) are included in a bundle, then 0845 and 0870 calls should also be included; and where geographic calls are not included in a bundle, and instead charged for on a ppm basis, 0845 and 0870 calls should be charged at the same rate. MNOs are not prevented from setting their prices differently from this policy preference. But they do have a regulatory obligation to publish the usage charges on their websites and in published price lists in a way that gives those charges the same prominence in terms of location and format given to charges for geographic calls, calls to mobiles and call packages, including bundles.[8]

1.20 Our analysis and provisional conclusions as set out in the Draft Determination and Supplementary Consultation reflected Ofcom's current regulatory policies in relation to 0845 and 0870 number ranges, where relevant. These policies could change in the future. In particular we are currently reviewing the regulatory regime for non-geographic call services, including 08 numbers.[9] The NGCS Review is considering policy options that depart from the current policies; such possible changes are beyond the scope of the Dispute.

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[6] Cost causation; cost minimisation; effective competition; reciprocity; distribution of benefits; practicability.
[7] Mobile Virtual Network Operator.
[8] General Condition 14.2
[9] Review of non geographic call services,(the "NGCS Review") http://www.ofcom.org.uk/consult/condocs/ngnservices/main/

Our Final Conclusions

1.21 In reaching our final conclusions we have considered carefully the responses to the Draft Determination and the Supplementary Consultation.

Our final conclusion on Principle 1

1.22 Our final conclusion is that Principle 1 is met; this is the same as our provisional conclusion in the Draft Determination. Our analysis suggests that Principle 1 is met by NCCNs 985 and 986 because they allow the MNOs to obtain a sufficiently large retention on 0845 and 0870 calls relative to their retention on geographic calls.

Our final conclusion on Principle 2

1.23 Principle 2 relates to consumer and competition effects. Our final conclusion that Principle 2 is not met, for the following reasons:

Consumer effects

1.24 As set out in the Supplementary Consultation, we consider that it is more likely that NCCNs 985 and 986 will lead to price decreases for 0845/0870 calls rather than prices increases. This represents a change from our provisional conclusion in the Draft Determination. However, we are still uncertain about the magnitude of the Direct effect and still consider that there will be a negative Mobile tariff package effect, which leads us to consider there is a risk of an overall adverse effect on consumers. We consider it reasonable, in light of our overriding statutory duties to further the interests of consumers, to place greater weight on this potential risk than on the potential benefits of allowing the charges in NCCNs 985 and 986 to stand.

Competitive effects

1.25 Our final conclusion is the same as our provisional conclusion in the Draft Determination. The risk of competitive distortions between TCPs is relatively low and there may be no significant distortion to competition in MNOs' wholesale sales to MVNOs. However, there are possible concerns about the potential distortion of OCPs' choice of transit provider, and about competition between MNOs and MVNOs in retail services (relating to disincentives to pricing innovations and potential for the range of retail packages to be reduced, although the nature of these effects depends on the method to derive the MNOs' average retail price).

Overall view

1.26 Taking the issues raised by our analysis of consumer benefits and competitive distortion in the round, we consider that, on the evidence currently before us, Principle 2 is not sufficiently likely to be met. A more detailed statement of our conclusion on Principle 2 is set out in Section 9 below.

Our final conclusion on Principle 3

1.27 Our final conclusion is that NCCNs 985 and 986 would not be reasonably practicable to implement, and therefore Principle 3 is not met. This is the same as our provisional conclusion set out in the Supplementary Consultation, and differs from the prior provisional conclusion we set out in the Draft Determination. A more detailed statement of our conclusion on Principle 3 is set out in Section 9 below.

Our final conclusion on whether NCCNs 985 and NCCN 986 are fair and reasonable

1.28 Taking into consideration our assessment across the three Principles, our final conclusion is that it is not fair and reasonable for BT to apply the new termination charges for calls to 0845 and 0870 numbers hosted on its network as set out in NCCNs 985 and 986 dated *2* October 2009.

1.29 We consider that the Parties should revert to the terms on which they were trading prior to the imposition of NCCNs 985 and 986 which gave rise to this dispute.

Our final conclusion on repayments

1.30 We also conclude that it is appropriate and proportionate for Ofcom to exercise its powers under section 190(2)(d) of the 2003 Act to require BT to repay any additional amounts paid to it by the MNOs under NCCNs 985 and 986, over and above those charges applicable immediately prior to NCCNs 985 and 986, together with interest on these amounts at the Oftel Interest Rate. This will return the Parties to the position that would have prevailed had BT not introduced NCCNs 985 and 986.

Structure of our Final Determination

1.31 This document follows the structure set out below:[10]

Section 2: introduction and background to the Dispute;

Section 3: the history and scope of the Dispute;

Section 4: Ofcom's analytical framework for resolving the Dispute;

Section 5: Ofcom's provisional conclusions on whether NCCN 985 and NCCN 986 are fair and reasonable;

Section 6: Ofcom's consideration of submissions on the Draft Determination;

Section 7: a summary of submissions on the Supplementary Consultation and our response to these submissions;

Section 8: a summary of submissions on the Draft Determination that were not addressed in the Supplementary Consultation and our response to these submissions;

Section 9: our final conclusions on whether NCCN 985 and NCCN 986 are fair and reasonable; and

Section 10: our consideration or repayments and assessment of Ofcom's statutory duties.

[10] Sections 2 to 4 of this document reproduce corresponding sections in the Draft Determination (without amendment, except as specifically indicated).

Section 2

Introduction and background

Dispute resolution

What the Dispute is about

(This Section reproduces Section 2 of the Draft Determination. The text reproduced here is identical to that Section except for the correction some minor typographical and formatting errors).

2.1 The MNOs are in dispute with BT concerning the wholesale charges applicable to calls to 0845 and 0870 numbers hosted on BT's network. The Dispute concerns the introduction by BT of amended charges, as set out in NCCN 985 for calls to 0845 numbers and NCCN 986 for calls to 0870 numbers, when those calls originate on a non-BT fixed or mobile network and terminate on BT's network. These numbers, and the services provided using these numbers, are described in more detail below. BT notified the MNOs (and all other OCPs) of these charges on 2 October 2009 and they took effect on 1 November 2009.

Ofcom's policy preference for the 0845 and 0870 calls

2.2 Ofcom has set out its policy for calls to 0845 and 0870 numbers in a number of documents, which are discussed later in this Section (paragraph 2.39). In summary, Ofcom's preference is that all calls to 0845 and 0870 numbers should be treated in the same way as calls to geographic numbers. This means that where an OCP includes geographic calls in bundles, 0845 and 0870 calls should also be included, and where geographic calls are not included in bundles, that 0845 and 0870 calls are priced in the same way as calls to geographic numbers.

Ofcom's duty to handle disputes

2.3 Section 185(1)(a) of the 2003 Act provides (in conjunction with Section 185(3)) that in the case of a dispute relating to the provision of network access between different communications providers, any of the Parties to such a dispute may refer it to Ofcom.

2.4 Section 185(4) of the 2003 Act requires that any reference is to be made in such a manner that Ofcom direct. We have set out the process for the referral of a dispute in our dispute resolution guidelines.[11]

2.5 Section 186 of the 2003 Act provides that where a dispute is referred to us in accordance with Section 185, we must decide whether or not it is appropriate to handle it. Section 186(3) further provides that we must decide that it is appropriate for us to handle a dispute unless there are alternative means available for resolving the dispute, a resolution of the dispute by those means would be consistent with the Community requirements set out in Section 4 of the 2003 Act, and those alternative means would be likely to result in a prompt and satisfactory resolution of the dispute.

[11] Guidelines for the handling of competition complaints, and complaints and disputes about breaches of conditions imposed under the EU Directives, published July 2004. http://www.ofcom.org.uk/bulletins/eu_directives/guidelines.pdf

2.6 In summary therefore, where a dispute which falls within Section 185(1)(a) of the 2003 Act is properly referred to us in accordance with our Dispute resolution guidelines, and we cannot identify alternative means which meet the criteria set out above, we have a duty to decide that it is appropriate to handle that dispute.

2.7 Section 188 of the 2003 Act provides that where we have decided that it is appropriate for us to handle a dispute, we must make a determination resolving the dispute within four months, except in exceptional circumstances.

Ofcom's powers when determining a dispute

2.8 Our powers in relation to making a dispute determination are limited to those set out in Section 190 of the 2003 Act. Except in relation to disputes relating to the management of the radio spectrum, our main power is to do one or more of the following:

a) Make a declaration setting out the rights and obligations of the Parties to the dispute;

b) Give a direction fixing the terms or conditions of transactions between the Parties to the dispute;

c) Give a direction imposing an obligation to enter into a transaction between themselves on the terms and conditions fixed by us; and

d) Give a direction requiring the payment of sums by way of adjustment of an underpayment or overpayment, in respect of charges for which amounts have been paid by one party to the dispute, to the other.

2.9 A determination made by us to resolve a dispute binds all the Parties to that dispute (Section 190(8) of the 2003 Act). While our dispute resolution powers can therefore only bind the Parties to a dispute on a bilateral basis, we would expect dispute determinations to be read across and followed in situations where other parties who were not a party to the dispute, are facing similar questions vis-à-vis one of the Parties to the dispute which has been determined. We would not expect the dispute process to establish new wider policy that would apply to industry generally and for which there is a usual process for altering policy (through for example industry wide consultation).

Our duties when determining a dispute

2.10 The dispute resolution provisions set out in Sections 185-191 of the 2003 Act are functions of Ofcom. As a result, when we resolve disputes we must do so in a manner which is consistent with both our general duties in Section 3 of the 2003 Act, and (pursuant to Section 4(1)(c) of the 2003 Act) the six Community requirements set out in Section 4 of the 2003 Act, which give effect, among other things, to the requirements of Article 8 of the Framework Directive.[12]

Ofcom's process for determining disputes

2.11 In light of the four month time period within which we must determine how to resolve disputes, our dispute resolution guidelines set out the evidence that we require before we will accept a dispute. Those guidelines set out the information that we

[12] Directive 2002/21/EC of 7 March 2002.

require when a dispute is submitted, including details of any relevant *ex ante* conditions, a clear statement of the scope of the matters in dispute, details of the preferred remedy (with reasons), evidence of commercial negotiations and a statement of an officer of the company that best endeavours have been used to resolve the dispute through commercial negotiation, before bringing it to Ofcom.

2.12 In addition to the submissions that we received from each of the MNOs and BT, we requested information formally using our powers under Section 191 of the 2003 Act (the "s191 Information Request"). We requested information from the MNOs, BT and other relevant stakeholders. Further detail on this is set out in Section 3.

2.13 We have also considered the relevance of any previous precedents in this matter. This Determination is based on the evidence obtained in the time available, the submissions of the MNOs' and BT and relevant Oftel and Ofcom policy precedent.

Our conclusions on jurisdiction to resolve the Dispute

2.14 Sections 185 to 191 of the 2003 Act set out our dispute resolution powers. They apply to disputes relating to the provision of network access and to other disputes relating to the rights and obligations conferred or imposed by or under Part 2 of the 2003 Act. Section 186 of the 2003 Act requires us to resolve a dispute referred to us under Section 185 once we have decided in accordance with Section 186(2) to handle the dispute. Our remedial powers for resolving disputes are set out in Section 190 of the 2003 Act.

2.15 In this case, we have concluded that the Dispute falls within the scope of Section 185(1) of the 2003 Act.[13] We considered whether each MNO, in referring the Dispute, had, in accordance with our Dispute resolution guidance, provided a history of their commercial negotiations and considered that they had failed to resolve the matter through commercial negotiation. Pursuant to Section 186 of the 2003 Act we conclude that it is appropriate for us to handle the Dispute, as we consider that commercial negotiations had been exhausted and we do not consider that there are appropriate alternative means for resolving the Dispute. Therefore, the Dispute satisfies the criteria set out in our Dispute resolution guidelines.

Number Translation Services ("NTS")

2.16 NTS calls are calls to numbers identified in the National Telephone Numbering Plan ("NTNP")[14] as Special Services numbers (broadly numbers that start with 08 or 09).[15] NTS numbers are examples of non-geographic numbers in that the number dialled does not relate to a specific geographic location, but instead to a particular service.

[13] Each of the Parties to the Dispute is a Communications Provider and the Dispute relates to provision of network access given that it concerns interconnection between each of the MNOs and BT under the terms of the Standard Interconnect Agreement: http://www.btwholesale.com/pages/static/Pricing_and_Contracts/Reference_Offers/Telephony.html

[14] The NTNP is a document published by Ofcom that specifies the telephone numbers that Ofcom has determined should be available for allocation and the rules that Ofcom applies in specifying the uses for all number ranges, including NTS number ranges. Communications providers to whom Ofcom has allocated NTS numbers are responsible for ensuring that these numbers are used in accordance with the designations given in the NTNP. The current version of the NTNP was published on 8 March 2010 at: http://www.ofcom.org.uk/telecoms/ioi/numbers/numplan080410.pdf

[15] NTS includes calls to the legacy 0500 Freephone numbers, which whilst still in use are not listed in the Plan as they are no longer available for new allocations. Calls to 0844 04 numbers fur Surftime internet access services and calls to 0808 99 numbers for Flat Rate Internet Access Call Origination ('FRIACO') are not included.

At a technical level, the NTS number dialled by the caller is 'translated' by the network to a geographic number to deliver the call to its destination. NTS numbers are used by organisations and individuals to provide access to a wide range of services, which include financial services, helplines and voting on TV programmes.

2.17 A key feature of some NTS numbers is that the regulatory framework makes revenue sharing possible between the TCP and the organisation or individual receiving the call, i.e. the service provider ("SP"). In this way, the regulatory regime supports the use of NTS as a micro-payment mechanism for the various services offered by SPs which can be accessed via 08 and 09 numbers. The caller pays the OCP for the call. The OCP passes on a terminating payment to the TCP who is then able (subject to commercial viability) to share some of this revenue with the individual or organisation using the NTS number, either explicitly or implicitly in the form of additional hosting and call management services.

2.18 The regulatory mechanism that facilitates revenue sharing is the NTS Call Origination Condition ("NTS Condition") which is one of a number of remedies for BT's Significant Market Power ("SMP") in 'call origination on public fixed narrowband networks'.[16] A key feature of the NTS Condition is an obligation on BT to originate and retail calls to NTS numbers on behalf of TCPs. BT is only permitted to retain cost-related charges for originating NTS calls (including costs of retailing) and must pass the remaining revenues over to the TCP. This generally allows the TCP to cover its costs of termination and hosting and pass on some of the termination charge to the SP in the form of a revenue share as described above.

2.19 This sets the arrangements for BT-originated calls included in the NTS Condition, i.e. when BT is the OCP. When BT is the TCP, i.e. when other OCPs originate the call to an NTS number hosted by BT, BT has historically set termination charges to be paid by other OCPs on a reciprocal basis, i.e. at the same level as those it pays to other TCPs on BT-originated calls (although, as described in Section 3, this Dispute concerns a departure from this practice if the OCP sets retail prices higher than BT's and above a threshold level on 0845 and 0870 calls).

0845 numbers

2.20 0845 numbers form part of the NTS number ranges and the current regulatory arrangements support revenue sharing on 0845 numbers. In particular, 0845 numbers are included in the NTS Condition.

2.21 The current designation in the NTNP for 0845 calls specifies that:

(i) Calls are charged (before discounts and call packages) at BT's Standard Local Call Retail Price for BT customers inclusive of value added tax; and

(ii) The price charged by other OCPs may vary.[17]

2.22 In practice, prices charged by other OCPs for 0845 (or 0870) calls are rarely lower than BT's because of the need to pay the TCP's termination charge. Higher prices charged by other OCPs may reflect a situation where the OCP's costs are higher

[16] This condition was set under the *"Review of the fixed narrowband services- wholesale markets",* 15 September 2009, (the "Wholesale narrowband market review") http://www.ofcom.org.uk/consult/condocs/wnmr_statement_consultation/main.pdf
[17] Designation of 0845 number range as in the NTNP, Part A1, Page 13.

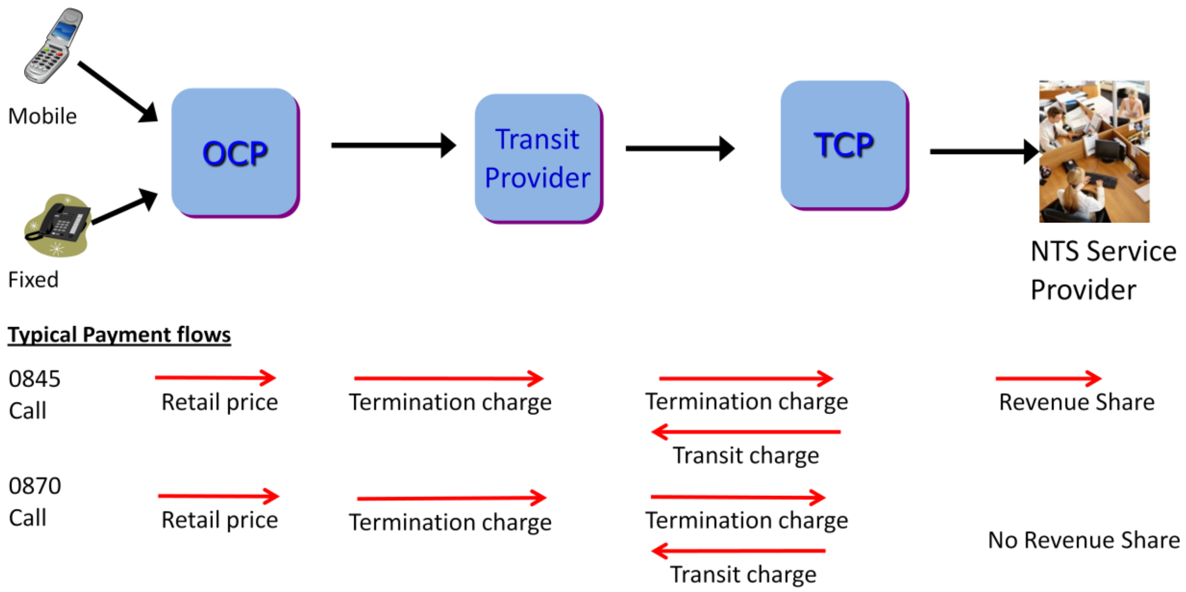
than BT's or they may be higher simply to achieve a greater retail return from originating the calls.

0870 numbers

2.23 0870 numbers also form part of the NTS number ranges, in that they are non-geographic and are used for similar applications as other 08 numbers. However, they differ from 0845 numbers in that since August 2009 they are not subject to the NTS Condition and therefore do not benefit from the regulatory support for revenue sharing provided by the NTS Condition. Their removal from the NTS Condition is discussed in paragraph 2.49 and 2.50. Despite this difference, 0870 calls are routed in the same way as those to other NTS numbers.

2.24 The typical flow of payments that occurs for 0845 and 0870 calls is depicted in Figure **2.1** below

Figure 2.1: Payment flows for 0845 and 0870 calls



Models of competition[18]

2.25 The arrangements for geographic calls are contrasted below with those that apply to calls to 0845 and 0870 numbers.

Calls to geographic numbers

2.26 For geographic calls (e.g. calls to 01 numbers), OCPs compete to provide retail calls for individual end users. The caller pays a retail price to the OCP (and the call recipient does not pay).[19] The OCP purchases termination from the TCP, as well as any transit services, where relevant. Because every TCP is found to have SMP for

[18] Our view on the difference in the model of competition between NTS and geographic calls is set out in more detail in paragraphs 15.22 *et seq.* in the Wholesale narrowband market review.
[19] There are circumstances in which the retailer of the call can be different from the OCP, in which case it purchases wholesale services from the OCP.

geographic calls terminating on their network, termination charges are regulated. In this way the TCP receives a cost-based charge to recover their costs for terminating the calls whereas the OCP retains any retail profit from call charges (the difference between the OCP's retail price and the wholesale charges it pays for termination and any transit is referred to as the OCP's "retention"). This helps OCPs to compete in the services they offer to consumers, in part, through the range of packages and bundles they offer. These frequently include 'free' calls to geographic and some other numbers at various times of the day/week according to the level of monthly charge each consumer pays. Bundles can also include other services such as broadband access and mobile phones thereby enhancing value for consumers.

Calls to 0845 numbers

2.27 OCPs compete to provide 0845 calls to their customers, the callers. However, the model of competition for 0845 calls differs from that for geographic calls in its focus on the call recipient. The call recipient is the individual or organisation using the NTS number, i.e. the SP. TCPs compete against each other for sales of hosting services to SPs. SPs compete to provide a particular service (e.g. traffic information or access to a company such as a bank or building society). 0845 calls are made on the basis of the value of this service or a caller's need to access it. An SP's success in attracting users to a service will depend on how valuable or attractive it is to a wide range of potential callers with whom the SP may or may not have a direct relationship. As described above, this model of competition is underpinned by regulatory arrangements that limit BT in its role as an OCP to recovering its costs associated with call origination, i.e. the NTS Condition, and thereby facilitate a micro payment mechanism between the caller and the SP.

2.28 Unlike geographic calls where OCPs purchase call termination from TCPs, with 0845 calls, in effect, it is the TCP that purchases call origination services, including retailing and billing, from the OCP. TCPs then provide call management and routing services to the SP, which we refer to collectively as "NTS hosting".

2.29 This arrangement means that SPs do not have to contract directly with OCPs on a bilateral basis.[20] Current charging arrangements for calls to 0845 numbers typically operate as follows :

(i) Where BT is the OCP, it retains only its network costs for originating calls (plus an allowance for retailing activities such as billing, bad debt liability and some customer acquisition and retention costs). BT pays the remainder of the revenue received from the caller to the TCP through the termination charge.

(ii) OCPs other than BT generally pay the same termination charges as BT, but if they set higher 0845 call prices they can retain any excess over costs that accrues.

(iii) The TCP may share any revenue passed on by the OCP with the SP or alternatively may provide their hosting/call management services to the SP free of charge. The extent to which it does so forms the basis on which it competes with other TCPs in providing NTS hosting services to SPs.

[20] Except where zero-rating occurs.

Calls to 0870 numbers

2.30 0870 numbers are used for much the same purpose as 0845 numbers. As noted above, one important difference between these two number ranges is that BT is not bound by the NTS Condition. This means that, whilst there is competition between TCPs and SPs at the terminating end of 0870 calls, regulatory support is not provided for revenue sharing or a micro payment mechanism for SPs. It also means that, at the originating end, BT can compete on the same basis as all other OCPs, i.e. retain any excess over costs that accrues. Both of these are differences from the arrangements for competition on 0845 calls.

2.31 In the 'Determination to resolve 0870 call termination rate disputes between BT and various operators' (the "0870 Determination"),[21] we set a cost-based termination rate that all TCPs would charge BT when terminating a BT-originated 0870 call. The purpose of this was to set the termination charge at a level which would allow BT to include 0870 calls in bundles and, where these calls fall outside of bundles, to treat and price 0870 calls in the same way as geographic calls. The 0870 Determination is described in greater detail in Section 4.

2.32 This rate was also charged by BT on a reciprocal basis when terminating 0870 calls from all OCPs (before NCCN 986).

Consumers of NTS call services

2.33 Ofcom's principal duties under Section 3(1) of the 2003 Act are to further the interests of citizens in relation to communications matters and to further the interests of consumers[22] in relevant markets, where appropriate, by promoting competition (which mirrors the principal duties identified in Article 8 of the Framework Directive). In having regard to these principal duties, there are two types of consumer in the NTS value chain: the caller and the call recipient (the SP).

2.34 Callers have no direct payment relationship with SPs, as described above. Callers decide whether to use NTS services based on the retail price and the value or attractiveness of these services offered by SPs. This value or attractiveness is likely to be driven, at least in part, by the extent to which: i) the relevant TCP shares revenue derived from calls to NTS numbers with the relevant SP; and ii) the relevant SP uses this revenue to increase the utility or quality of the service provided. A greater level of revenue sharing will, in principle, enable SPs to enhance the services that they provide to callers.

2.35 SPs decide whether to use a particular number range to offer their services based in part on the retail price at which they expect calls to that number to be offered and the attractiveness of the deals they can obtain from TCPs. The attractiveness of the deals from TCPs is also likely to be driven in part by the revenue share that may be available on that number range.

2.36 The interests of callers and SPs are likely to be promoted by competition between TCPs where this results in increased sharing of NTS call revenue between TCPs and SPs (assuming that this leads to investment in the quality of services provided by

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[21] Determination to resolve 0870 call termination rate disputes between BT and various operators, 17 June 2009., http://www.ofcom.org.uk/consult/condocs/resolve0870calls/statement/determination.pdf

[22] Consumer is defined in section 405(5) of the 2003 Act. The definition includes persons, whether in their personal capacity or for the purposes of, or connection with, their businesses.

SPs). The interests of callers and SPs may also be promoted by competition between OCPs where this results in reduced charges for calls to NTS numbers.

2.37 In 2005 research by Ofcom[23] indicated that a lack of transparency and low level of price awareness were major causes of consumer concern about NTS calls, including 0845 and 0870.[24] To combat this, Ofcom amended General Condition 14.2[25] (which relates to Codes of Practice for NTS, including 0845 and 0870 calls, and Personal Numbers) to require all CPs to provide greater prominence to NTS call prices on websites, published price lists and promotional material.

2.38 In the following paragraphs, we consider Ofcom's current regulatory policies for 0845 and 0870 calls, the issues that caused concern for consumers, and summarise previous documents that related to NTS policy. In paragraphs 2.57 *et seq.* we note that Ofcom is reviewing the regulatory arrangements for NTS, including 0845, and other non-geographic call types in the current NGCS Review.

Ofcom's policy on calls to 0845 and 0870 numbers

2.39 Oftel introduced 0845 and 0870 numbers in the mid 1990s with the aim of providing a non-geographic number range where calls would be charged on the same basis as local geographic calls and national rate calls. When originally introduced there was an expectation that calls to 0845 numbers would be charged at each originating operator's local call rate and 0870 numbers would be charged at each originating operator's national call rate.

2.40 The third issue of the National Numbering Conventions, November 2001,[26] set out designations for 08 numbers and operators in more detail than previous editions. It:

(i) Specified that operators should offer services at the stated tariffs (paragraph A6.2); and

(ii) Designated 0845 to be charged at originating operators' local rates; and 0870 to be charged at originating operators' national rates (paragraph A6.4)

2.41 It is clear from this that the link between 0845/0870 and geographic call prices was intended to apply to calls made from any network.

2.42 However, by 2003 it had become apparent that the linkage between 0845/0870 prices and geographic call prices was under strain. Consequently Oftel published a consultation on 0845 and 0870 pricing.[27] Oftel presented evidence that only BT maintained the linkages to geographic charges and even then only for a subset of its customers who paid full standard rates. Oftel also stated that under the regulatory

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[23] See *Number Translation Services: A Way Forward* - A report of the key findings of two research studies conducted by HI Europe and MORI on behalf of Ofcom. http://www.ofcom.org.uk/consult/condocs/nts_forward/ntsrsc.pdf
[24] *NTS: A Way Forward Statement, 19 April 2006,(the "April 2006 Statement")* Paragraph 1.15. http://www.ofcom.org.uk/consult/condocs/nts_forward/statement/statement.pdf
[25] General Condition 14, set out in Part 2 of the Schedule to the Notification setting general conditions under section 45 of the Communications Act 2003, published by the Director General of Telecommunications on 22 July 2003, as amended.
[26] The National Numbering Conventions were applicable to all CPs regardless of whether they were originating calls from a fixed network or a mobile network. http://www.ofcom.org.uk/static/archive/oftel/publications/numbering/nuco1101.htm#b
[27] http://www.ofcom.org.uk/consult/condocs/oftel_0845/

regime that applied to numbering (then recently introduced under the 2003 Act) the designations in the National Telephone Numbering Scheme applied to TCPs to whom the numbers were allocated and not OCPs. It went on to explain that, whilst the Numbering Scheme specified that 0845 and 0870 calls should be charged at the OCPs' local and national rates, it did not impose a direct obligation on them to act in accordance with the Numbering Scheme. Therefore it set out a policy preference rather than an enforceable condition.

2.43 In 2004, Ofcom published a policy statement[28] in which we decided to maintain the linkage in its current form pending a wide ranging review of NTS regulation.[29] In this document Ofcom set out two measures in relation to 0845 and 0870 numbers at paragraph S6, namely:

a) *"The current link on the BT network between BT's retail price for 0845 and 0870 calls and BT's standard (pre-discount and call package) retail price for geographic local and national calls respectively will remain in place"; and*

b) *"Ofcom will work with the industry to produce guidance to NTS Service Providers using 084 and 087 numbers on how these numbers (and in particular, pricing indications for calls to services on these numbers) can be advertised so that they are not misleading to consumers."*

2.44 Ofcom supported the maintenance of the pricing link by identifying that the primary purpose of the link is not to provide transparency for consumers; rather it is to protect consumers' interests by maintaining reasonable retail prices for all 0845 and 0870 calls from all OCPs.[30]

2.45 At paragraph 5.3 Ofcom stated that:

> *"...Ofcom has set out its current policy position on retail pricing of 0845 and 0870 calls on the BT network, to serve as a clear starting point for Ofcom's future work with consumers and industry to review the NTS framework in the interests of all stakeholders."*

2.46 In the April 2006 Statement[31] Ofcom further acknowledged that the linkage to geographical prices was still broken for 0845 and 0870 calls. Ofcom set out its decision to take steps to repair the linkage to geographic call prices for 0870 calls and indicated that it would be likely to make similar changes to 0845 once dial-up internet traffic volumes had declined.[32] This delay recognised that repairing the linkage would force dial-up ISPs and some 0845 users to migrate to other number

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[28] *Calls to 0845 and 0870 numbers: review of retail price and numbering arrangements*, April, 2004. http://www.ofcom.org.uk/consult/condocs/0845/0845.pdf

[29] However, at this time, Ofcom decided to update the designation in the NTNP clarifying the nature of the link. The link only applied to BT; for all other OCPs it was only guidance.

[30] See paragraphs 4.33 and 5.2 of http://www.ofcom.org.uk/consult/condocs/0845/0845.pdf. Paragraph 5.2 sets out Ofcom's decision and specifically notes that the purpose of the link is to reduce prices, not only on the BT network, but from the networks of other OCPs. In the later 0870 statement, we also emphasised that transparency was an increasing concern and addressed this by amending General Condition 14.2.

[31] *NTS: A Way Forward Statement*, 19 April 2006. http://www.ofcom.org.uk/consult/condocs/nts_forward/statement/statement.pdf

[32] Paragraph 5.19 of the *April 2006 Statement*. Although the changes were only going to apply to 0870 calls, it is clear that had it not been for the ISP traffic on 0845 numbers, it is likely the same or similar changes would have applied to 0845 numbers.

ranges, at considerable cost. In the event the 0845 review is now being undertaken as part of the wider NGCS Review, which is currently underway.

2.47 Following on from the April 2006 Statement, Ofcom published the 'Changes to 0870 Statement'[33] (the "0870 Statement") in April 2009. These changes were aimed at restoring the geographic linkage for 0870 calls.

2.48 In order to restore the linkage, Ofcom changed the designation for 0870 numbers in the NTNP to reflect its policy preference that calls to 0870 numbers should be treated in the same way as calls to geographic numbers, and where geographic calls are included in bundles, 0870 calls should also be included. OCPs must also ensure:

(i) call charges have been published in accordance with General Condition 14.2; or

(ii) in the case of Public Pay Telephones, call charges are displayed in a manner that is reasonably accessible to a caller before making a call.[34]

2.49 By repairing this linkage and changing the designation for 0870 numbers in the NTNP, Ofcom aimed to promote the inclusion of these calls in flat rate packages offered by most major OCPs, including BT. When considering this option, it became clear that there would be a risk of arbitrage should CPs follow this policy preference.[35] To avoid the risk of arbitrage Ofcom removed 0870 calls from the scope of the NTS Condition,[36] and this consideration was also taken into account in the calculation of the termination rates in the 0870 Determination.

2.50 Removing 0870 calls from the NTS Condition has made it very unlikely that TCPs are able to share any revenue with SPs. BT have confirmed to us that since 1 August 2009 it does not revenue share on 0870 numbers. However, revenue-sharing is not banned on the 0870 number range; rather, the regulatory mechanism (the NTS Condition) underpinning the ability to revenue share no longer exists.

Regulatory obligations and policy preferences

2.51 Considering the policy work outlined above, Ofcom's regulatory policy for 0870 numbers has been more recently reviewed than the policy for 0845 numbers. Our policy preference for both number ranges is that calls to these numbers should be treated the same as calls to geographic numbers, but in the case of 0870 calls we have more recently amended the regulatory framework in line with our policy preference.

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[33] *Changes to 0870 Statement*, 23 April, 2009.
http://www.ofcom.org.uk/consult/condocs/0870calls/0870statement/0870statement.pdf

[34] Designation of 0870 number range as in the NTNP, Part A1, Page 13,
http://www.ofcom.org.uk/telecoms/ioi/numbers/numplan030809.pdf The changes to General Condition 14.2 reflected the views in the April 2006 Statement and the 0870 statement that in order to restore the geographic linkage, all CPs must prominently and transparently publish the prices of calls to 0845 and 0870 numbers in the same way as they do for geographic calls, calls to mobiles and call packages, including bundles.

[35] Arbitrage opportunities might arise where the revenue share available on an 0870 number exceeds the price of calling that number. In such a scenario, it would be possible to set up an arbitrage scam in which the scammer makes calls to its own 0870 number, generating revenue share in excess of the price of making the calls. See the 0870 Determination for further discussion of the potential impact of arbitrage.
http://www.ofcom.org.uk/consult/condocs/resolve0870calls/statement/determination.pdf

[36] The *April 2006 Statement,* paragraph 4.126

2.52 Specifically, for 0845 numbers the current regulatory obligation comes from the 2004 policy statement[37] which sets out that the link on the BT network between BT's retail prices for 0845 calls and BT's standard (pre-discount and call package) retail price for geographic local and national calls will remain in place. This is further reflected by the designation for 0845 numbers in the NTNP as noted above in paragraph 2.21**.**

2.53 This obligation only applies to BT; all other OCPs are free to depart from this. However, if they do, they are departing from our policy preference that all calls to 0845 numbers should be treated the same as calls to geographic numbers, regardless of the OCP. This policy preference has been expressed most recently in the April 2006 Statement.

2.54 For 0870 numbers the current regulatory policy comes from the 0870 Statement and the designation for 0870 numbers in the NTNP. This states that all CPs should price 0870 numbers in the same way as they price geographic numbers, except where they have complied with General Condition 14.2.

2.55 This obligation applies to all OCPs. Where they comply with General Condition 14.2, OCPs are free to set different prices for calls to 0870 numbers than for their geographic calls. However, if they do, they are departing from our policy preference that all calls to 0870 numbers are treated the same as calls to geographic numbers.

Previous consideration of charging arrangements for calls to NTS numbers

2.56 We have considered the issue of charging arrangements for calls to NTS numbers in a number of previous Ofcom and Oftel documents. In **Table 2.1 below**, we summarise some relevant aspects of a number of these documents. More detailed summaries of our documents can be found in **Annex 2 below**.

Table 2.1: Timeline of Ofcom documents on 0845 and 0870 numbers

1996	**Determination of Interim Charges for BT's Initial Standard Services for the Year Ending 31 March 1996**[38] In this determination Oftel set out how the newly created NTS regime would operate and established the "NTS Formula".
1999	**Statement on the Relationship between Interconnection Charges and Retail Prices for Number Translation Services December 1999**[39] This statement addressed the revenue uncertainty for TCPs under the existing NTS charging regime and introduced two new number ranges (0844 and 0871) to improve confidence amongst TCPs.
2004	**Number Translation Services – Call Termination Market Review 22 October 2004**[40] In this review Ofcom proposed finding that BT had SMP in the market for NTS call termination in the UK. Ofcom considered imposing two new SMP conditions on BT in this market. However, due to the decision to investigate a complaint from C&W, the review was not completed in order to avoid duplicating analysis.

[37] http://www.ofcom.org.uk/consult/condocs/0845/0845.pdf
[38] This document is published as a 'related item' on our CCEB: http://www.ofcom.org.uk/bulletins/comp_bull_index/comp_bull_ocases/open_all/cw_01036/
[39] http://www.ofcom.org.uk/static/archive/oftel/publications/1999/consumer/nts1299.htm
[40] http://www.ofcom.org.uk/consult/condocs/ntsctmr/.

2006	**NTS: A Way Forward Statement 19 April 2006**[41] Ofcom was concerned about the transparency of calls to 0845 and 0870 numbers and the fact that the geographic link had been broken for these number ranges. Ofcom proposed a number of changes for each range and consulted on these proposals.
2008	**NCCN 500 Decision 22 July 2008**[42] This was a Competition Act investigation in which Ofcom determined that BT was dominant in the market for NTS call termination/hosting in the UK during the time this NCCN was in force. However, Ofcom concluded that BT did not abuse its dominant position and therefore there were no grounds for action.
2009	**Changes to 0870: Confirmation of changes to 0870 calls and modifications to the supporting regulations 23 April 2009**[43] The changes implemented in this statement stemmed from the proposals in the NTS: A Way Forward Statement. They only applied to 0870 numbers and focused on restoring the geographic linkage and pricing transparency.
2009	**Determination to resolve 0870 Termination Rates between BT and various Operators 17 July 2009**[44] Anticipating the policy changes to the 0870 numbering range, BT introduced a new Operator Charge Control Notice ("OCCN"), proposing to change the termination rates that BT paid other TCPs for BT-originated 0870 calls terminating on their networks. Given the Changes to 0870 statement, Ofcom determined a termination rate all TCPs would charge BT when terminating these calls.
2009	**Wholesale Narrowband Market Review 15 September 2009**[45] Ofcom imposed SMP Condition AAA11 ('Requirement to provide NTS Call Origination') on BT as a result of our conclusion that BT has SMP in the call origination market.
2010	**Determination to resolve a dispute between BT and each of T-Mobile, Vodafone, Orange and O2 about BT's termination charges for 080 calls 5 February 2010**[46] BT proposed to implement a tiered charging structure for 080 calls based on the average retail rate of the OCP in NCCN 956. The scope of the dispute was whether any termination charge or any origination payment (i.e. payment to the OCP by the TCP) was fair and reasonable for 080 calls from mobile networks. Ofcom determined that termination charges or origination payments could be fair and reasonable if three cumulative principles were satisfied. However, Ofcom concluded that in the applicable circumstances at the time of the Determination the three cumulative principles were not satisfied in either case. Therefore, Ofcom determined that the parties should revert to the trading conditions in place before NCCN 956.

41 http://www.ofcom.org.uk/consult/condocs/nts_forward/statement/statement.pdf
42 A decision under the Competition Act 1998 regarding NCCN 500 ("the NCCN500 Decision") http://www.ofcom.org.uk/bulletins/comp_bull_index/comp_bull_ccases/closed_all/cw_823/NCCN_500.pdf
43 http://www.ofcom.org.uk/consult/condocs/0870calls/0870statement/0870statement.pdf
44 http://www.ofcom.org.uk/consult/condocs/resolve0870calls/statement/determination.pdf
45 http://www.ofcom.org.uk/consult/condocs/wnmr_statement_consultation/main.pdf
46 http://www.ofcom.org.uk/consult/condocs/draft_deter_bt_tmobile_vodafone/nonconf.pdf

2010	**NCCN 500 Determination 2 June 2010**[47] This dispute covered the same period of time as in the Competition Act case of 2008, but a different issue, the arrangements for calls to ported numbers. In the determination Ofcom concluded on balance that, in the specific circumstances which applied during the relevant period, the application of NCCN 500 to calls to ported NTS numbers was not fair as between the parties or reasonable in light of the objectives of the porting regulatory regime as regards C&W's loss on Type A ported calls (with the exception of calls originated on C&W's network). Ofcom accordingly required BT to repay to C&W sums overpaid by C&W.

Future policy work for non geographic numbers

Non-Geographic Call Services policy review

2.57 As stated in the draft Annual Plan for 2009/2010,[48] Ofcom planned to review the operation of the regulatory regime for non-geographic call services. As such, we are now undertaking a Review of Non-Geographic Call Services, including 08 and 09 numbers.[49]

2.58 Ofcom published a consultation document calling for inputs into the NGCS Review on 30 April 2010.[50] We invited written views and comments on the issues raised in the consultation document by 5pm on the 28 May 2010. We received a large number of responses and have now published all non-confidential responses.[51]

2.59 We will now consider all responses and use them to shape our proposals which will be set out in a consultation scheduled for autumn 2010.

2.60 As noted in Section 1, where the Dispute raises broader issues that nevertheless fall outside scope, we may examine these within the NGCS Review. Our analysis and conclusions in the Dispute take as given Ofcom's current regulatory policies, where they remain relevant, such as the prevailing NTS regime noting that these could change in the future following the NGCS Review.

47 http://www.ofcom.org.uk/consult/condocs/draft_deter_cw_bt_nccn500/final_determination/Final_determination.pdf

48 *Draft Annual Plan 2010/11*, paragraph A1.46 http://www.ofcom.org.uk/consult/condocs/draftannplan1011/draftannplan1011.pdf

49 http://www.ofcom.org.uk/consult/condocs/ngnservices/main/

50 http://www.ofcom.org.uk/consult/condocs/ngnservices/main.pdf

51 http://stakeholders.ofcom.org.uk/consultations/ngnservices/?showResponses=true

Section 3

History and scope of the Dispute

History of the Dispute

(This Section reproduces Section 3 of the Draft Determination. The text reproduced here is identical to that Section except for i) an update in respect of the Supplementary Consultation; and ii) the correction of some minor typographical and formatting errors). References to other Sections and Annexes correspond to Sections and Annexes in the Draft Determination.

3.1 The Dispute is about BT's notification to the industry of termination charges for 0845 and 0870 calls hosted on its network, as set out in NCCN 985 and NCCN 986. BT notified industry (including the MNOs) of these charges on 2 October 2009, and they took effect on 1 November 2009.

3.2 Below we briefly set out the history of payment arrangements between OCPs and BT for carrying 0845 and 0870 calls prior to NCCN 985 and NCCN 986; the impact of these NCCNs; and the key arguments made by the MNOs and the response of BT in the Dispute (we consider the arguments of the Parties in greater detail in Sections 4 and 5 and Annexes 3 to 5).

Pre-November 2009

3.3 For the period of 1 August 2009 to 31 October 2009 OCPs paid per call and per minute termination charges to BT for calls to 0845 and 0870 numbers that terminated on BT's network. These charges differed depending on the time of the day the calls were made. A set-up fee was also applicable for 0845 calls. The charges were set out in NCCN 972, and are shown in Table 3.1 below.

Table 3.1 – charges payable under NCCN 972

Description	Until	Call Set-Up (ppm)	Daytime (ppm)	Evening (ppm)	Weekend (ppm
0845	31/10/2009	2.0171	2.6654	0.8430	0.6422
0870	31/10/2009		0.5600	0.2600	0.2000

NCCN 985 and NCCN 986

3.4 On 2 October 2009 BT issued NCCN 985 (concerning charges for calls to BT 0845 numbers) and NCCN 986 (concerning charges for calls to BT 0870 numbers). Where the OCP charges a retail price below 12.5ppm, BT's termination charges remain the same as under NCCN 972 – these are referred to as the ("fixed charges"). NCCN 985 and NCCN 986 notified the industry of new ("variable") termination charges for 0845 and 0870 calls hosted on BT's network. The variable termination charges are applicable where the OCP charges a retail price of 12.5ppm or more and there are defined tiers of charges such that the higher the retail price, the higher the variable termination charge. The tiers and the variable charges for 0870 calls in NCCN 986 are the same as for 0845 calls in NCCN 985 apart from a higher variable charge on the top tier.

3.5 The charges notified in these NCCNs are set out in Tables 3.2 and 3.3 below:

Table 3.2: Charges payable under NCCN 985 for 0845 calls

Fixed charge (ppm)			Variable charge linked to OCP retail tariff (ppm)	
Day	**Evening**	**Weekend**	**OCP retail tariff (ppm)**	**Variable charge (ppm)**
2.6654	0.8430	0.6422	0.00 – 12.49	0.0
2.6654	0.8430	0.6422	12.50 – 17.49	2.0
2.6654	0.8430	0.6422	17.50 – 22.49	4.5
2.6654	0.8430	0.6422	22.50 – 27.49	7.0
2.6654	0.8430	0.6422	27.50 – 32.49	10.0
2.6654	0.8430	0.6422	32.50 and above	13.0
A call set-up fee of 2.0171 pence applies to all calls.				

Table 3.3: Charges payable under NCCN 986 for 0870 calls

Fixed charge (ppm)			Variable charge linked to OCP retail tariff (ppm)	
Day	**Evening**	**Weekend**	**OCP retail tariff (ppm)**	**Variable charge**
0.5600	0.2600	0.2000	0.00 – 12.49	0.0
0.5600	0.2600	0.2000	12.50 – 17.49	2.0
0.5600	0.2600	0.2000	17.50 – 22.49	4.5
0.5600	0.2600	0.2000	22.50 – 27.49	7.0
0.5600	0.2600	0.2000	27.50 – 32.49	10.0
0.5600	0.2600	0.2000	32.50 and above	15.0

Vodafone dispute referral to Ofcom

3.6 On 23 December 2009 we received a dispute submission from Vodafone concerning BT's termination charges for calls to 0845 and 0870 numbers. In its submission Vodafone described how it had expressed its opposition to BT's proposed charges in line with its previous rejection of the proposed charges for 080 numbers. Vodafone also described how it had met with BT on several occasions in an attempt to resolve their differences by negotiation.

3.7 At the time of Vodafone's submission and subsequent comments made by BT, we were considering a similar dispute on the 080 NTS number range. We considered that it would be appropriate to extend the enquiry phase of the current Dispute in order that both parties would be able to take into account our findings in the 080 Determination when negotiating about the imposition of NCCN 985 and 986.

3.8 Following publication of our final determination in the 080 Determination on 5 February 2010 we wrote to both Vodafone and BT on 11 February 2010 informing them that we were minded to consider, in light of our final determination in the 080 Determination commercial negotiations had not yet been exhausted. We stated that it appeared that there may be further scope for commercial negotiations and that Vodafone should have regard to this determination when continuing further negotiations with BT. We invited both parties to comment on this preliminary view.

3.9 Between 11 February and 4 March 2010 we received additional comments from both parties, as a result of which we concluded that a genuine deadlock existed between Vodafone and BT. In all the circumstances, we were satisfied that all commercial negotiations had then been exhausted and that it was appropriate for us to accept the Dispute.

3.10 On 4 March 2010 we informed Vodafone and BT of our decision that it was appropriate for us to accept the Dispute for resolution on the basis of Section 186(3) of the 2003 Act. We did not consider that there were alternative means available for resolving the Dispute which could provide a prompt and satisfactory resolution.

3.11 We received additional submissions on these matters from other MNOs. After reviewing the dispute submissions, we concluded that in each case the principal issues in dispute were the same and commercial negotiations had failed to resolve the disputes. The dates the submissions were received and the Parties added to the Dispute are as follows in Table 3.4:

Table 3.4: Parties added to the Dispute

MNO	Date submitted	Date joined to dispute
T-Mobile	5 March 2010	8 March 2010
O2	11 March 2010	12 March 2010
Orange	9 April 2010	15 April 2010
H3G	14 April 2010	15 April 2010

3.12 On 20 April 2010 we updated the CCEB to reflect the joining of T-Mobile, O2, Orange and H3G to the Dispute, and we also set out the finalised scope.

3.13 BT wrote to Ofcom on 12 April 2010 suggesting that the Dispute be stayed, as it had appealed the earlier 080 Determination. It submitted that, as the issues and arguments covered by the 080 Appeal were very likely to be renewed and repeated in the 0845/0870 Dispute, it would be entirely appropriate, proportionate and consistent with Ofcom's past regulatory practice to stay the 0845/0870 Dispute pending the Tribunal's judgment in the Appeal.

3.14 We are required by Section 188(5) of the 2003 Act to determine disputes within 4 months, unless we consider that there are exceptional circumstances. Therefore, we have no statutory power to stay a dispute in the strict sense, but where exceptional circumstances exist we can make a decision after the four month period set down by Section 188(5) of the 2003 Act has passed.

3.15 In carefully considering BT's submission that the existence of the 080 Appeal gave rise to exceptional circumstances allowing us to delay the decision, we took into account the views of all the Parties. Whilst BT argued strongly for the Dispute to be stayed, Vodafone, T-Mobile and O2[52] were strongly of the view that the Dispute must be resolved without delay. We also considered the nature of dispute resolution, in providing a swift mechanism for resolving issues between CPs, the likely timings of the 080 Appeal and the potential for appeals of any decision in this Dispute. Taking all the relevant factors into account, we concluded that exceptional circumstances did not exist and that we should still determine the Dispute within the four month statutory deadline. One factor in our reasoning was the likely time period for the Appeal to be resolved. We note that the Substantive Hearing of the 080 Appeal has now been scheduled for 10 January 2011.[53] The hearing date means that, had we accepted BT's submission that we should delay determination of this Dispute until the 080 Appeal was concluded, BT's NCCNs 985 and 986 would have potentially been in force for a period of well over one year before this Dispute was resolved.

3.16 We also took into consideration the timing of the current NGCS Review. However, we consider that the timescales on this policy project are too distant for the Dispute to be delayed (or stayed) under exceptional circumstances. Ofcom is planning to issue a Policy Statement in February 2011, again meaning that NCCNs 985 and 986 would have been in force for over a year before a possible resolution was in place.

The arguments of the MNOs in their dispute submissions

3.17 The MNOs appear to be in broad agreement that:

a) BT occupies a position of strength in the market for the provision of termination of calls to 0845 and 0870 numbers, and that this position equates to dominance;[54]

b) Due to its position in the market BT has engaged in unfair, unreasonable and discriminatory charging through the imposition of NCCNs 985 and 986: specifically that it is discriminating between customers by linking its wholesale charge for terminating calls to the retail pricing of 0845 and 0870 calls, which is likely to distort competition, not only in the retail mobile market, but in other markets such as the NTS hosting market;

c) BT has provided no cost justification for the increase in its charges. Given BT's position in the market, the MNOs are unable to avoid the new charges and this is therefore an abuse of BT's dominant position;

d) BT's method of calculating the average retail price to apply to each MNO is flawed and will leave the MNOs facing significant additional burdens; and

e) The appropriate remedy would be one that restores the Parties to trading on the terms that were in effect prior to NCCN 985 and NCCN 986 and including the reimbursement of payments already made to BT under the new NCCNs.

[52] These views were sought before H3G and Orange were joined to the dispute.

[53] http://www.catribunal.org.uk/files/1151_BT_080_Order_130510.pdf

[54] In this context the MNOs refer to the NCCN 500 Competition Act decision in July 2008 and also the NTS call termination market review consultation in October 2004.

3.18 The MNOs also made some other arguments which are summarised below:

a) Both T-Mobile and H3G considered it was not practicable to implement these new charges because they are unable to determine accurately their average retail price for calls to 0845 and 0870 numbers;

b) Orange submitted that BT are not entitled to any share of Orange's retail revenues for these calls and that BT is required to offer call termination on a fair and non-discriminatory basis;

c) H3G submitted that there is a material distortion of competition among TCPs as they face various barriers when trying to compete with BT under this new charging structure, especially in the transit market which may be foreclosed; and

d) Orange also commented that part of the remedy should be that Ofcom prevent BT from making changes to comparable prices in the future without Orange's explicit consent.

BT's response

3.19 We met with BT on 15 March to discuss their initial response to the dispute. BT responded to the dispute submissions of Vodafone, T-Mobile and O2 on 29 March 2010. The dispute submissions of H3G and Orange were not received until April, and non-confidential versions were sent to BT on 16 April 2010. We consider that, as the core arguments made by H3G and Orange are substantively the same, BT's response to Vodafone, T-Mobile and O2's arguments applies equally to the submissions made by H3G and Orange. In summary, BT argued that:

a) Ofcom's policy has always acknowledged the value of NTS calls at the termination end, so there is no justification for OCPs to make excessive profits from these calls at the expense of the contribution of other parties;

b) BT does not have SMP in the retail call origination market;

c) No operator has been found to have SMP in the NTS call termination market;

d) The MNOs, in their submissions, are under the misapprehension that the termination charges determined in the 0870 Determination[55] are applicable to all 0870 call terminators, when these are actually only applicable to calls that have originated on the BT network;

e) If the link with national geographic charges continues to be broken, as with the 0870 retail prices made by the MNOs, then there is potential for some of that extra revenue to flow through to the termination end of the calls;

f) The pricing ladder introduces an economic incentive to reduce retail charges. In the medium term BT expects that any benefit to TCPs will largely be traded away as SPs re-negotiate with TCPs, thus providing benefit to consumers at both ends of the NTS value chain;

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55 http://www.ofcom.org.uk/consult/condocs/resolve0870calls/statement/determination.pdf

g) OCPs (and their resellers) are in a position to know their average retail prices, and to make matters simple, BT has consistently said they will accept the applicable tier of termination charges that the OCPs estimate for themselves;

h) All OCPs, apart from BT, are able to charge as much as they like for NTS calls with the knowledge that this is unlikely to result in a significant loss of subscribers;

i) A cascade billing system has been developed for one other TCP and this solution can easily be adapted for other TCPs who wish to replicate BT's termination charging initiative;

j) The introduction of the pricing ladder is intended to more fairly and equitably divide the revenue that is generated by 0845 and 0870 numbers. This will lead to greater consumer benefit as more revenue becomes available to SPs; and

k) Even at the first step of the pricing ladder, MNOs are able to recover their costs and make a significant profit, however, should the MNOs wish to argue that they are unable to recover their costs, then the burden of proof should be placed upon them to prove this.

Scope of the Dispute

3.20 After considering Vodafone's original submission and following further discussion with Vodafone and BT, we concluded that our proposed scope of the Dispute would be to:

a) determine whether it is fair and reasonable for BT to apply new termination charges for calls to 0845 numbers hosted on its network, which are based on the level of the retail charge made by OCPs for calls to these numbers, as specifically set out in BT's NCCN 985 dated 2 October 2009; and

b) determine whether it is fair and reasonable for BT to apply new termination charges for calls to 0870 numbers hosted on its network, which are based on the level of the retail charge made by OCPs for calls to these numbers, as specifically set out in BT's NCCN 986 dated 2 October 2009.

3.21 In line with our standard procedures, we published the proposed scope on the CCEB and invited comments from BT, Vodafone and any other interested parties.

Initial representations on proposed scope

3.22 On 15 March 2010, we received representations from BT, Vodafone, T-Mobile and H3G asking us to extend the scope of this Dispute.

3.23 BT requested that, if the structure of the terms of NCCN 985 and NCCN 986 are found not to be fair and reasonable, we should determine an appropriate structure for 0845 and 0870 termination on the BT network.

3.24 In the event that we found NCCN 985 or NCCN 986 not to be fair and reasonable, we do not consider it would be appropriate for us to determine a structure for the terms of 0845 and 0870 termination on the BT network. BT implemented this structure which the MNOs have rejected; however, it does not appear that alternative structures have been discussed amongst the Parties. Should we determine that the structure of the terms of NCCN 985 and NCCN 986 are not fair and reasonable, we would expect the Parties to enter into commercial negotiations to consider the alternatives as we would not want to restrict industry negotiations by imposing a single solution. Only if these discussions fail, should the matter be brought back to us.

3.25 Vodafone submitted that the actual charging arrangements should be scrutinised and this should be reflected by the scope of the dispute referring to the specific charging arrangements set out in NCCN 985 and NCCN 986.

3.26 H3G asked us to extend the scope so that if we determine it is fair and reasonable for BT to apply a new termination charge, we should then determine what the level of that termination charge should be.

3.27 We consider that the scope of the Dispute captures these issues.

3.28 T-Mobile proposed that the scope of the Dispute should include the issue of discrimination and whether BT should be allowed to impose differential charges for the same services. T-Mobile considers that BT's ability to do this is an abuse of BT's "position of SMP".

3.29 We did not consider that it was necessary to specifically amend the scope of the Dispute to include consideration of whether NCCN 985 and NCCN 986 are discriminatory, as we consider that it already provided for this.

3.30 On 9 April 2010, Orange submitted its dispute submission to Ofcom, which included comments on the scope of the Dispute. Orange raised the same issues as Vodafone, H3G, and T-Mobile. We consider that our responses in paragraphs 3.27 and 3.29 apply equally to Orange's comments on the scope.

3.31 On 20 April 2010, after we had joined T-Mobile, O2, Orange and H3G to the Dispute, we confirmed that the scope would remain the same as that set out in the opening CCEB (and set out in paragraph 3.20 above).

Stakeholders interested in the outcome of the Dispute

3.32 It has been our practice to allow stakeholders that are not parties to a dispute, but that are materially affected by the issues raised in the dispute, to register their interest in the outcome of a dispute and, where appropriate, make representations to us. On 8 March 2010 we received representations from C&W[56] about the impact of BT's termination charges notified in NCCN 985 and 986. C&W stated that its specific concerns were consistent with its concerns in the 080 Determination.

3.33 C&W stated that its interest in the Dispute flowed from the impact it may have on charges for C&W's mobile-oriented products and also the potential for a competitive distortion of the transit market.

3.34 C&W's concerns centred on the issues of transit and porting. In particular C&W argued that:

a) NCCN 985 and NCCN 986 foreclose the transit market to C&W. C&W suggested that it does not know what termination charge BT will levy on a

[56] Cable & Wireless Worldwide demerged from Cable & Wireless plc and listed on the Stock Exchange on 26 March 2010.

particular call, because BT has not provided sufficient information to allow C&W "*to determine in advance the price [C&W] will be charged for any given call to a BT 0845 or 0870 number*". For this reason it is unable to charge the correct amount to the OCP that hands the call over to C&W for transit. C&W has therefore been forced to increase its transit charges to mitigate the risk of arbitrage by other OCPs in light of NCCN 985 and NCCN 986. This, it argued, "*forecloses the transit market*" to C&W.

b) Even if C&W were able to find out what the BT charges are for each OCP, because numbers are ported between OCPs, this will not give an accurate picture of where each call originated. BT bills for these services by caller line identification ("CLI")[57] but it is unclear how BT can accurately bill when the CLI of a mobile call may not reflect the network of the caller. For example an O2 number ported to T-Mobile would be billed at the rates set by O2 rather than T-Mobile because of the CLI. So where calls are not received directly from the OCP it becomes difficult to verify BT's bills. The development required to address this issue is [✂]

c) When an 0845 or 0870 number is ported between TCPs there is the potential for one operator to make an abnormal profit at the expense of another operator. For example, where a 0845 or 0870 number has been ported from C&W to BT, C&W would receive its termination rate from the OCP but would then be charged by BT at the relevant ladder rate depending on the originator. This is referred to as the 'porting differential' and depending on the exact charges involved could leave C&W significantly out of pocket.

3.35 C&W requested that we fully consider these issues as part of the scope to this dispute.

3.36 We are of the view that we have appropriately considered the substantive transit and porting issues directly relevant to the Dispute in Section 5. We further consider that not all of the transit and porting issues that C&W have raised are directly relevant to the assessment we need to conduct in order to resolve the Dispute between the Parties.

3.37 We understand that there is now [✂].

3.38 We consider in Section 5 the issues raised by porting of numbers between OCPs.

3.39 In relation to numbers ported between TCPs, we consider that the broader porting issues raised are likely to impact on all NTS calls rather than just 0845 and 0870 calls, and are thus wider than the issues raised in this dispute. In addition, these issues have not been raised by the Parties to the Dispute. For these reasons, we consider that the porting of numbers between TCPs is outside the scope of this Dispute.

3.40 On 9 March 2010 Virgin Media Limited ("Virgin Media") requested to be considered as an interested party. Virgin Media conveys substantial amounts of NTS traffic thus any developments in respect of the charging arrangements potentially have material implications for them.

[57] The telephone number of the caller.

Information sought by Ofcom

3.41 On 13 April 2010, we sent BT, Vodafone, T-Mobile and O2 formal notices under Section 191 of the 2003 Act requiring them to provide documents, call data and other information in connection with the Dispute.[58] On 20 April 2010 we sent Orange and H3G formal notices under Section 191 of the 2003 Act asking for the same information (the "s191 Information Requests").[59] We received responses from each of them.

3.42 BT told us that in the Dispute it was relying on the evidence that BT had submitted in relation to the earlier 080 Determination and BT's subsequent appeal of that decision to the CAT. For the purpose of the Dispute, this evidence falls into two categories:

a) Economic analysis that was prepared in the context of the 080 Determination. During the course of the 080 Determination , BT submitted economic analysis in the form of two reports by two external economists, Professor Ian Dobbs ("Dobbs 1")[60] and Dr Daniel Maldoom ("Maldoom 1").[61] BT subsequently submitted revised versions of these reports on 3 February 2010. Ofcom did not take account of these revised versions ("Dobbs 2" and "Maldoom 2") in its final determination.

b) Economic analysis that was prepared in relation to BT's appeal against the Final Determination in the 080 Determination (the "080 Appeal").[62] In the 080 Appeal BT submitted further economic analysis in the form of expert reports and witness statements attached to BT's Notice of Appeal. These include additional reports by Professor Dobbs ("Dobbs 3")[63] and by Dr Maldoom ("Maldoom 3"),[64] as well as witness statements by two BT employees, Andrew Reid ("Reid 1")[65] and Paul Richards ("Richards 1").[66, 67]

3.43 This evidence (which we refer to as "BT's 080 evidence" or "BT's 080 papers") was prepared in the context of the 080 Determination/Appeal, and it makes no reference to NCCNs 985 and 986 or to 0845/0870 calls. However, we understand that BT considers that this evidence is relevant to the 0845/0870 Dispute since it sets out an economic framework for analysing the direct effect of a termination rate schedule of the same form as NCCN 985 and NCCN 986 (i.e. the termination charge increases with the average retail price for 0845 and 0870 calls in a series of steps).

3.44 On 7 May 2010, we shared the first category of evidence (i.e. the January and February papers) with the MNOs and requested that they consider this evidence and make initial representations to Ofcom before the Draft Determination was published.

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58 These requests were sent in draft on 7 April 2010.
59 These requests were sent in draft on 15 April 2010.
60 Dobbs, I., "The Dispute concerning BT's charges for 080 – When does a change in a wholesale price structure not affect final retail price?", 27 January 2010.
61 Maldoom, D., "Comments on Ofcom determination on 0800 numbers", January 2009,
62 BT appealed this decision to the CAT on 6 April 2010 – see http://www.catribunal.org.uk/237-6086/1151-3-3-10-British-Telecommunication-Plc-Termination-Charges-080-calls.html.
63 CAT, Case number 1151/3/3/10, Report of Professor Ian M. Dobbs, 6 April 2010.
64 CAT, Case number 1151/3/3/10, Report of Daniel James Parry Maldoom, 6 April 2010.
65 CAT, Case number 1151/3/3/10, Witness statement of Andrew B.D. Reid, 6 April 2010.
66 CAT, Case number 1151/3/3/10, Witness statement of Paul Richards, 6 April 2010.
67 In the context of the 080 appeal, BT also submitted a witness statement by Darren Kilburn. For the purposes of this Dispute, we do not believe that this statement raises any distinctive points from the other BT 080 papers which are relevant to the Dispute. As such, we do not address this statement directly in this Draft Determination.

3.45 We received responses from all of the MNOs. They all stated that in the time available they were unable to provide a detailed economic analysis of the evidence and that they reserved the right to make further comments in due course. However, they were all in broad agreement that:

(i) the arguments provided by BT were all specific to 080 numbers and were not always applicable to 0845/0870 calls;

(ii) BT rely on many assumptions which are highly questionable and the conclusions are often drawn on pure speculation;

(iii) the Mobile Tariff effect has not been taken into account; and

(iv) some of the arguments provided by BT seek to draw inferences from the fact that MNOs have not increased their prices, although the MNOs all state they have not increased prices as they feel this Dispute will be found in their favour, not because of the proposed incentive properties of BT's NCCNs.

3.46 As regards other stakeholders, on 4 May 2010, we met with C&W to discuss its concerns as an interested party. During this meeting C&W informed us that [✄]. C&W still maintains the concerns set out in its letter of 8 March 2010 (described above) and considers that these issues should be considered as part of the scope to this dispute and also that, in determining this dispute, Ofcom need to provide guidance to BT and industry as to what is expected when an NCCN is issued.

3.47 We contacted other TCPs, [✄] and Gamma Telecom**,** seeking their views on BT's tiered charging structure and whether they had plans to implement the same or similar structure. If this was something they had considered, we requested they provide reasoning as to why they were planning on implementing such a structure or why they had considered it not appropriate to implement such a structure at this time.

3.48 We received responses from all four CPs. Of the four CPs we contacted, none completely ruled out implementing this tiered charging structure. Their responses were as follows:

(i) [✄] fundamentally disagrees with this structure and considers it to be a type of indirect third party price control. However, should it become mainstream it would need to review and consider its options;

(ii) [✄] is not currently planning on implementing this type of charging structure and is concerned that this adds a further level of complexity to the already hugely complex NTS charging structure. However, it may consider its position depending on the outcome of this Dispute;

(iii) [✄] agrees in principle with a regime where termination charges are related to OCPs' retail rates. However, it believes strongly that BT's specific model of differential pricing by OCP and by tariff is unnecessarily confusing, and creates barriers for implementation. These will need to be resolved; and

(iv) Gamma has already implemented its own charging structure, which sets a particular price point[68] before it takes a fixed percentage (40%) of the total price above that point.

3.49 On 17 December 2009 IVR issued an Operator Charge Change Notice ("OCCN") to introduce tiered termination charges for 0845 and 0870 numbers, along similar lines to BT's NCCNs 985 and 986. This OCCN became effective from 1 March 2010. We contacted IVR to discuss the tiered termination charges it has put in place. IVR explained the process undertaken for implementing its billing system and the reasons behind following BT's lead and implementing this tiered charging structure.

3.50 We sought views from 16 SPs about the costs faced by callers to their 0845 and 0870 numbers from mobile phones. We asked about their reasons for choosing these numbers instead of, or as well as, other 08 numbers, whether they were concerned about higher call charges from mobiles and whether they would be prepared to pay the MNOs to ensure their callers did not have to pay more than geographic call charges.

3.51 From the limited responses we received there were concerns that callers have to pay more to call from mobiles. But the suggestion that SPs might pay MNOs to ensure their callers did not pay any more was not well received. The higher prices for calling these numbers (currently) has prompted some SPs, particularly government departments, to switch to 080 or 03 numbers where, in the case of 03, call prices from all networks including mobiles are linked to their geographic rates.

[68] Gamma's OCCN states that for 0870 calls this price point is 5.6ppm Daytime, 5.28ppm Evening and 5.22ppm Weekend. For 0845 calls, it is 6.62ppm Daytime, 5.49ppm Evening and 5.37ppm Weekend.

Section 4

Ofcom's analytical framework

Introduction

(This Section reproduces Section 4 of the Draft Determination, which sets out Ofcom's analytical framework for resolving the Dispute. The text reproduced here is identical to that Section except for i) the deletion of paragraph 4.1. In this Section all paragraph numbering remains the same as that set out in the Draft Determination; references to other Sections and Annexes correspond to Sections and Annexes contained in the Draft Determination. We have also corrected some minor typographical and formatting errors).

4.1 [Deleted paragraph 4.1 of the Draft Determination]

4.2 In developing our analytical framework for the purpose of this Dispute, we have taken as given Ofcom's current regulatory policies, where they are relevant. We note that these policies could change in the future. In particular we are currently reviewing the operation of the regulatory regime for 08 and 09 numbers in a separate policy project, the NGCS Review. This review is considering policy options that may depart from the current policies. Such possible changes are beyond the scope of the Dispute and hence are not taken into account in the analytical framework set out below.

4.3 In light of our statutory duties, we assess both elements of the Dispute by considering the potential impacts on consumers and competition. In doing so, we have taken into account all relevant factors, including previous Ofcom statements and those of Oftel on issues relevant to the Dispute, as well as relevant benchmarks.

4.4 This Section is structured as follows. First, we set out a brief discussion of the interactions between callers, SPs, OCPs and TCPs involved in 0845/0870 calls and our views of the potential roles of the retail 0845/0870 call price set by the OCP and of the TCP's termination charge levied on the OCP. Based on this discussion, we proceed to set out the three Principles we are using in this Dispute, and discuss our underlying rationale for each. We then go on to consider how our analytical framework is consistent with other decisions by Ofcom and the CAT, and how it relates to the six principles of pricing and cost recovery. Finally, we discuss other analytical issues that have arisen in the course of the Dispute.

Relevant participants in 0845/0870 calls

4.5 As set out in Section 2, the OCP retails services to its subscribers, and pays a termination charge to the TCP. The TCP provides NTS call termination to OCPs and NTS hosting services to SPs.

4.6 In retailing services to its subscribers, the OCP sets the retail price for 0845/0870 calls. There are two distinct roles of the retail 0845/0870 call price set by the OCP:

(i) **To provide a price signal to callers:** as set out in Section 2, we have a policy preference for the prices of 0845/0870 calls to be aligned with the prices of geographic calls. We consider that this is likely to be why many 0845/0870 SPs have chosen this number range rather than a different NTS or geographic number.[69] When the OCP charges more, this could adversely affect both callers and SPs. The OCP is only interested in its own profits and so, even in a competitive market, it may not have an incentive to fully take this negative effect on SPs into account since the SP is the customer of the TCP rather than the OCP.[70]

(ii) **To enable the OCP to recover its costs:** all MNOs sell a bundle of services to mobile subscribers, not just 0845/0870 calls. MNOs need to recover the efficient cost of originating 0845/0870 calls, as well as any relevant common costs. They can do so either through the retail 0845/0870 call price or prices for other services.

4.7 As noted above, the TCP provides two types of services. OCPs buy termination, and SPs buy hosting services. There are two distinct roles of the TCP's termination charge levied on the OCP:

(i) **To enable the TCP to recover its costs:** TCPs sell termination to OCPs, but also compete against each other for another set of customers, i.e. service providers. TCPs need to recover the cost of terminating 0845/0870 calls, as well as any relevant common costs. They can do so either through the termination charge or the prices paid by SPs.

(ii) **To provide a source of revenue to share with SPs:** in some circumstances, the termination charge is consciously set above the TCPs' efficient costs to facilitate revenue being passed from the caller at the originating end of the call to the SP at the terminating end. In appropriate circumstances this can increase the value of calls to consumers by encouraging SPs to provide attractive services and/or by providing a micro-payment mechanism (as discussed in Section 2).

4.8 As can be observed from the discussion above, there are two types of consumer in the NTS value chain: the caller at the originating end of the call (the customer of the OCP) and the call recipient at the terminating end (the NTS SP, which is the customer of the TCP).[71] Both types of consumer are relevant to meet our statutory

[69] Research among SPs as part of the "NTS: A Way Forward" consultation in September 2005 found that "many of these businesses had chosen the 0845 and 0870 numbers because of the simple local rate and national rate pricing message" (page 45).

[70] In other words, there is an externality effect between the OCP and SP. In some circumstances, this externality could be internalised through arrangements between SPs and MNOs, although we understand that this does not currently happen.

[71] 0845 and 0870 calls are examples of what is called a "two-sided market" in the economic literature. In a two-sided market there are two sets of customers that are brought together by a "platform". The value of the platform depends on the balance of prices between the two set of customers, not just the level of the combined price (as in a single-sided market). For 0845 and 0870 calls, the platform is the combination of the originating and termination/hosting networks, which bring together callers to 0845/0870 numbers at the originating end and 0845/0870 service providers at the terminating end. For a number of reasons, the situation for 0845/0870 calls is significantly more complex than a straightforward two-sided market. Since the platform involves at least two networks, the value chain involves at least three prices: the retail call price paid by the caller to the OCP, the wholesale termination charge paid by the OCP to the TCP, and the price paid by the SP to the TCP (or revenue received by the SP from the TCP). There may also be a third network involved in the platform, a transit operator, which implies a fourth price in the value chain. If the caller is a customer of a MVNO, then there is a fifth price, the wholesale price paid by the MVNO to its host MNO. Furthermore, MNOs and MVNOs sell a range of services to their customers, not just 0845/0870 calls, and these other prices may also affect and be affected by the arrangements for 0845/0870 calls.

duties, and hence we need to consider the impact of the NCCNs 985 and 986 in relation to both.

4.9 The balance between the prices paid by these two sets of customers is important to our assessment of the issues in the Dispute. This is because both prices have an effect on the benefits that may be realised by consumers. Since there is competition between operators at both ends of the call, OCPs and TCPs respectively, we also need to consider the effects of NCCNs 985 and 986 on such competition (as well as the effects on competition for other operators that may be involved in 0845/0870 calls, in particular MVNOs and transit operators). In addition, we need to consider the cost-recovery role of the retail call price and the termination charge in the context of arrangements between OCPs and TCPs that are fair and reasonable. Further, the termination charges in NCCNs 985 and 986 vary with the retail price, which is a new structure of termination charges representing a material change from previous industry arrangements and regulatory practice. Therefore, the practicability of these charges needs to be considered in this Dispute.

The Three Principles

4.10 Given these considerations, the analytical framework that we have applied in resolving this Dispute comprises the following three Principles:

Principle 1: the MNOs should not be denied the opportunity to recover their efficient costs of originating calls to 0845 and 0870 numbers hosted on BT's network. In the context of this Dispute, we consider that this means:

it is not fair and reasonable for BT to impose variable termination charges unless the average retention by each of the MNOs (which is the average retail price minus the termination charge) is sufficiently large relative to the retention obtained on geographic calls.

Principle 2: The charges in NCCN 985 and 986 should:

- provide benefits to consumers, taking into account (i) the impact on retail 0845/0870 call prices (the Direct effect) (ii) the impact on service providers and, through improved services, callers, i.e. consumers of 0845/0870 calls (the Indirect effect) and (iii) the impact on the overall MNO offering to its customers (the Mobile tariff package effect); and

- avoid a material distortion of competition among TCPs, transit operators, OCPs in retail services, and MNOs in wholesale sales to MVNOs.

Principle 3: The charges in NCCN 985 and 986 should be reasonably practicable to implement.

4.11 We have applied these three Principles cumulatively, i.e. NCCN 985 or NCCN 986 should satisfy all three Principles for us to conclude that they are fair and reasonable.

4.12 We consider that the application of these cumulative principles is consistent with our obligations, in particular the Community requirements under Section 4 of the 2003 Act, the duties set out in Article 8 of the Framework Directive (Directive 2002/21/EC) and our general statutory obligations. An assessment of our provisional conclusions against our statutory duties is set out in Section 7.

4.13 In order to determine this Dispute, in Section 5 and the associated Annexes we apply each of these Principles to our assessment of whether NCCN 985 and NCCN 986 might be fair and reasonable.

Principle 1: Cost recovery by OCPs

4.14 As discussed above, cost recovery by the OCPs is a relevant consideration. It is one of the two functions of the OCP's retail price (whilst recognising that costs could in principle also be recovered from other services provided by the OCP).

4.15 For the purpose of this Dispute, we consider that our existing policy preference for the retail pricing of 0845 and 0870 calls has an important implication for the appropriate minimum extent of cost recovery by OCPs on 0845/0870 calls. We consider that the linkage in our policy preference between prices for 0845/0870 calls and geographic calls implies a corresponding linkage in the extent of cost recovery on these calls as set out in Principle 1. We also note that MNOs choose how much cost recovery they obtain from geographic calls as the retail price is not regulated, and so we would expect MNOs to be recovering a reasonable allocation of their costs. We do not consider that it would be consistent with the current regulatory policy if MNOs were effectively prevented from this extent of cost recovery in 0845/0870 call prices.

4.16 The meaning of the words "sufficiently large" in Principle 1 relates to the complication that termination charges (even on the bottom tier of NCCNs 985 and 986) are higher than termination charges for geographic calls. We specify the precise meaning of "sufficiently large" in current circumstances when we apply Principle 1 to the facts relevant to NCCNs 985 and 986 in Section 5.

4.17 We consider that in order to find that NCCN 985 and NCCN 986 are fair and reasonable, in the context of our statutory duties, it would be necessary that the proposed termination rates enable the OCPs (in this case, the MNOs) to recover at least the extent of their efficient costs of origination set out in Principle 1. Given our policy on the pricing of 0845/0870 calls, it is also a fundamental part of the assessment of fairness between the Parties to the Dispute.

4.18 As set out in paragraphs 2.49 and 2.50 in Section 2 of the Draft Determination, the NTS Condition permits cost recovery by BT when it originates NTS calls and it is set by regulation. Therefore, given that an OCP with SMP is allowed to recover its efficient cost of originating 0845 and 0870 calls and in the light of our policy on the pricing of 0845/0870 calls, it seems reasonable that non-SMP originators should also be permitted to recover their costs of originating 0845 and 0870 calls to the extent set out in Principle 1.

4.19 It is also our view that, in considering the balance of benefits between callers and call recipients on 0845 and 0870 numbers and given our policy on the pricing of 0845/0870 calls, it would be unreasonable to enable revenue share to the SP through these termination charges unless the MNOs are themselves able to recover their efficient costs of origination to the extent set out in Principle 1. This question of the balance between the caller and call recipient in the context of revenue share is discussed further below at paragraphs 4.25 to 4.30. The question of BT's termination charges relative to its costs of termination is also discussed below.

Principle 2: Effects on consumers and competition

4.20 In assessing whether NCCNs 985 and 986 are fair and reasonable, we need to consider the impact on consumers and competition, especially in light of our principal duty to further the interests of consumers where appropriate by promoting competition.

Consumers

4.21 As set out above, there are two types of consumer relevant to this Dispute: the caller at the originating end of the call (the customer of the OCP) and the call recipient at the terminating end (the NTS SP, which is the customer of the TCP). Both types of consumer are relevant to meet our statutory duties, and hence we need to consider the impact of the NCCNs 985 and 986 in relation to both. As noted above, the balance between the prices paid by these two sets of customers is important to our assessment because both prices have an effect on the benefits that may be realised by consumers. Therefore, in our assessment we weigh up the effects that operate at both ends of the call.

The caller

4.22 The prices paid by callers to 0845/0870 numbers may be affected by both the level and the structure of termination charges. Any such effects are referred to in the following discussion as **"Direct" effects**.

4.23 The prices paid by consumers at the originating end of 0845/0870 calls for other elements of the bundle of mobile services purchased when they subscribe to an MNO or MVNO (e.g. for handsets, geographic calls, data services) may also be affected by a change to the termination charges payable for 0845/0870 calls. These effects are referred to in the following discussion as **"Mobile tariff package" effects**.

The call recipient – SPs

4.24 The factors that influence the attractiveness to an SP of offering an 0845/0870 service are referred to in the following discussion as **"Indirect" effects**. This is because they may affect the volume of 0845/0870 calls made and the quality of services provided by SPs, ultimately indirectly increasing or reducing the benefits that callers obtain from 0845/0870 numbers. The Indirect effect operates at the terminating end (although, as noted, it can also indirectly affect callers).

Revenue share

4.25 In general, the termination charge also influences the balance of cost recovery and revenue share between the two sets of customers of the TCP (i.e. OCPs and SPs), and ultimately between the two sets of consumer at either end of the call. This balance can be different for different types of call or in different circumstances, such as the following:

(i) On 0870 calls, for BT as the TCP before NCCN 986 (or on its bottom tier), the termination charge was set at the cost of termination, and the price charged by the TCP to the SP covered the cost of hosting. There was no intention to support revenue share.

(ii) On 0845 calls, the termination charge is set above the cost of termination, such that all of the TCP's termination cost can be recovered from the OCP and, in addition, the TCP receives additional revenue which it can share with the SP (and which may be netted off against the TCP's charge to the SP for hosting services).[72]

4.26 As noted above, where revenue share applies, the revenue received from the TCP by the SP can be used to provide improved/additional 0845/0870 services that could indirectly benefit callers. Therefore revenue share is an important consideration in balancing the benefits between the two sets of consumers in this Dispute.

4.27 As regards 0845 calls, BT's termination charges to other OCPs before the introduction of NCCN 985 were the same as the regulated rate it paid to other TCPs on BT-originated 0845 calls. Hence, non BT-originated 0845 calls, including 0845 calls from MNOs, supported revenue sharing to a similar extent as BT-originated calls. Under NCCN 985 BT's termination charges for 0845 calls are the same as the pre-existing level on the bottom tier of charges (for average retail prices below 12.5ppm) and larger on higher tiers (for average prices at or above 12.5ppm). In effect, therefore, it is an issue which is contested by the Parties in the Dispute whether the scope for revenue sharing should be increased if MNOs set retail prices for 0845 calls at 12.5ppm on average or higher.[73]

4.28 As regards 0870 calls, their removal from the NTS Condition and thereby the regulatory underpinning for revenue share was, in part, to enable OCPs to follow the policy preference of pricing 0870 calls in the same way as geographic calls. BT's argument in this Dispute is that, when the OCP charges more for 0870 calls than for calls to geographic numbers, the removal of the regulatory underpinning for revenue share may no longer be suitable given the adverse affect such pricing behaviour could have on 0870 SPs and consumers. As a result, BT argues, if an OCP is charging a higher retail price for 0870 calls, there may be revenue that could be shared with the TCP and SP to improve the quality of the services offered.

4.29 This is relevant for the Dispute because the flow of payments for mobile-originated calls to 0870 numbers could more resemble the general NTS model including revenue share rather than the approach of cost-based termination charges set out in the 0870 Determination. BT argues that this should be the case if an OCP is setting 0870 call prices at or above 12.5ppm. The MNOs disagree. In effect, therefore, it is a contested issue in the Dispute whether, at prices at or above 12.5ppm, it is no longer in the interests of consumers for the regulatory underpinning for revenue sharing to be removed for 0870 calls.

4.30 In the context of Ofcom's policy preference on the retail pricing of 0845 and 0870 calls, an implication of BT's argument is that MNOs making a significantly larger profit margin on originating 0845/0870 calls than on geographic calls might be undesirable. This is because there is additional revenue that could potentially be passed to the TCP and ultimately to the 0845/0870 SP, leading to a positive *Indirect effect* on consumers. This could be achieved without raising the retail 0845/0870 call price, i.e. avoiding a negative *Direct effect* on consumers (although whether or not this would

[72] 080 calls are outside the scope of this Dispute. But, purely for illustration, we can see that they can provide a further potential balance of prices. Where they are zero rated by the OCP (i.e. free to callers), the termination charge is negative (i.e. there is a payment from the TCP to the OCP, sometimes called an origination payment) and the TCP recovers this payment as well as its costs of termination and hosting from the SP. In such cases, there is no revenue share, as no revenue is obtained from the caller at the originating end.

[73] The extent to which the scope for greater revenue share would be realised, i.e. the size of the Indirect effect, is also in dispute.

be the case is contested between the Parties). However, there is also the potential for a negative impact on mobile tariffs overall. In the retail mobile market, MNOs and MVNOs sell bundles of services, which may include any combination of services such as subscription services, handsets, inclusive calls, calls to non-geographic numbers, data services etc. MNOs, when setting the retail price for 0845 or 0870 calls, have told us that they do not just consider these calls in isolation, but set prices within the wider context of the other services that also form part of the bundled offering in competition with other MNOs (and other players in the mobile market, such as MVNOs). A reduction in the retention on 0845/0870 calls might therefore lead MNOs to increase other prices in their packages, such as retail prices for other number ranges, handset subsidies etc. This is the *Mobile tariff package effect*, which could have a detrimental effect on consumers. This illustrates the relevance of, and interplays between, the Direct, Indirect and Mobile tariff package effects, which we consider in detail in Section 5.

Weighting the Direct and Mobile Tariff Package effects

4.31 In assessing the overall benefits to consumers, a relevant consideration is the efficiency of the structure of different mobile retail prices. In general, we do not have a stated preference on the balance of MNOs' retail prices between the different services that they offer. This is a matter to be determined through competition between MNOs and other players in the retail mobile market, such as MVNOs. However, the focus of this dispute is 0845 and 0870 calls to which special considerations apply because of our policy preference and for this reason we consider that a departure from this general view is warranted in the context of the Dispute.

4.32 Our policy preference for the retail pricing of 0845 and 0870 calls means that, to the extent that such a trade-off is necessary, we have a clear preference for a balance of prices involving lower 0845 and 0870 call prices. In other words, between a choice of:

a) lower 0845/0870 call prices and higher prices for other mobile services; and

b) higher 0845/0870 call prices and lower prices for other mobile services,

(which both yield the same profit for MNOs), we have a preference for the former balance of prices.

4.33 Therefore given this policy preference and relevant considerations, we consider it appropriate that any pass-through to the retail price of 0845 and 0870 calls (Direct effect) should be given relatively greater weight than any pass-through to other retail prices (Mobile tariff package effect) for the purposes of resolving this Dispute. This does not mean that the Mobile tariff package effect is irrelevant. As we show in Section 5, it plays an important role in our analysis. But if the Direct effect and the Mobile tariff package effects are in different directions and of equal size, the relatively greater weight on the Direct effect means that it should determine our judgement on the direction of the overall effect.

Competition

4.34 As explained previously, one of our principal duties is to further the interests of consumers where appropriate by promoting competition. Therefore in assessing 0845/0870 termination charges, the impact on competition is important to our analysis.

4.35 The effects of termination charges may influence, or be influenced by, competitive conditions. In the context of the Dispute, we have considered competition among TCPs, competition among transit providers, competition among OCPs in retail services, and competition between MNOs in wholesale access and origination to MVNOs:

(i) **Competition among TCPs:** i.e. whether other TCPs can charge comparable termination rates to those set by BT, enabling them to compete effectively for 0845/0870 SPs. This is relevant for two reasons. First, to see whether it is likely that BT will face competitive pressure to pass on higher 0845/0870 termination charges in better deals for 0845/0870 SPs, thereby influencing the Indirect effect on consumers. Second, to consider any impact on competition among TCPs themselves.

(ii) **Competition among transit providers:** i.e. whether the introduction of OCP-variable tiered termination charges could lead to a distortion of competition between transit providers (as C&W has suggested – see Section 3).

(iii) **Competition among OCPs in retail services:** i.e. whether the tiered termination charges for 0845/0870 calls hosted on BT's network in NCCNs 985 and 986 could lead to a distortion of competition between OCPs in the retail mobile market (as the MNOs have suggested).

(iv) **Competition between MNOs in wholesale access and origination to MVNOs:** i.e. whether OCP-specific termination charges based on the average retail price will lead to a distortion of competition between MNOs in wholesale competition for the hosting of MVNOs (as the MNOs have suggested).

Principle 3: Practicability

4.36 To be considered fair and reasonable, BT's proposed termination charges must be reasonably practicable to implement. BT's approach to termination in this Dispute potentially raises considerable complications. In general, we note that complicated arrangements can have unintended and unforeseen consequences. In the context of the Dispute, specific complications may arise because different OCPs are likely to be charged different termination rates by BT, and (as we discuss in Section 5) other TCPs are likely to adopt different approaches to variable charges, meaning that OCPs may face different termination rates depending on the TCP's adopted approach. In addition, a number of relevant implementation issues have been raised by the MNOs, such as various concerns relating to the calculation of the average retail price and the implications of the porting of mobile numbers. We consider these issues further in Section 5.

Relationship between our analytical framework and the six principles of pricing and cost recovery

4.37 In previous disputes, we have often used the six principles of pricing and cost recovery as a basis for an analytical framework.[74]

4.38 These principles are:

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[74] For example, this was used in the Orange Direction and the recent dispute between C&W, THUS plc, Gamma Telecom Ltd and Opal Telecom Ltd. and BT: http://www.ofcom.org.uk/bulletins/comp_bull_index/comp_bull_ocases/open_all/cw_01040/

(i) Cost causation: costs should be recovered from those whose actions cause the costs to be incurred;

(ii) Cost minimisation: the mechanism for cost recovery should ensure that there are strong incentives to minimise costs;

(iii) Effective competition: the mechanism for cost recovery should not undermine or weaken the pressures for effective competition;

(iv) Reciprocity: where services are provided reciprocally, charges should also be reciprocal;

(v) Distribution of benefits: costs should be recovered from the beneficiaries especially where there are externalities; and

(vi) Practicability: the mechanism for cost recovery needs to be practicable and relatively easy to implement.

4.39 The application of any one of these principles to the relevant circumstances can sometimes point in a different direction to the other principles. But the set of principles provides a framework to identify such trade-offs and to facilitate the use of judgment to strike an appropriate balance in reaching conclusions.

4.40 The six principles of pricing and cost recovery cover the same substantive issues as the analytical framework of Principles 1 to 3 set out above, as follows:

(i) Principle 1 relates to the principles of *cost causation* and *distribution of benefits* between callers and 080 SPs (reflecting the externality between the OCP and the 080 SP) and *cost minimisation*;

(ii) Principle 2 relates to the principles of *distribution of benefits* and *effective competition*; and

(iii) Principle 3 relates to the principle of *practicability.*

4.41 The one principle that is not listed above is *reciprocity*. However, we do not consider the application of the principle of reciprocity to be material to the outcome of this Dispute given the limited number of circumstances in which it is likely to apply. We note that of the five MNOs who are party to this Dispute, only [✂].

Benchmarking

4.42 At paragraph 186 of the TRD core issues judgment the CAT states that:[75]

"Benchmarking is a useful tool and OFCOM should consider the value of comparisons put forward by the Parties and what they show about the reasonableness of the charges or other terms and conditions being proposed."

[75] The CAT's judgment in *T-Mobile (UK) Limited and Others v Ofcom [2008]* CAT 12 dated 20 May 2008 in relation to Ofcom's Determination of Disputes between T-Mobile and BT, O2 and BT, H3G and BT, and BT and each of H3G, Orange, and Vodafone relating to fixed to mobile and mobile to mobile termination (the "TRD core issues judgment") http://www.catribunal.org.uk/files/Judgment_TRDs_200508.pdf

4.43 We have considered benchmarks in relation to both the cost of termination and the cost of mobile origination for 0845/0870 calls. The MNOs have argued that BT's termination charges should not exceed the cost of termination. To assess the opportunity for recovery of efficient costs by MNOs in accordance with Principle 1, the cost of origination may be relevant.

Benchmarks for the efficient cost of termination

4.44 T-Mobile states that the most appropriate benchmarks to be considered in this dispute are the charges applied by BT and other terminating operators prior to 1st November 2009, and in particular for 0870 numbers the rates that were applied as a result of Ofcom's 0870 Determination.[76] Additionally, it and other MNOs argue that BT's efficient cost of termination should be the focus of this Dispute.[77]

4.45 As stated above, the termination rates set in the 0870 Determination reflect cost-based termination charges and so are the most suitable benchmark for the efficient costs of termination for both 0845 and 0870 calls (since we do not expect the cost of terminating 0845 calls to be materially different to 0870 calls). However, we have also noted above that, in our consideration of this Dispute, we are analysing the reasonableness of revenue share on these number ranges. This has an important implication for the appropriate price to compare to the benchmark for the cost of termination.

4.46 To the extent that revenue share is considered reasonable in our analysis, the appropriate comparison is between termination cost and the net termination charge, not the gross termination charge. The gross termination charge is the rate actually levied on the OCP by the TCP, in this case the charges specified in NCCNs 985 and 986. The net termination charge is the gross charge less any revenue share paid to the SP.[78] If revenue share is considered reasonable, then the revenue that the TCP uses to recover its costs of termination is the net termination charge (not the gross charge).

4.47 Therefore, although it is clear that the gross termination charges in NCCNs 985 and 986 (above the bottom tier) are in excess of the benchmark for the cost of termination, the implication of this comparison depends on whether revenue share is considered reasonable or not on 0845/0870 calls. If it is reasonable, then it is not decisive to compare the benchmark for the cost of termination against the gross termination charge. The question of whether or not revenue share is reasonable is, in effect, assessed in detail in Section 5.

Benchmarks for the efficient cost of mobile call origination

4.48 We asked the Parties to identify any benchmarks for the efficient cost of origination of 0845 and 0870 calls on a mobile network. In response the Parties commented on the nature of benchmarks that may be relevant to the consideration of origination costs. We consider the relevance of these benchmarks in our analysis.

4.49 The efficient cost of origination has a network cost and a retail cost component.

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[76] T-Mobile Dispute Submission 5 March 2010, paragraph 2.97
[77] Orange Response to Section 191 request, questions 16 and 17
[78] NCCN 500 1 August 2008, paragraph 4.27 http://www.ofcom.org.uk/bulletins/comp_bull_index/comp_bull_ccases/closed_all/cw_823/NCCN_500.pdf

Network cost

4.50 We would expect the network costs of origination to be the same irrespective of the number range being called, and we received a number of submissions suggesting that the network cost of origination on a mobile network can be estimated using the regulated charges for mobile call termination.

4.51 T-Mobile submits that the cost of originating any call is approximately the same as the cost of terminating the same call as it involves practically the same network elements.[79]

4.52 Vodafone states that broadly speaking network origination costs are similar to those for termination.[80] Orange, in its estimate of its total cost of call origination also bases the network element on the existing mobile termination rate (removing location updates, which are associated with terminating services, but otherwise ignoring other traffic routing variations).

4.53 The MNOs' termination charges are currently regulated under charge caps that were set by reference to (a forecast of) MNOs' efficient costs of termination made in 2007, using a glide path to this level in 2010/11. The current mobile termination charge controls for the 2G/3G MNOs were set on the basis of forecast unit costs for 2010/11 of 4.0 ppm in 2006/07 prices (4.3 ppm in 2010/11 prices).[81] This reflects the costs, asset price trends, volumes and other assumptions made at the time (plus the revisions to the cost model in light of the Competition Commission's determination).

4.54 Ofcom is currently consulting on proposals for a new mobile termination charge control from 2011 to 2015.[82] In this consultation we produced an updated cost model and, using this model, published preliminary estimates of the unit costs with the latest available information. The outputs of the modelling in this consultation are based on analysis of the MNO's most recent cost information, revised estimates of the cost of equipment for 2G/3G services, and the evolution of traffic and developments like site sharing.

4.55 On the basis of the updated input assumptions, the outputs of our latest 2G/3G MNO cost analysis which include a contribution to common costs (i.e. LRIC+),[83] it appears that the unit costs for a national 2G/3G MNO are around 1.8ppm in 2010/11 in

[79] T-Mobile Response to Section 191 request, question 15
[80] Vodafone Response to Section 191 request, question 14
[81] The nominal TAC for 2009/2010 is specified in the Amendment to SMP Service Conditions (http://www.ofcom.org.uk/consult/condocs/mobile_call_term/statement/CTMAmendement2009final.pdf) and the method for calculating the nominal TAC for 2010/2011 is set out in paragraphs 1.24 – 1.26. The calculation is TAC2010/2011 = TAC2009/2010 * (1+RPI-X), where X is the controlling percentage in nominal terms (specified in the document), and RPI is the actual RPI inflation rate in the year ending December 2009 (for the remainder of the year for which RPI index figures are not yet available we used the Treasury's consensus inflation forecast, http://www.hm-treasury.gov.uk/d/200910forcomp.pdf)
[82] "Wholesale mobile voice call termination Market Review – Volume 2 – Main consultation". 1st April 2010 http://www.ofcom.org.uk/consult/condocs/wmctr/wmvct_consultation.pdf
[83] In the Mobile Voice Call Termination consultation, we are consulting on two possible cost standards to be used to calculate efficient termination costs, one cost standard only includes the long run incremental costs of termination (pure LRIC). The other also includes a contribution to common costs (i.e. LRIC +). LRIC+ is more consistent with the cost standard that was previously used in the 2007 MCT model and from which the current charge controls were set.

2008/09 prices,[84] equivalent to 1.9ppm adjusted to 2010/11 prices. These latest unit cost estimates are preliminary and we are still in the process of consulting stakeholders which may alter the final estimated unit costs produced by our model.

Retail cost

4.56 Orange has estimated that its total cost of originating calls including network, administration, licence and non-network costs, but excluding acquisitions and retentions costs is [✂]. To derive the proxy, Orange has.[85]

a) Taken the network element based on the existing MTR rate

b) Added the spectrum allowance associated with the above

c) Added the administration allowance associated with the above

d) Added a non-network element based on Profit and Loss costs to EBITDA (excluding handset, interconnect costs and administration costs, using the MTR figure for the latter) spread over non-terminating traffic.

4.57 Orange states that it has included the retailing element within the above number, which covers billing, marketing and sales costs, together with an appropriate share of central overhead costs and is approximately [✂].

4.58 T-Mobile has also provided an estimate of the pence per minute network and retail costs of origination. The level of certain of the cost elements shown below is derived by T-Mobile by considering costs that in its view are not included in the regulated mobile termination rate on the basis that they will be recovered at the retail level:

a) Current call termination charge control in 2010/11 – 4.42ppm

b) Full costs of the 3G licence fee – [✂]

c) CARs costs - [✂] using same data and methodology used in 2007 MCT statement]

d) Additional billing and customer service costs that relate specifically to 0845 and 0870 – unable to quantify in time available

e) Any interconnection charge levied by the transit and/or terminating communications provider(s) concerned – variable

4.59 Therefore, incorporating all the above cost elements, T-Mobile estimates that the costs of originating 0845 and 0870 calls is at least [✂] plus billing and customer services costs and any interconnection charges.[86]

[84] Figure 29, Annex 11 "Wholesale mobile voice call termination Market Review – Volume 3 – Supporting Annexes". 1st April 2010 http://www.ofcom.org.uk/consult/condocs/wmctr/wmvct_annexes.pdf
[85] Orange Response to Section 191 request, question 16
[86] T-Mobile Response to Section 191 request, question 15

Cost recovery on geographic calls

4.60 As set out above, given our policy preference for the retail pricing of 0845 and 0870 calls, we consider that cost recovery on geographic calls forms the appropriate reference point for cost recovery on 0845/0870 calls. This is reflected in the wording of Principle 1 set out above and is discussed in greater detail in Section 5. Given the linkage in our policy preference between prices for 0845/0870 calls and geographic calls, we consider that there should be a corresponding linkage in the extent of cost recovery on these calls (in the manner set out in Principle 1). In the circumstances of this Dispute, we consider that this should take precedence over the other benchmarks for termination costs set out above (and for this reason we do not comment further on Orange's and T-Mobile's arguments on the retail costs of 0845/0870 calls).

Consistency with previous decisions

4.61 In determining what analytical framework should be used to consider each of the questions within the scope of this Dispute, we need to have regard to previous decisions on similar issues in the past, so as to ensure consistency. We have also considered the applicability of the TRD core issues Judgment.

Consistency with previous disputes

The 080 Determination

4.62 The 080 Determination is summarised in Table 2.1 at the end of Section 2 and in Annex 2. It addressed a tiered termination charging structure based on the retail price charged, but for 080 calls rather than 0845/0870. The three Principles set out above are very similar to those used in the 080 Determination, as we consider that there is significant overlap in the issues that need to be examined in both disputes. There are, however, some material differences in the detailed specification of Principle 1 to reflect the different circumstances in this Dispute.

4.63 In the 080 Determination, our policy preference that 080 calls would be priced at zero or as close to zero as possible led us to weight the Direct effect more heavily than the Mobile tariff package effect. Similarly, we also have a policy preference for the retail prices of 0845/0870 calls and therefore also propose to weight the Direct effect more heavily than the Mobile tariff package effect in this Dispute (see the discussion above). However, the detail of the policy preference is different and this is reflected in the different application of Principle 1.

4.64 Whilst some similar issues were considered, the conclusions presented in the 080 Determination are not necessarily directly applicable to this Dispute, particularly given that in this Dispute we are considering different questions relating to different NCCNs (albeit with a similar structure to NCCN 956), the fact that circumstances since then might have changed and the differences in the policy governing these number ranges.

The NCCN 500 Decision

4.65 The NCCN 500 Decision is outlined in Section 2 and in Annex 2. That decision considered (and rejected) allegations of distortion of competition among OCPs and among TCPs as a consequence of BT's termination charge increases in NCCN 500.

4.66 For this 0845/0870 Dispute, analysis of the concerns about distortion of competition among OCPs and TCPs is included in our analytical framework within Principle 2. In applying Principle 2 in Section 5, we take account of the relevant circumstances today, some of which are different from those relevant to the NCCN 500 Decision, such as the ability of other TCPs broadly to replicate BT's termination charges and the different nature of NCCNs 985 and 986 compared to NCCN 500.

H3G ported numbers and NCCN 500 disputes

4.67 In our Draft Determination to resolve Disputes between H3G and each of O2, Orange, T-Mobile and Vodafone about mobile termination rates for calls to ported numbers[87] we considered the effects of the current charging arrangements for calls to ported numbers with reference to the following economic factors:

a) whether the Parties have the opportunity to recover their efficiently incurred MCT costs under the current arrangements;

b) the financial effect of the current arrangements on the Parties as compared to the effect of alternative arrangements under which they received their own termination rates for calls to ported mobile numbers (instead of the DNO's rate);

c) the effects that the current arrangements have on competition (e.g. whether the arrangements give rise to effects) through porting, switching effects or asymmetric regulation effects on a scale that might tend to distort competition; and

d) whether the current arrangements lead to harm to consumers' interests, in particular through the effects on the prices paid by customers of ONOs, DNOs, and RNOs.

4.68 In our Determination of a dispute between Cable & Wireless and BT about the application of NCCN 500 to calls to ported numbers[88] we considered the effects of the charging arrangements for calls to ported numbers during the period of 1 May 2004 and 31 December 2005 with reference to the following economic factors:

a) whether the Parties had the opportunity to recover their efficiently incurred costs under the current arrangements;

b) the financial effect of the arrangements on the Parties (i.e. the D/R regime) as compared to the effect of alternative arrangements (i.e. a D/D regime);

c) the effects that the charging arrangements between the Parties had on competition; and

d) whether the charging arrangements led to harm to consumers' interests.

4.69 For both these disputes we also considered how our analytical framework and analysis covered the six principles of pricing and cost recovery.

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[87] The Draft Determination can be found at http://www.ofcom.org.uk/consult/condocs/draft_deter_dispute_mobile_term/draft_determination.pdf

[88] http://www.ofcom.org.uk/consult/condocs/draft_deter_cw_bt_nccn500/final_determination/Final_determination.pdf

4.70 We consider that the analytical framework we are using in this 0845/0870 Dispute is entirely consistent with the approach in the H3G ported numbers and NCCN 500 ported numbers disputes, given that our three Principles effectively consider the same issues as above – cost recovery through Principle 1, and the effect on competition and consumers in Principle 2. The financial impact is set out at the start of Section 5 and is also considered through Principles 1 and 2. Additionally, our three Principles also reflect those set out in the six principles of pricing and cost recovery (see paragraphs 4.37 to 4.41) as was the case with the disputes described above.

Previous 0870 Determination

4.71 The regulatory obligation in the NTNP states that calls are to be charged at the equivalent national geographic rate (including within bundles if relevant) except where call charges have been published in accordance with General Condition 14.2. This latter option of charging more than for geographic calls is also open to BT as long as it adheres to the price publication requirements. In the previous 0870 Dispute, we concluded that the termination charges should be cost based, to encourage the policy of national geographic pricing by BT and to avoid the risk of arbitrage which might undermine it.

4.72 We also concluded that the termination charges should be uniform across all TCPs for the following reasons:

(i) issues of differential termination charges due to transit and number portability (issues raised by BT);

(ii) BT does not pay differentiated termination charges for 03, 08 or 09, therefore to introduce differential charging for 0870 would be inconsistent with industry convention and regulatory practice; and

(iii) price transparency objective would be compromised by differential termination charges.

4.73 As was set out in that statement – paragraph 6.60 – we concluded that an appropriate termination charge should be sufficient to recover:

(i) the costs which would be incurred by the TCP to terminate an equivalent geographic call under "far-end handover" arrangements;

(ii) the additional conveyance costs incurred by the TCP to terminate a 0870 call arising from "near-end handover", which is the routing used for 0870 calls; and

(iii) an allowance for the recovery of the costs associated with the provision of interconnection circuits for 0870 calls which should be recoverable through the termination charge.

4.74 As set out above, one way to enable OCPs to price 0870 calls at the geographic rate is to disallow any above-cost termination charge. In effect, this approach would exclude outpayments to SPs as legitimate costs to be reflected in the 0870 termination rates (which is also consistent with the policy of removing regulatory support for revenue sharing on 0870 numbers). This reasoning might suggest that tiered termination rates are not appropriate on 0870 numbers.

4.75 However, we understand BT's argument in this 0845/0870 Dispute to be that, where MNOs set retail prices for 0870 above 12.5ppm, the approach set out in the 0870 Determination of cost-based termination charges may no longer be the most appropriate (see paragraph 4.25 to 4.30). Our analytical framework provides a basis for us to consider this and other relevant arguments and evidence.

4.76 As regards uniform or differential prices across TCPs, NCCNs 985 and 986 relate to the prices of only one TCP, BT. However, the termination charges set by other TCPs are relevant to our analysis and we note that it is likely that different TCPs who decide to replicate variable termination charges will introduce different charging structures/rates to BT (as shown by the introduction of charging by Gamma and IVR). This would result in termination charges varying by TCP (see discussion in the Indirect effect and competition among TCPs (see Section 5 paragraphs 5.216 and 5.241 of the Draft Determination - reproduced in Annex 3). However, we do not consider that the reasoning for concluding on uniform termination rates across TCPs in the previous 0870 Determination is necessarily applicable here for the following reasons:

a) The issue of who pays the transit costs is not relevant in this Dispute, although we do address the potential incentives for inefficient call routing via transit providers and number portability as potential issues of differential termination charges in Section 5;

b) We acknowledge that the termination charges in NCCNs 985 and 986 would (should they be considered fair and reasonable) be a change to regulatory practice and industry convention. However, whilst a relevant consideration, we do not consider this to be sufficient on its own to conclude that NCCNs 985 and 986 are not fair and reasonable as there may be a good justification for a change in industry practice which was not relevant in the previous 0870 Determination. Therefore our analysis in Section 5 assesses whether NCCNs 985 and 986 – and the potential change in industry practice – could be justified.

c) It is not clear that price transparency would be compromised by differential termination charges in this case given the termination charge is linked to the average retail price, however we consider the impact NCCNs 985 and 986 could have on the retail price of 0845 and 0870 in **Section 5** (the Direct effect).

4.77 We consider below the question of cost-based termination charges for 0845/0870 calls in the context of this Dispute.

0870 Statement

4.78 The regulation and policy preference in the 0870 Statement (see Section 2 and Annex 2) underpins our analytical framework and is considered throughout, most notably in consideration of the Direct consumer effect on 0870 retail prices as part of Principle 2 and its greater weight relative to the Mobile tariff package effect, and in the formulation of Principle 1.

Relevance and application of TRD Judgment

Views of the Parties

4.79 O2 refers to the guidance provided by the CAT in the TRD core issues judgment (also noted by T-Mobile[89]), and in particular the four factors it advised Ofcom to take into account in resolving disputes, which were as follows:

a) consideration of why the dispute has arisen (the onus lies on the party proposing the variation to provide justification for the change in its terms);

b) information about costs;

c) benchmarking; and

d) consideration of other regulatory objectives.[90]

4.80 As a result of this, O2 argues that Ofcom's first task is to examine the reasons put forward for the proposed change and decide whether they are justified. O2 argues that BT's rationale about addressing the imbalance and to ensure an appropriate return for the provision of these services is "wholly inadequate" since mobile retail prices are formulated in the highly competitive mobile access and call origination market and reflect the higher costs for origination, and since BT were already able to secure an adequate return for these services before the price increases.[91]

4.81 As a result of this, O2 states that "*the rejection of BT's interconnect charge increase should be a straightforward matter for Ofcom, since it fails to satisfy the first of the CAT's criteria, in the sense that it is not justified*".[92]

4.82 That said, O2 also believes that NCCNs 985 and 986 fail to satisfy the other criteria as well since:[93]

(i) BT has presented no evidence that its costs have increased, and indeed continues to provide the service to some OCPs at the previous rates;

(ii) The relevant benchmarks for termination services provided by BT for 0845 and 0870 calls are the same service that BT continues to provide to other OCPs at the previous rates and similar services provided by other TCPs at a similar (or identical) price to BT's prior to the increases in charges; and

(iii) Ofcom's principal duty is to carry out its functions to further the interests of consumers, where appropriate by promoting competition. NCCNs 985 and 986 represent a transfer from mobile customers to BT with no corresponding benefit for those customers, while BT is able to extract rents and there is no evidence that any extra payments will be passed through to the SPs from BT. O2 also notes the previous 0870 call termination rate dispute which determined that the termination rates other TCPs were permitted to charge BT should be cost oriented (and indeed state that deviation from a cost-based charge is economically inefficient in comparison).

[89] T-Mobile Dispute Submission 5 March 2010, paragraphs 2.95-2.97
[90] O2 Dispute Submission, 11 March 2010, paragraph 13
[91] O2 Dispute Submission, 11 March 2010, paragraphs 15-17
[92] O2 Dispute Submission, 11 March 2010, paragraph 18
[93] O2 Dispute Submission, 11 March 2010, paragraph 19-20

4.83 Therefore O2 believes that the proper application of the CAT's guidance to this dispute would result in the rejection of NCCNs 985 and 986.

Our view on application of the TRD core issues Judgment

4.84 We have addressed each of these points as follows:

a) Justification for the change – we consider BT's contemporaneous arguments below and the arguments that it is now advancing for introducing NCCNs 985 and 986 in Section 5.

b) Information about costs – we have already considered the argument about the costs of termination in the discussion of benchmarks (see paragraphs 4.42 to 4.60) and discuss below BT's termination charges relative to costs. These also feature within our analysis in Section 5.

c) Benchmarking – this is considered in the benchmarking Section in paragraphs 4.42 to 4.60 above.

d) Consideration of other regulatory objectives – our primary objectives relating to consumers and competition form the basis of our analytical framework, most notably in our analysis of Principle 2. Additionally, we have taken into account our policy preference for the retail pricing of 0845/0870 calls. An assessment of our provisional conclusions against our statutory duties is set out in Section 7.

Other analytical issues

4.85 The Parties to the Dispute have raised a range of other issues relevant to the analytical approach that we adopt. These are:

a) Discrimination;

b) BT's termination charges relative to the costs of termination;

c) Retail price regulation "through the back door"; and

d) Application of BT's approach to other markets.

4.86 We discuss each of these in turn in the Sections below, before moving on to two final analytical issues: BT's rationale for introducing these NCCNs, and the economic evidence that BT submitted in the context of the 080 Determination and subsequently their appeal against that Determination.

Discrimination

4.87 One of the core arguments made by the MNOs is that the terms of NCCNs 985 and 986 are discriminatory, and that it is inherently wrong for BT to price discriminate i.e. set different termination rates to different MNOs.

4.88 We addressed this issue in the 080 Determination in relation to termination charges for 080 calls. In the 080 Determination we noted that BT is not under SMP obligations or any pricing regulation in a market that includes the termination of 080 calls. Furthermore, for the period relevant to the 080 Determination no analysis of dominance by BT was undertaken and so there was no finding of dominance (or non-dominance).[94] We noted that, as the 080 Determination was not a Competition Act investigation, it did not consider whether there was an abuse of a dominant position through discriminatory pricing.

4.89 We also noted that firms may choose to offer different trading terms to different trading partners, and there is no general prohibition on this. This needs to be considered on the facts of each case and specifically with regard to the potential for it to result in exclusion and exploitation of trading partners. Setting different termination rates to different MNOs is not in principle per se discriminatory. Where MNO A charges a higher retail price than MNO B the former is in a position to pass a greater amount of revenue onto TCPs or NTS SPs (and there are other effects to be considered, such as Indirect and Mobile tariff package effects).

4.90 In this Dispute, we are considering whether the proposed termination payments set out in NCCNs 985 and 986 are fair and reasonable as set out in the published scope of the Dispute. In our view the same reasoning applies as in the 080 Determination, i.e. that BT charging different termination rates for 0845 and 0870 calls to different MNOs is not in principle per se discriminatory, but depends on the facts of each case.

4.91 The Principles in our analytical framework consider (among other things) the effects on consumers and competition from NCCNs 985 and 986. So in the course of this Dispute, our analysis in Section 5 considers the effects of applying different termination rates to different MNOs.

BT's termination charges relative to the costs of termination

Views of the Parties

4.92 H3G argues that "*BT is already paid by Service Providers for its hosting services and also paid the (existing) standard termination charges by OCPs, so is recovering the cost of terminating calls and hosting the relevant number range elsewhere. Accordingly, BT's unfair attempt to add on additional charges for its termination services by claiming the benefit of a portion of 3UK's retail margin is unacceptable*".[95]

4.93 Orange and Vodafone also reiterate that BT's costs are already covered by existing arrangements through a combination of payments from OCPs and SPs, and therefore Orange believes "*BT is simply trying to extract extra revenue from OCPs*".[96]

4.94 O2 argues that the termination services it receives from BT in respect of 0845 and 0870 calls have not improved, nor has BT provided O2 with evidence that BT's costs in providing the service have increased.[97] In particular, it argues that BT's claim that it is seeking "*an appropriate return for the provision of [termination] services is clearly without merit, because BT was able to secure an adequate return prior to the price increase, and continues to provide identical termination services to originating operators on the previous, lower rates*".[98]

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[94] The finding of dominance in the NCCN 500 Competition Act Decision covered the termination of 080, 0845 and 0870 calls, given the scope of the market definition, but only related to the (historical) period covered by NCCN 500 – see Annex 2.

[95] H3G Dispute Submission, 14 Apri 2010, paragraph 3.2

[96] Orange Dispute Submission, 9 April 2010, page 3

[97] O2 Dispute Submission, 11 March 2010, paragraph 6

[98] O2 Dispute Submission, 11 March 2010, paragraph 17

4.95 BT argues that its termination charges should exceed its costs of termination so as to more fairly and equitably divide the revenue that is generated across the platform.[99] It states that 0845 and 0870 numbers are "*designed to present a business opportunity for the number range holder, the terminator for NTS number ranges and their service provider customers*",[100] and argues that "*Ofcom has always acknowledged the value of NTS calls at the termination end, so there is no justification for originating CPs to make excessive profits from these calls at the expense of the contribution of other parties*".[101] Further, BT argues that "*the tiered pricing structure allows BT to claim no more than a proportionate percentage of the economic value of the service provided*".[102]

Our view

4.96 As noted above, in our consideration of this Dispute, we are in effect analysing the reasonableness of revenue share on these number ranges. This has an important implication for the appropriate benchmark for the cost of termination.

4.97 To the extent that revenue share is considered reasonable in our analysis, then the appropriate comparison is between termination cost and the net termination rate, not the gross termination rate as discussed above in paragraphs 4.45 to 4.47. Therefore although it is clear that the gross termination charges in NCCNs 985 and 986 (above the bottom tier) are in excess of the benchmark for the cost of termination, the implication of this comparison depends on whether revenue share (or in the case of 0845 calls, increased revenue share) is considered reasonable or not on 0845/0870 calls. That question of reasonableness is assessed in detail in Section 5, applying the analytical framework set out above.

Retail price regulation "through the back door"

Views of the Parties

4.98 H3G states that "*as 3UK's retail charges are currently unregulated by Ofcom, if Ofcom's findings are in BT's favour, Ofcom would effectively be imposing retail regulation through the backdoor without going through the appropriate processes…*"[103]

4.99 Orange also states that it "*does not have market power in relation to call origination and is therefore free to set its charges as it sees fit, [and] it is not open to BT to regulate Orange's retail charges*".[104]

Our view

4.100 The prices of calls to 0870 and 0845 are being considered as part of the current NGCS Review, which will determine whether there is a need for a change in the current policy and if so whether changes are needed to the current regulatory regime. We consider that any changes to the existing regulatory obligations and policy on 0845 and 0870 calls are outside the scope of this Dispute. We are not, therefore, through the resolution of this Dispute imposing any new regulation to restrict the retail

[99] BT Dispute Submission, 29 March 2010, page 6
[100] BT Dispute Submission, 29 March 2010, page 6
[101] BT Dispute Submission, 29 March 2010, page 2
[102] BT Dispute Submission, 29 March 2010, page 7
[103] H3G Dispute Submission, 14 April 2010, paragraph 3.3
[104] Orange Dispute Submission, 9 April 2010, page 9

pricing freedom of OCPs. As set out in the NTNP, they are able to price above the level of geographic calls (although we would prefer them to price at that level). They are also required to adhere to the price publication requirements set out in GC14.2. .

4.101 The existing regulatory policy is relevant to the Dispute and affects the formulation of the analytical framework as set out above. A key issue is about the balance of prices to both sets of consumers (callers and SPs), and in turn how that affects the overall benefits of 0845/0870 calls to consumers. Given our policy, we consider that benefits to consumers would be provided if (as BT suggests) the termination charges in NCCNs 985 and 986 provided incentives on MNOs to reduce retail 0845/0870 call prices and led to more attractive deals to SPs (respectively the Direct and Indirect effects). The effect on other mobile prices is also relevant (the Mobile tariff package effect), although we consider that it should be given less weight than the Direct effect. We consider these issues in Section 5.

Application of BT's approach to other markets

Views of the Parties

4.102 O2 states that the principle BT is advancing (i.e. that a terminating operator with SMP ought to be allowed to insist on a revenue share arrangement with originating operators whose prices are "too high"), has some interesting applications. For example, O2 states that BT's margin on its residential customers' calls to mobiles is over 9ppm, and so asks whether O2 would be permitted to introduce new mobile termination rates based on a stepped revenue share arrangement of BT's retail price in excess of, say, 5ppm, on the basis that it was merely encouraging BT to bring its retail prices down?[105]

Our view

4.103 We recognise that the analysis in this Draft Determination could have wider implications where there are sufficiently similar circumstances that similar reasoning is also applicable. However, we do not comment further on the specific question raised by O2 on mobile termination charges, as this is beyond the scope of the Dispute and would require analysis of the facts and circumstances relevant to mobile termination. We also note that the current price cap regulation of O2's and other MNOs' mobile termination charges lasts until March 2011 and that we are consulting separately on the arrangements that should apply after that date.

BT's rationale for NCCNs 985 and 986

Views of MNOs

4.104 All the MNOs have questioned BT's rationale for introducing tiered termination charges.

4.105 H3G states that "*the nature and extent of the imbalance alleged by BT is unexplained and unjustified and [✂] disagree[s] with the logic behind BT's proposition that value comes solely from termination. OCPs also provide value*".[106]

4.106 H3G also argues that "*BT has failed to explain or justify the level of termination charges and their relationship with the corresponding retail charges*".[107]

[105] Letter from O2, 14th May 2010
[106] H3G Dispute Submission, 14 April 2010, paragraph 3.2

4.107 Orange also states that "*BT has failed to justify why it should be entitled to vary its termination charge according to the retail prices charged*".[108] Additionally, Orange claims that "*BT has made no serious attempt to justify the price increases for the simple reason that it cannot do so. The price rises are simply an attempt to increase revenues, in the knowledge that there is little or no risk of losing such revenues as a result of competition due to the nature of the relevant market(s)*".[109]

4.108 O2 questions the "imbalance" used by BT to justify NCCN 985 and 986. It states that:

> "*BT has clarified that when it refers to "the imbalance that currently exists", it means the "imbalance created by excessive retail charges being levied by some originating network operators whilst the revenue received by BT as the terminating operator is based on these calls being charged at 'national' (0870) and 'local' (0845) call rates*. *However mobile retail prices are formulated in the highly competitive mobile access and call origination market, and reflect the fact that the unit costs in providing mobile services tend to by [sic] higher than for fixed. For this reason, O2 disagrees strongly that its retail prices can be regarded as "excessive"*".[110]

BT's views

4.109 In its submission, BT states that NCCNs 985 and 986 allow a more equitable share of the revenues generated across the NTS platform for 0845/0870 calls for all parties involved in the value chain.[111] Additionally, BT argues that the pricing ladder introduces an economic incentive to reduce retail charges.[112] In fact, BT states that:

> "*BT's charges for termination of 0845 and 0870 have been designed however, as far as it is possible for a wholesaler, to encourage high-charging 0845 and 0870 call originators to lower their retail prices. This is because any rational MNO who has already profit maximised and subsequently acts rationally, will in the situation of these termination charges, raise its net profitability from lowering its retail prices.*
>
> *Under the assumption that the MNO wishes to profit maximise, the increase in profit from raising the retail price will be less than the loss of revenue from the quantity reduction as both sources of profit variation will be modulated by the wholesale tariff schedule. It is shown that a sufficient condition for a reduction in retail prices relates to the gradient of the wholesale tariff schedule, retail prices and origination costs and BT considers that this condition is satisfied for these calls for retail prices to fall in the presence of the termination schedule.*"[113]

Our view

4.110 BT does not refer to any specific evidence in support of its claim that it "designed" NCCNs 985 and 986 to encourage high-charging OCPs to reduce their retail prices for 0845/0870 calls. We have therefore considered the contemporaneous evidence that has been provided to us.

[107] H3G Dispute Submission, 14 April 2010, paragraph 3.4
[108] Orange Dispute Submission, 9 April 2010, page 3
[109] Orange Dispute Submission, 9 April 2010, page 5
[110] O2 Dispute Submission 11 March 2010, paragraph 16
[111] BT Dispute Submission, 29 March 2010, page 2
[112] BT Dispute Submission, 29 March 2010, page 2
[113] BT Dispute Submission, 29 March 2010, page 7

4.111 Firstly, BT's letter sent to the MNOs on 2 October 2009 to inform them of the introduction of these termination charges, which states: "*This new pricing structure is an attempt to address the imbalance which currently exists and to ensure that BT as a Terminating Network Operator receives an appropriate return for the provision of the service*".[114] This letter suggested that BT was seeking to generate revenue and profit from the introduction of these termination charges, but there is no reference to a reduction in the retail price charged by OCPs.

4.112 Secondly, we obtained from BT its internal authority paper used to obtain internal governance for NCCNs 985 and 986 (submitted by BT in this Dispute as part of its response to our S191 information request). This states that the rationale for the charging is as follows:

> [✄][115]]

4.113 The same paper also states that [✄]

4.114 BT's own internal authority paper therefore provides no support for its claim that it designed NCCNs 985 and 986 to encourage MNOs to reduce their prices for 0845 and 0870 calls.

4.115 Thirdly, we note the point made by H3G that BT had confirmed to it during negotiations that it had not applied any specific formula or methodology in arriving at its tiered charges.

4.116 Finally, we note that the date of the earliest economic paper we received from BT considering the effect on the prices paid by callers was on 27 January 2010 (and this was specifically in relation to 080, not 0845/0870 calls). This was almost four months after the 2 October 2009 date when NCCNs 985 and 986 were published.

4.117 Therefore, none of the contemporaneous evidence that we have available to us provides any support for the BT contention that NCCNs 985 and 986 have been designed to reduce 0845/0870 retail prices.

4.118 We have also seen no contemporaneous evidence suggesting that BT would necessarily pass on its higher termination charges to SPs either in whole or in part. Therefore, the contemporaneous evidence is consistent with BT seeking to obtain revenue from OCPs (which set 0845/0870 call prices at or above 12.5ppm) to increase its profits.

4.119 However, the rationale that BT is now advancing in support of NCCNs 985 and 986 appears to be quite different. As reported above, it is now a prominent argument in BT's rationale that NCCNs 985 and 986 will encourage the MNOs to reduce their prices for 0845 and 0870 calls. The papers which BT has relied on in this Dispute, including BT's 080 papers, provide the basis for its argument, although we note that BT's 080 papers consider 080 calls, not 0845 or 0870 calls, and consider NCCN 956 (regarding termination charges for 080 calls), not NCCN 985 or NCCN 986.

4.120 The further arguments in support of NCCNs 985 and 986 that BT is now advancing are summarised in Section 3. We consider these arguments and the effect of NCCNs 985 and 986 on 0845/0870 call prices in Section 5.

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[114] T-Mobile Dispute Submission, 5 March 2010, paragraph 2.24
[115] Section 5, Internal Authority Paper submitted by BT in response to S191.

BT's 080 papers

4.121 BT has stated that the economic analysis prepared in the context of the 080 Determination and the additional economic analysis prepared in relation to BT's appeal against the Final Determination of that Dispute are relevant to this 0845/0870 Dispute. Some of BT's 080 papers are considered as part of our analysis of the Direct effect in Section 5 (as well as Annexes 3 to 5 of the Draft Determination). BT's 080 papers also included three papers written by Dr Maldoom of DotEcon. Although BT has submitted these papers as evidence for the 0845/0870 Dispute, much of their content is focused on the 080 number range and the 080 Determination. Therefore whilst there may be some read-across to 0845/0870, it is not clear to us that all of the points in these papers are directly relevant to this Dispute, and BT has failed to indicate to us which of the issues presented are relevant for 0845 and 0870.

4.122 We discuss here the issues that we consider to be relevant for this Dispute, and identify the implications for our analysis. We generally focus on the most recent paper ("Maldoom 3") as we consider that, in addition to presenting new material, this also addresses most of the points raised in the earlier versions (but we refer to earlier versions ("Maldoom 1 and 2") as necessary).[116] In particular, we consider the following issues are raised in Maldoom 3:

a) Prices to consumers and SPs;

b) Distribution of benefits;

c) Applicability of Principle 1;

d) Incentive effects of termination rates linked to retail rates; and

e) Interpreting retail price changes to date.

Prices to consumers and SPs

4.123 Maldoom 3 states that 080 numbers (and NTS numbers more generally) only function because the 080 number signals the call price to consumers. Deviating from this principle must be costly, both for callers who might face unanticipated charges, but also for SPs for whom the NTS framework becomes less useful as a means of delivering their services.[117]

4.124 We recognise the two sets of consumers involved in 0845/0870 calls (callers and SPs), the Direct and Indirect effects on them and the model of competition in our analytical framework (as discussed above). We also explicitly take into account that OCPs may not have incentives to take full account of the interests of SPs (see paragraph 4.6 above).

Distribution of benefits

4.125 Maldoom 3 argues that Ofcom relates its three Principles to the six pricing and costs principles at paragraph 4.58 of the 080 Determination, but provides no argumentation or rationale for how its three Principles follow consequentially from these. In

[116] To the extent that Maldoom 3 raises points on the Direct effect that are additional to the other BT 080 papers, and which we consider relevant to this Dispute, we take them into account in our analysis of the Direct effect in Section 5.
[117] Maldoom 3, paragraph 17

particular, Dr Maldoom raises a concern that the distribution of benefits (principle (v)) is not properly represented. He argues that it is necessary to consider the impact of pricing on the overall NTS ecosystem, including the distribution of benefits across OCPs and TCPs, and their respective customers, callers and SPs.[118]

4.126 We agree that the distribution of benefits is very relevant to this Dispute. As we set out above, the impact of prices and outcomes for both sets of consumers is fully reflected in our analytical framework. For example, Principle 2 considers both the Direct and Mobile tariff package effects at the originating end, and the Indirect effect at the terminating end.

Applicability of Principle 1

4.127 Maldoom 3 states that Ofcom's Principle 1 – that OCPs should be able to recover their origination costs - is not automatically compatible with the overall utility of NTS platform being maximised. This is discussed in greater detail in Maldoom 1 and 2[119] by arguing that ubiquitous provision of 0800 calls on all networks, cost recovery by all OCPs (regardless of their origination costs) and uniform pricing of 0800 calls across networks are not mutual compatible objectives. In some cases, trade-offs may need to be struck between these objectives. In light of this view, he suggests that "*Ofcom is short-circuiting a rather difficult policy question when it asserts that Principle 1 is a generally necessary condition…*". In other words, he suggests that in some cases, it might be reasonable to impose Principle 1, but in others not. As a result, he argues it does not seem useful to call it a Principle.[120]

4.128 In general, we agree that sometimes trade-offs need to be made in developing policy. However, in the present Dispute, we take existing regulatory policy as given, which is reflected in our formulation of Principle 1 in the Dispute (as discussed above). The wider question raised in Maldoom 1-3 might require a change in regulatory policy, which is outside the scope of the Dispute but is being considered separately in the current NGCS Review.

Incentive effect of termination rates linked to retail rates

4.129 Maldoom 3 states that there may be free-riding incentives for OCPs in 080 calls, and by implication in 0845/0870 calls. Maldoom 3 states that from a starting point where all OCPs set zero retail prices (or in this case, geographic prices for 0845/0870), and then one OCP sets a higher retail price for 080 (or 0845/0870) calls, the OCP gains all the profit associated with this move. However, consumers are now less confident about what they might pay for a 080 (or 0845/0870) call and they call SPs less in total. This affects all OCPs and TCPs, not just the OCP who increased retail price, as the service is less valuable to service providers. This means that there is an externality, as an OCP increasing retail price gets all the benefit, but only a share of the negative effects.

4.130 This analysis is consistent with our own, even if we have expressed it slightly differently as the OCP failing to take full account of the interests of SPs, who use specific NTS numbers, such as 0845 and 0870, because of the prices at which they expect such calls to be offered. It is our understanding that Maldoom 3 recognises the consistency between this aspect of the analysis and the 080 Determination (e.g.

[118] Maldoom 3, paragraphs 25-26
[119] See Section 2.1 of Maldoom 1 and 2
[120] Maldoom 3, paragraph 32-33

see paragraph 48 of Maldoom 3, which notes that the 080 Determination set out “*a coherent explanation of the problem*”).

4.131 Maldoom 3 then argues that in order to overcome this issue, one answer is to try to create an incentive for OCPs to cut their prices through the use of termination charges linked to the retail price set by the OCP. Now, if the OCP raises its retail price, it faces an increased unit cost of termination reflecting the negative effects it is causing to the value of the 080 (or in this case, 0845/0870) platform.[121]

4.132 In our analytical framework we recognise the benefits of an incentive on the OCP to reduce prices consistent with our policy preference on the pricing of 0845/0870 calls. This is the Direct effect, which is an important aspect of our analysis (and on which we place greater weight than the Mobile tariff package effect). In Section 5 we assess whether NCCNs 985 or 986 have a positive Direct effect on consumers (as Maldoom 3 suggests in relation to NCCN 956 for 080 calls).

Interpreting retail price changes

4.133 Maldoom 3 attempts to draw some weak inferences from the fact that MNOs did not increase their retail prices in response to NCCN 956. Since this also appears to be the case for NCCNs 985 and 986, it seems reasonable to assume that BT may be suggesting that the conclusions in Maldoom 3 may also be relevant here. Maldoom 3 argues that if there were any incentive to increase price, it must be sufficiently small to be dominated by the “menu costs” of changing prices (i.e. in terms of marketing etc) - otherwise the MNOs would have increased their prices.

4.134 We note that the weak inference drawn in Maldoom 3 relies on “menu costs” being the only relevant consideration in the decision by MNOs not to change their retail prices. Some of the MNOs, in their initial responses to Maldoom 1 and 2 (which included the same argument), point to different considerations and they strongly dispute that any such inference can legitimately be made. [✂]. For example, the fact the charges are currently subject to dispute, changes to the retail offering in such a highly competitive market require very careful consideration and would take several months to implement, and the Mobile tariff effect means it would not necessarily be the retail price of calls to 0845/0870 numbers that will be affected by BT’s increased wholesale charges. [✂]. Given this evidence, we do not agree with the weak inference made in Maldoom 3.

4.135 Maldoom 3 notes that Ofcom’s test for determining whether a price change is fair and reasonable may itself create perverse incentives. For example, the argument is made that at the very least, MNOs may have an incentive not to respond to incentives to reduce their retail prices to support their objections to the NCCN. Therefore, Maldoom 3 argues that we should not infer from the lack of a price decline following the implementation of NCCN 956 (and also presumably NCCNs 985 and 986) that there is no incentive to cut price.[122]

4.136 We do not consider that the limited changes to 0845/0870 retail prices to date can be used to infer robust conclusions about the incentives of MNOs in response to NCCNs 985 and 986. Our analysis of the Direct effect in Section 5 reflects an assessment of the incentive effects of NCCNs 985 and 986 and other relevant evidence.

[121] Maldoom 3, paragraphs 41-43
[122] Maldoom 3, paragraph 88-89

Section 5

Ofcom's provisional conclusions in the Draft Determination on whether NCCNs 985 and 986 are fair and reasonable

(This Section reproduces Section 6 of the Draft Determination, which sets out a summary of the reasoning in Sections 4 and 5 of the Draft Determination and our provisional conclusions on whether NCCNs 985 and 986 are fair and reasonable.[123] We rely on the provisional reasoning and conclusions reproduced here in reaching the final conclusions set out in Section 9 below, except to the extent that these have been adjusted by any revision to our reasoning and conclusions made in response to submissions from the Parties and interested parties as set out in Sections 7 and 8 below. Our detailed provisional analysis of NCCN 985 and 986 as set out in the Draft Determination is reproduced at Annex 3 below.) In this Section, references to other Sections and Annexes correspond to Sections and Annexes contained in the Draft Determination.

Summary of analytical framework

5.1 This Section sets out a summary of the analysis in Sections 4 and 5 and our provisional conclusions on whether NCCNs 985 and 986 are fair and reasonable.

5.2 In Section 7, we go on to consider the question of repayments, in light of our provisional conclusions set out in this Section.

5.3 In Section 7, we finally assess all of our provisional conclusions against Ofcom's statutory duties and Community requirements to ensure that it is consistent with our obligations, in particular the Community requirements under section 4 of the Act, the duties set out in Article 8 of the Framework Directive (Directive 2002/21/EC) and our general obligations under administrative law.

5.4 From 1 November 2009 BT's new termination charges for 0845 and 0870 calls to numbers hosted on BT's network took effect. These charges were notified in NCCN 985 for 0845 and NCCN 986 for 0870 on 2 October 2009. These NCCNs introduced additional (or variable) termination charges at progressively higher levels in tiers related to the OCP's retail price for such calls. The variable charges are applicable if the OCP's retail price is 12.5ppm or higher (the termination charges are unchanged compared to those previously in place if the OCP's retail price is below 12.5ppm).

5.5 In analysing the matters in dispute we have taken due account of our statutory duties, in particular the effects on competition and consumers of the charging arrangements. We have adopted an analytical framework for assessing the matter in dispute based on three cumulative principles (as set out below). These principles

[123] The text reproduced in this section is identical to that in section 6 of the Draft Determination except in the following respects: i) we have deleted paragraphs 6.1 to 6.3; and ii) we have corrected some minor typographical and formatting errors.

substantively incorporate the six principles of pricing and cost recovery[124] which we have often previously used as a basis for an analytical framework. The three Principles are:

Principle 1: the MNOs should not be denied the opportunity to recover their efficient costs of originating calls to 0845/0870 numbers hosted on BT's network. In the context of this Dispute, we consider that this means:

- it may be fair and reasonable for BT to impose variable termination charges provided the average retention by each of the MNOs (which is the ARP minus the termination charge) is sufficiently large relative to the retention obtained on geographic calls.

Principle 2: The charges in NCCN 985 and 986 should:

- provide benefits to consumers, taking into account (i) Direct, (ii) Indirect and (iii) Mobile tariff package effects; and

- avoid a material distortion of competition among: (i) TCPs; (ii) transit operators; (iii) OCPs in retail services; and (iv) MNOs in wholesale sales to MVNOs.

Principle 3: The charges in NCCN 985 and 986 should be reasonably practicable to implement.

5.6 We have developed and applied these Principles in the context of Ofcom's existing policy for 0845 and 0870 calls. This, in summary, is that all networks should set prices for 0845 and 0870 calls in the same way as local and national calls to geographic numbers. In relation to MNOs, this means for instance that where geographic calls (i.e. mobile-originated calls to fixed geographic numbers, anywhere in the UK) are included in a bundle, then 0845 and 0870 calls should also be included; and where geographic calls are not included in a bundle, and instead charged for on a ppm basis, 0845 and 0870 calls should be charged at the same rate. Although MNOs are not prevented from setting different prices for calls to 0845/0870 numbers than for their geographic calls, if they do so, they are departing from our policy preference.

5.7 Our analysis and provisional conclusions reflect Ofcom's current regulatory policies, where they are relevant. These policies could change in the future. In particular we are currently reviewing the regulatory regime for 08 and 09 numbers in the NGCS Review. This review is considering policy options that depart from the current policies; such possible changes are beyond the scope of the Dispute.

Our provisional conclusions

Assessment of Principle 1

5.8 Principle 1 relates to the ability of OCPs to recover the efficient costs of call origination. We have assessed this by comparing how much money remains with the MNOs for calls to BT's 0845 and 0870 numbers after any termination payments to BT (which we refer to as the retention) compared with the retention on geographic calls. We consider that the cost recovery obtained by the MNOs on geographic calls forms

[124] Cost causation; cost minimisation; effective competition; reciprocity; distribution of benefits; practicability.

the appropriate reference point for cost recovery on 0845/0870 calls, given our current regulatory policies (described above).

5.9 In practice, the MNOs do not align their retail prices for 0845 and 0870 calls with geographic rates, and are therefore not adhering to Ofcom's preferred policy. Calls to these numbers are generally significantly more expensive on average than calls to geographic numbers. At the current prices we therefore provisionally conclude that the MNOs' average retention on 0845 and 0870 prices will be at least as high as their average retention on geographic calls.

5.10 It is clear that no MNO has elected to adopt the approach contemplated in Ofcom's preferred policy outcome. This is an issue that may be covered in the separate, on-going policy project, the NGCS Review.

5.11 We have also considered the MNOs' retention if they were to change their 0845 and 0870 prices and, in particular, if they were to align them with geographic call rates, consistent with our policy preference. We provisionally find that average geographic call rates, taking into account call packages and bundles, are likely to be less than 12.5ppm and hence the relevant comparison relates to the termination rates paid by the MNOs for 0845 and 0870 calls on the bottom tier of charges in NCCNs 985 and 986.

5.12 We consider that for 0870 calls the retention received on the bottom tier, if there is alignment with geographic call prices, would be similar to that on geographic calls, and therefore Principle 1 will be met. This is because BT's 0870 termination rates on the bottom tier are cost-based, like termination rates for geographic calls.

5.13 We consider that for 0845 calls the retention received on the bottom tier, if there is alignment with geographic call prices, is sufficiently large relative to the retention on geographic calls, and therefore Principle 1 will be met. The termination charges for 0845 calls are higher than 0870 and geographic termination rates, because they support a degree of revenue sharing by the terminating provider with the service or content providers who offer services associated with those numbers. The difference in the ppm charges on the bottom tier as between 0845 and 0870 calls is between 0.4ppm and 2.1ppm depending on the time of day/day of week.

5.14 This inevitably leaves less retention for MNOs on 0845 calls than they would be able to make on geographic calls if they treated these two call types the same in their retail pricing. This is an issue common to the MNOs and other OCPs, including fixed line operators, such as BT, where they set the same prices for these calls as geographic calls. Lower retention on 0845 calls may therefore be a necessary consequence of revenue-sharing and Ofcom's policy preference to align the treatment of 0845 calls with geographic calls. Our view is that there is nothing inherently problematic with retentions on 0845 being lower, since the policy allows the OCP the opportunity to recover its efficient costs of origination from the combination of 0845, 0870 and geographic calls. Therefore, Principle 1 is satisfied if the retention on 0845 calls is no more than 0.4ppm to 2.1ppm lower than the retention on geographic calls - this is the meaning of "sufficiently large" in the wording of Principle 1.

5.15 In any case, it is open to the MNOs to choose not to align their prices for 0845 calls with geographic rates if they wish to achieve at least as large a retention. Despite it being inconsistent with our policy preference, there is no regulatory obligation that prevents MNOs from doing so.

Our provisional conclusion on Principle 1

5.16 MNOs have the opportunity to earn a retention that is sufficiently large relative to their retention on geographic calls, including if they align their 0845 and 0870 prices with geographic rates consistent with our policy preference. Accordingly our provisional conclusion is that Principle 1 is met by NCCNs 985 and 986 for 0845 and 0870 calls respectively.

Assessment of Principle 2

5.17 Principle 2 relates to consumer and competition effects. In our analysis we have assessed the Direct, Indirect and Mobile tariff package effects on retail consumers of mobile-originated 0845/0870 calls (i.e. the customers of the MNOs) and the Indirect effect on NTS service providers. In our analysis of competition effects we have analysed the impact across four sets of services: (i) NTS hosting among TCPs; (ii) transit; (iii) OCPs' retail services; and (iv) MNO hosting of MVNOs.

Consumer effects

<u>Direct effect</u>

5.18 In light of the available evidence we consider that the direction and magnitude of the Direct effect on consumers in terms of 0845 and 0870 call prices is uncertain.

5.19 The MNOs have not yet decided their pricing responses to NCCNs 985 and 986. Generally they suggest that their prices will have to go up because of the increased level of BT's termination charges, although they suggest that it could be the prices of other mobile services that may rise (we discuss the implication for the prices of other mobile services below under the Mobile tariff package effect).

5.20 BT's theoretical economic analysis appears to indicate that NCCNs 985 and 986 will both provide an incentive for MNOs to reduce average retail prices from current levels. We recognise that BT has identified a mechanism that, under certain assumptions, may result in a reduction in retail prices for 0845 and 0870 calls as BT claims. In essence, there are two effects of NCCNs 985 and 986 on MNOs' incentives to change their 0845 and 0870 call prices:

a) The increase in the level of the termination charges in NCCNs 985 and 986 compared to the previous charges. On its own, this provides an incentive on the MNOs to raise their 0845/0870 call prices.

b) The structure of the termination charges in NCCNs 985 and 986, i.e. that the termination rate increases with the MNO's retail price. On its own, this may provide an incentive on the MNOs to reduce their 0845/0870 call prices (to the extent that price changes are reflected in changes in the average retail price and reduce the relevant termination charge tier). This is because the profitability of a price rise by the MNO is reduced and the profitability of a price fall is increased (compared to the situation without a linkage between the termination rate and the retail price).

5.21 MNOs may have an incentive to reduce their 0845/0870 call prices in response to NCCNs 985 and 986 if (amongst other things) the termination rate increases sufficiently rapidly with the retail price so that the impact of the *structure* of the termination charge schedule to reduce retail prices outweighs the impact of the increase in the *level* of the termination charge to raise retail prices. We also note that the views of the MNOs generally focus on the impact of the level of BT's termination charge, but do not seem to take into account the impact of the structure of charges in NCCNs 985 and 986.

5.22 In our view, BT's analysis relies heavily on a number of key assumptions, such as the sensitivity to price of the volume of 0845/0870 calls. BT does not provide any relevant evidence to support these assumptions in the context of 0845 and 0870 calls. Furthermore, BT's assumptions on the price sensitivity of mobile-originated 0845/0870 calls appears to be contradicted by the evidence from the MNOs, based on their experience in the mobile market.

5.23 In addition, we do not consider that BT's analysis is comprehensive or robust, as there are a number of potentially important considerations that have not been fully taken into account. These include the impact on the Direct effect of MNOs offering multiple price points for 0845/0870 calls, competitive interactions between MNOs, substitution between 0845/0870 calls and other services, profit maximisation by BT, the impact of changes in the prices of the MNOs' other services, and the inability of the MNOs to set different 0845/0870 prices for calls to different TCPs.

Mobile tariff package effect

5.24 As regards the potential effect on the prices set by the MNOs for other mobile services, i.e. the Mobile tariff package effect, we note that the effect of NCCNs 985 and 986 is to reduce the MNOs' profit from 0845 and 0870 calls, because of the additional variable termination charge. Therefore, as a result of BT's higher termination charges, it is likely that the prices for other mobile services would go up. The MNOs have told us that they may seek to change the prices for other mobile services, e.g. this could result in fewer inclusive minutes in bundles or more expensive handsets.

Indirect effect

5.25 The new charging structure may have positive Indirect benefits for consumers, in that the additional revenues generated by BT will be available to improve BT's hosting services or passed through over time to 0845/0870 service providers to improve their service to callers. There have been developments in the last few months in the NTS termination/hosting market, with BT acting to address barriers to other TCPs being able broadly to replicate its tiered termination charging structure and other TCPs choosing to introduce termination charges linked to the OCP's retail prices (these developments are discussed in further detail below). We consider that these recent changes mean that there may be sufficient competitive pressure on BT to ensure that some benefits are passed on over time to SPs. There is likely to be a delay before such competitive pressure may be realised while TCPs make changes to their billing systems and processes, and while contracts with SPs are re-negotiated.

5.26 However, for consumers of 0845/0870 calls to benefit from the Indirect effect, it is also necessary that SPs improve the availability or quality of the services that they offer. The evidence currently available to us suggests that it is unclear that this will necessarily occur. This is because many SPs are likely to have chosen these number ranges in large part due to the call price they expect OCPs to offer, not because of revenue share

Provisional conclusion on consumer effects

5.27 Table 6.1 below summarises our analysis of the direction of the effects on consumers, taking into account both the effects at the originating end (Direct and Mobile tariff package effects) and the terminating end (Indirect effect). As the Table shows, the likely overall effect depends on whether we consider it is more likely that 0845/0870 prices will fall, stay the same or increase.

Table 6.1: Summary of direction of effects on consumers

		0845/0870 prices fall	0845/0870 prices unchanged	0845/0870 prices rise
(i)	Direct effect	Positive for consumers	No effect	Negative for consumers
(ii)	Mobile tariff package effect	Negative	Negative	Negative
(i) & (ii)	Overall effect at originating end	Positive, if the Direct effect is sufficiently large	Negative	Negative
(iii)	Indirect effect	Positive for SPs, but uncertain for callers	Positive for SPs, but uncertain for callers	Positive for SPs, but uncertain for callers
(i), (ii) & (iii)	Overall across both originating and terminating ends	Positive¸ if the Direct effect is sufficiently large	Negative	Negative

5.28 The analysis of the Direct effect is important to our conclusion on the overall effect of BT's NCCNs 985 and 986 on consumers. Our provisional conclusion on the Direct effect is that its direction and magnitude is uncertain (as discussed above). As set out in Table 6.1, for the overall effect on consumers to be positive, the Direct effect would not only need to be positive for consumers but also sufficiently large, given the negative Mobile tariff package effect[125] and uncertain Indirect effect for callers.

5.29 On balance, therefore, we provisionally conclude that the risk of an adverse effect on consumers suggests that NCCNs 985 and 986 do not satisfy Principle 2. However, we note that this judgement is finely balanced.

Competitive distortion

<u>TCPs</u>

5.30 We have previously found that there were material barriers to other TCPs broadly replicating BT's tiered termination charges (e.g. in the NCCN 500 Decision and the 080 Determination). However, BT has now made available a cascade billing solution which allows other TCPs to introduce charging structures based on the retail prices

[125] Our policy on retail charging for 0845 and 0870 calls means that we place less weight on the Mobile tariff package effect in our assessment than the Direct effect. This reduces the size of the positive Direct effect required for the overall effect on consumers to be positive.

of the OCP, if BT carries the traffic as a transit operator. BT has also indicated to us that it intends to publish information on the charging tier that it applies to each of the MNOs, to assist other TCPs to bill and charge correctly. Two other TCPs (IV Response and Gamma) have now introduced termination charges that link the termination rate and the OCP's retail price. One major TCP [✂] told us that it intends to introduce termination rate schedules along similar lines.

5.31 Three other TCPs [✂] have told us that they have no immediate plans to introduce a similar charging structure. However, [✂] confirmed that they would once it becomes possible for them to do so, and [✂] are keeping their plans under review. There are incentives (greater revenue and an improved competitive position) for other TCPs to adopt similar charging structures, either independently of BT or making use of information provided by BT in those cases where BT is the transit operator. On this basis, given the evidence now available, the ability of other TCPs broadly to replicate BT's termination rate schedules implies that the risk of a distortion of competition among TCPs in NTS hosting services is relatively low. We note that this is as a result of the recent developments in the market described above.

<u>Transit</u>

5.32 The issue of foreclosure in the transit market has been raised by [✂]. Our recent engagements with stakeholders indicate there are no insurmountable implementation barriers in implementing a ladder pricing methodology for transit operators. However, there are concerns on transit providers' ability to identify the OCP of some calls to bill OCPs accurately, for example, when calls arrive via another transit provider who does not identify the OCP. This may lead to competitive distortion in the transit market by encouraging OCPs to choose inefficient routing choices to avoid the payment of higher termination charges.

<u>OCP's retail services</u>

5.33 One concern raised is that the introduction of NCCNs 985 and 986 may have an impact on the range of mobile packages available, by making uneconomic certain packages including lower prices for 0845/0870 calls, if the termination charge paid to BT exceeds the MNO's average revenue per minute. We would regard it as a significant concern if NCCNs 985 and 986 had this effect. However, we note that the argument put forward by the MNOs is incomplete, because it does not take into account that there could be an incentive to retain lower-priced packages to avoid an increase in the MNO's average retail price and potentially a higher termination charge paid to BT. Therefore, we do not currently place great weight on this potential concern.

5.34 Another concern is about uncertainty over BT's termination charges and future variations affecting MNOs' willingness to offer new and innovative tariffs. We recognise that certainty is important for business planning. However, we note that this concern is not unique to BT's termination charges for calls to 0845/0870 numbers, as there is the potential for other OCPs to face uncertainty about termination charges, including the uncertainty faced by OCPs (such as BT) in relation to changes in mobile termination charges. In addition, the significance of the concern is likely to depend on the way in which the average retail price is derived and updated over time, and the frequency with which BT might change its termination charges.

MNO hosting of MVNOs

5.35 It has been put to us there could be a distortion in the wholesale access and origination market as a result of the link between MNO retail prices and MVNO wholesale/termination charges. However, there may be ways for the MNO to mitigate an adverse effect, either through its own 0845/0870 retail pricing – e.g. by reducing its charge (which would be in line with our policy preference) – or through the arrangements it has in place with the MVNO – e.g. charging wholesale rates to MVNOs relevant to their specific retail prices (although at least one MNO has suggested that its billing system is not designed to deal with such complexity). In any case, the size of any distorting effect depends on the importance of 0845 and 0870 calls to MVNOs, which account for a small proportion of total mobile-originated voice minutes. It is possible therefore that any effects will be relatively small and/or short-lived and avoid material distortion to the incentives of MVNOs to switch between MNOs.

Provisional conclusion on competition effects

5.36 Our provisional conclusions on the four potential areas of concern are as follows:

a) We consider the risk that NCCNs 985 and 986 would lead to a material distortion of competition among TCPs is relatively low.

b) Whilst we consider that there are no insurmountable implementation barriers for transit operators in implementing a ladder pricing methodology, there are concerns about the potential distortion of OCPs' choice of transit provider (when calls arrive via another transit provider who does not identify the OCP).

c) We recognise that there are possible concerns about distortions in competition between MNOs/MVNOs in retail services, in particular about disincentives to pricing innovations due to a lack of certainty about termination charges and potential for the range of packages to be reduced if lower-priced packages are made uneconomic.

d) We do not consider that NCCNs 985 and 986 will necessarily provide a significant distortion to competition in the provision of wholesale access and origination by MNOs to MVNOs.

Our provisional conclusion on Principle 2

5.37 Taking the issues raised by our analysis of consumer benefits and competitive distortion in the round, we consider that, on the evidence currently before us, Principle 2 is not sufficiently likely to be met.

Assessment of Principle 3

5.38 Principle 3 states that the charges in NCCNs 985 and 986 should be reasonably practicable to implement. It is clear from the submissions that the Parties in the Dispute have failed to have any meaningful dialogue on the issue of ARPs as discussions failed on the prior and more fundamental issues regarding the nature of the proposed charges.

5.39 We consider that BT's attempts to calculate average retail prices for each MNO are too simplistic, because (according to its description to us) it has simply picked a single price for each of 0845 and 0870 calls from a single tariff for each MNO.

5.40 Whilst we recognise that there are some practical problems that would need to be addressed, we do not accept the position of some MNOs that deriving a reasonable estimate of their own average retail rate is not practicable. We consider that it is practicable to identify a methodology to derive a reasonable estimate of the MNO's average retail price that is fit for purpose. [✄] has already provided us with its average retail price for each of 0845 and 0870 calls (excluding wholesale partners). [✄] have also provided estimates relating to a substantial proportion of their customer base. [✄] mainly charges [✄]. We also note that BT conducts an analogous calculation annually on its NTS average retail prices.

5.41 We consider that it should be possible to identify an average that is sufficiently accurate for these purposes. However, there are very many different ways in which such a calculation could be undertaken. It is our view that, if we were to conclude that NCCN 985 and 986 were fair and reasonable, it would be for the Parties to conduct negotiations to agree a method of calculating an average retail price that is fit for purpose. Any method should be reliable, transparent, compliant with competition law and avoid immaterial issues which would increase complexity, but have no material impact on the average retail rate.

5.42 However, we are also minded to consider that if an MNO is not willing to agree a suitable method to derive and update its average retail call price, BT would be entitled to rely on a reasonably derived estimate of the applicable average retail call price using publicly available information. In our view, BT should at the minimum establish the range of publicly available prices offered by the MNO and select a figure for the average retail price from within this range using reasonable assumptions (e.g. a price at or near the top of the range should be supported by evidence why this was justified) and taking into account reasonable and verified comments made the MNO (e.g. about the relative weights to be attached to different prices).

5.43 We recognise that the calculation of an ARP will entail some cost, depending on a range of factors, such as the calculation method, the frequency with which it is updated, the nature of any verification procedures, the possible involvement of third parties etc. However, we would urge the Parties, in negotiations about the methodology, to ensure that the cost is minimised (given the need for an ARP that is fit for purpose), does not place undue burden on the Parties, and remains practicable to implement. Since the Parties have not yet engaged in any meaningful discussions on this issue, we consider that it would be premature for us to give direction on where these costs should fall and our provisional view is that this remains a matter for negotiation between the Parties.

Our provisional conclusion on Principle 3

5.44 On the derivation of average retail prices, our provisional conclusion is that NCCNs 985 and 986 should be practicable to implement, but that we are unable to reach a firm conclusion on whether this is actually the case because further negotiation is required between the Parties. We note, however, that were we finally to determine that Principles 1 and 2 were met, we would not propose to find that the NCCNs were not fair and reasonable simply because this further negotiation needs to take place, given our view that there is a realistic prospect that the Parties should be able to agree on a practical methodology to enable implementation.

5.45 However, the new arrangements proposed under BT's NCCNs potentially give rise to considerable complications and a number of issues which have not been fully resolved. For example, different OCPs may be charged different termination charges by the same TCP, and the same OCP may also be charged different termination charges by different TCPs. In addition, there are practical issues to be resolved, such as the implications of ported numbers at the OCP end and the costs to the OCPs of calculating their average retail prices. There is also the potential for wider implications, such as the application of a similar approach to other types of fixed or mobile termination, not just 0845 and 0870 calls. Were we to conclude that BT's NCCNs 985 and 986 satisfied Principle 2 (contrary to our provisional conclusion above) as well as Principle 1, we would need to give further consideration to the risk of unintended, unforeseen or wider implications that are potentially undesirable.

Other analytical issues

Discrimination

5.46 The MNOs argue that the terms of NCCNs 985 and 986 are discriminatory, and that it is inherently wrong for BT to price discriminate, i.e. set different termination rates to different MNOs.

5.47 Our view is that setting different termination rates for 0845 and 0870 calls to MNOs is not in principle per se discriminatory, but depends on the facts of each case (which we have assessed in Section 5).

<u>BT's termination charges relative to the costs of termination</u>

5.48 The MNOs argue that it is not reasonable for BT to earn additional revenues via NCCN 985 and 986 because it is already recovering its costs of terminating 0845 and 0870 calls.

5.49 We consider that, to the extent that revenue share is considered reasonable in our analysis, the appropriate comparison is between termination cost and the net termination charge, not the gross termination charge (as discussed above in paragraphs 4.45 to 4.47). The gross termination charge is the rate actually levied on the OCP by the TCP, in this case the charges specified in NCCNs 985 and 986. The net termination charge is the gross charge less any revenue share paid to the SP. If revenue share is considered reasonable, then the revenue that the TCP uses to recover its costs of termination is the net termination charge (not the gross charge). Therefore, although it is clear that the gross termination charges in NCCNs 985 and 986 (above the bottom tier) are in excess of the benchmark for the cost of termination, the implication of this comparison depends on whether revenue share (or in the case of 0845 calls, increased revenue share) is considered reasonable or not on 0845/0870 calls. This includes the assessment of the Indirect effect in Section 5 (which could imply an increase in revenue share payments).

<u>BT's contemporaneous evidence for introducing NCCNs 985 and 986</u>

5.50 In its submission, BT states that it designed NCCNs 985 and 986 to encourage high-charging OCPs to reduce their retail charges for 0845/0870 calls.

5.51 BT does not refer to any specific evidence in support of this claim. None of the contemporaneous evidence available to us, including BT's internal authority paper, provides any support for it. The contemporaneous evidence is consistent with BT seeking to obtain revenue from OCPs to increase its profits.

Overall conclusion on Principles

5.52 Taking into consideration our assessment across the three Principles, our provisional conclusion is that it is not fair and reasonable for BT to apply new termination charges for calls to 0845 and 0870 numbers hosted on its network, which are based on the level of the retail charge made by OCPs for calls to these numbers, as specifically set out in BT's NCCNs 985 and 986 dated 2 October 2009. This is primarily on the basis of our provisional view that Principle 2 is not sufficiently likely to be met, given the evidence currently available to us.

Section 6

Summary of the Supplementary Consultation

Summary of reasoning and revised provisional conclusions in the Supplementary Consultation

6.1 This Section briefly summarises the Supplementary Consultation. This summary is provided to assist the readers of this Determination and does not set out all facts or reasoning contained in the Supplementary Consultation. These facts and reasons are contained in the Supplementary Consultation itself (the main body of which, excluding Annexes, is reproduced at Annex 4 below).

6.2 In the Supplementary Consultation we maintained the provisional conclusion that it is not fair and reasonable for BT to apply new termination charges for calls to 0845 and 0870 numbers hosted on its network, which are based on the level of the retail charge made by OCPs for calls to these numbers, as specifically set out in BT's NCCNs 985 and 986 dated 2 October 2009. We reached this provisional conclusion on the basis that the charges do not satisfy Principle 2 and Principle 3 on the evidence that was available to us.

6.3 We have now received submissions from the Parties and interested parties on the Supplementary Consultation. We describe these submissions and set out our response to them in Section 8 below.

Specific issues addressed in the Supplementary Consultation

6.4 We received comments on the Draft Determination and new evidence from the Parties regarding the Direct effect, which led us to amend our provisional conclusion on the likely direction of changes in prices in response to NCCNs 985 and 986. We are now of the view that NCCNs 985 and 986 are more likely to lead to a reduction in 0845/0870 prices than a price increase. However, the magnitude of any such price reductions remains unclear. We considered it appropriate to give the Parties (and interested parties) an opportunity to comment on the revised evidence and our analysis of it.

6.5 Our conclusion on the practicability of MNOs deriving average retail prices remains unchanged from the Draft Determination (see paragraph 5.40 above). However, parties to the Dispute also raised concerns regarding other aspects of Principle 3, such as practical complexities, the wider implications and unintended or unforeseen effects that might arise if we were to find that NCCNs 985 and 986 are fair and reasonable. We broadly shared the concerns that had been expressed, particularly in light of the substantial change in industry arrangements that would be involved in implementing NCCNs 985 and 986 in advance of the conclusion of Ofcom's current NGCS Review, and the uncertainty of possible risks to consumers.

Principle 2: The Direct effect on consumers

6.6 In response to the Draft Determination we received submissions in relation to the Direct effect from BT, including a further report prepared by Professor Dobbs ("Dobbs

4"); from the MNOs, including the Frontier Report prepared on behalf of Vodafone, O2 and H3G; and from other interested stakeholders.

6.7 We first considered the Dobbs 4 report and set out our views on this. Dobbs 4 extends the framework used in Dobbs 3. We understood that the purpose of this additional analysis was to respond to the concerns raised in the Draft Determination in relation to the robustness and comprehensiveness of BT's economic analysis.[126]

6.8 We then summarised the key issues raised by BT, the MNOs and the other interested stakeholders and provided our views on them in paragraphs 2.37 to 2.117 of the Supplementary Consultation. The key issues that we considered were:

(i) empirical evidence in relation to BT's models;

(ii) elasticity of demand;

(iii) multiple price points;

(iv) lack of competitive interactions and prices of other services;

(v) profit maximisation by BT; and

(vi) other issues.

6.9 Following consideration of these issues we revised our view on the direction of the Direct effect. We now consider that NCCNs 985 and NCCN 986 are more likely to lead to price reductions rather than price increases for 0845/0870 calls. However, we did acknowledge that the evidence available to us did not allow us to exclude the possibility that the proposed tariffs could result in an increase in 0845/0870 call prices.

6.10 We then considered the magnitude of the Direct effect in greater detail. BT partially addressed some of our concerns in the Draft Determination, however, we do not accept that BT's models are sufficiently comprehensive or reflective of real-world pricing decisions or that their predictions on the magnitude of the Direct effect are robust. These considerations underpinned our provisional conclusion that the magnitude of the Direct effect remains uncertain.

Provisional conclusion on Principle 2

6.11 We recognised there was a possibility that consumers could benefit from NCCNs 985 and 986, however, we also recognised the risk of harm to consumers from changing the industry arrangements from those in place before these NCCNs, particularly in light of our provisional conclusions on the Mobile tariff package effect. Given the uncertainty which we have identified as to whether NCCNs 985 and 986 would result in a net benefit, or a net harm to consumers, we considered it reasonable, in light of our overriding statutory duties to further the interests of consumers, to place greater weight on this potential risk of harm. Our provisional conclusion, therefore, was that Principle 2 is not sufficiently likely to be met.

[126] A summary of the additional analysis in Dobbs 4 and our views on this was set out in the Supplementary Consultation at paragraphs 2.18 to 2.36 (and is reproduced at Annex 6); Dobbs 4 was included at Annex 1 of the Supplementary Consultation and is not reproduced in this document.

Principle 3: unintended, unforeseen or wider implications

6.12 In the Draft Determination we discussed the risk of unintended, unforeseen or wider implications in the context of NCCNs 985 and 986 representing a break with industry convention and previous regulatory practice.

6.13 In response to the Draft Determination, a number of submissions commented on these issues which led us to change our view on these in relation to Principle 3. Broadly speaking, these issues were that:

(i) NCCNs 985 and 986 were a departure from existing pricing practice;

(ii) a number of practical difficulties of implementation remained unresolved;

(iii) the introduction of NCCNs 985 and 986 would add significant additional complexity (in part reflecting the implementation issues);

(iv) there being potential for significant wider implications of our decision in the Dispute. It was noted that the NGCS Review was ongoing and, given a free choice, a more appropriate forum to assess substantial and important changes in termination rates with wide-ranging implications. However, we still had a statutory obligation to resolve this Dispute; and

(v) the potential for a major and potentially disruptive set of changes in industry arrangements to implement NCCNs 985 and 986, which may subsequently be rolled back or substantially affected after completion of the NGCS Review within a year.

Provisional conclusion on Principle 3

6.14 We concluded that these issues were relevant to our assessment of Principle 3 because we were unable to conclude that there would be clear and unequivocal benefits to consumers from NCCNs 985 and 986 (on the basis that we did not consider Principle 2 to be met). If, conversely, we could conclude that NCCNs 985 and 986 would generate such benefits, we might place less weight on the potential risks arising from these issues. In light of this analysis and the uncertainty we identified as to the practical effects of NCCNs 985 and 986, we provisionally concluded that Principle 3 is not satisfied.

Our response to remaining submissions on the Draft Determination

6.15 The Supplementary Consultation addressed only specific submissions on the Draft Determination. A number of additional submissions, which we refer to as "the remaining submissions", were not addressed in this document. Specifically, the Supplementary Consultation did not address submissions made in respect of issues falling within the following categories:

(i) submissions on Ofcom's policy preference in relation to the pricing of 0845/0870 calls;

(ii) submissions on the scope of the Dispute;

(iii) submissions on Ofcom's analytical framework as set out in Section 4 of the Draft Determination;

(iv) submissions on Ofcom's analysis of Principle 1;

(v) submissions on Ofcom's analysis of Principle 2, regarding the Mobile tariff package effect, the Indirect effect and competition effects;

(vi) submissions on Ofcom's analysis of Principle 3, regarding the practicability of deriving the average retail price, MNO pass-on of charges to MVNOs, porting at the OCP end etc.

6.16 The submissions made on these issues are summarised and addressed in Section 7 below.

Section 7

Summary of the remaining submissions on the Draft Determination and Ofcom's response

Purpose of this Section

7.1 This Section summarises the Parties' and interested parties' submissions on the Draft Determination that were not considered in our Supplementary Consultation and our responses to these submissions.

7.2 Specifically, this Section considers submissions and our response in relation to each of the following issues:

(i) Ofcom's policy preference for the pricing of 0845 and 0870 calls (see paragraphs 7.3 below);

(ii) the scope of the Dispute (see paragraphs 7.10 below);

(iii) Ofcom's analytical framework (see paragraphs 7.14 below);

(iv) the relevance and specification of Principle 1 (paragraph 7.22);

(v) the specification of Principle 2, including:

- Direct effect (paragraph 7.34);
- Mobile tariff package effect (paragraph 7.36);
- Balance between Direct and Mobile tariff package effect (paragraph 7.86);
- Impact on competition (paragraph 7.90)

(vi) the six principles of pricing and cost recovery (paragraph 7.94);

(vii) benchmarking (paragraphs 7.104);

(viii) other analytical issues, including:

- Discrimination (paragraph 7.109);
- Regulation through the back door (paragraph 7.119);
- Application of BT's approach to other markets (paragraph 7.125);
- Comments on the submission by Dr Maldoom (paragraph 7.127);

(ix) Ofcom's provisional analysis of NCCN 985 and NCCN 986, including:

- Principle 1;

- Principle 2:
  - Mobile tariff package effects (paragraph 7.141);
  - Indirect effect – SPs (paragraph 7.154);
  - Indirect effect –callers (paragraph 7.166);
  - Conclusion on consumer effects (paragraph 7.169);
  - Effect on competition among TCPs (paragraph 7.172)
  - Competition in transit (paragraph 7.176);
  - Competition among OCPs (paragraph 7.183);
  - Competition in MVNO hosting (paragraph 7.190);
- Principle 3:
  - Average price calculation;
  - MNO pass-on to MVNOs;
  - Porting at OCP end;
  - Calls from national roaming partners; and
  - Complexity.

Ofcom's policy preference for the pricing of 0845/0870 calls

Submissions

7.3 In their response to the Draft Determination, T-Mobile/Orange and Vodafone question Ofcom's decision to place weight upon a non-binding policy preference about the retail pricing for calls to 0845 and 0870 number ranges in the context of a dispute resolution process. Vodafone argues that these policy preferences cannot have a binding effect on the retail pricing of MNOs and that Ofcom's policy preference "*could not actually oblige any operator to adopt a commercial strategy that gave effect to that policy*".[127]

7.4 T-Mobile/Orange states "*[that] preference is not embodied in the designation of 0845 and 0870 calls in the Numbering Plan*".[128] T-Mobile/Orange also argues that "*Ofcom has taken an arbitrary and novel position that termination charges should be set so as to encourage revenue sharing with 0845 and 0870 SPs*"[129] without justifying that approach or explaining why this dispute is the appropriate way in which to achieve that end.

7.5 O2 argues that including revenue share numbers, such as 0845, in bundles will have the effect of reducing the size of the bundles they offer which will put them in a worse

[127] Vodafone Response to the Draft Determination, paragraph 5.2.
[128] T-Mobile/Orange Response to the Draft Determination, page 8.
[129] T-Mobile/Orange Response to the Draft Determination, page 2.

competitive position compared to their rivals and also result in a worse service for the majority of their customers. O2 note that 0845 numbers are often used for international call forwarding services, with the revenue share often funding the onward routing of such calls. When O2 included these calls in their bundles, "*these tariffs attracted a significant number of customers who fully utilised their bundles, exclusively by making calls to these services*".[130] In addition, O2 said it received no other revenue streams from these customers. The effect of these bundles being used in this manner was such that it "*upset the cost/revenue balance of the tariffs. Therefore, O2 was in the position of having to reduce the sizes of the bundles, or exclude number translation services numbers from retail call bundles*".[131] O2 chose to exclude these calls. O2 argues that if they followed Ofcom's policy preference and 0845/0870 calls were included in bundles, they believe the size of call bundles would reduce, and this would be detrimental to consumers. They believe this has not been taken into consideration in the Draft Determination.

Our view

7.6 We disagree with T-Mobile/Orange's and Vodafone's claim that we should not place any weight upon a non-binding policy preference about the retail pricing for calls to 0845 and 0870 numbers. The basis for our policy preference is set out in paragraphs 2.39 to 2.55 above. We consider that, although this policy preference is not a binding regulation, it represents a desirable outcome and promotes the interests of consumers, and therefore, it is a relevant consideration in our resolution of this Dispute.

7.7 Contrary to the comments of T-Mobile/Orange, we have not taken an arbitrary or novel position that termination charges should be set as to encourage revenue sharing with 0845 and 0870 SPs. Termination charges for NTS numbers that encouraged revenue share would not be novel (see Section 2 above) – indeed termination charges for 0845 calls before NCCNs 985 and 986 were set to facilitate revenue share. Our view is not arbitrary as it is based on an analysis of the facts, including the effects on competition and consumers. In any event, this is not a live issue given our conclusions in relation to the Dispute, and so we do not consider it further.

7.8 We note O2's comments that including 0845 and 0870 numbers in call bundles could lead to the risk that some of these numbers and tariffs are subject to arbitrage leading to it being uneconomic for them to be included within bundles. As discussed at paragraphs 5.22 to 5.26 of the Draft Determination (we reproduce Section 5 of the Draft Detemination, including these paragraphs, in Annex 3 below), if an MNO followed our policy preference and included all 0845/0870 calls in bundles alongside geographic calls, then we would expect it to be on the bottom tier of BT's termination charges, in which case the arbitrage opportunity would not arise to any greater extent than prior to NCCNs 985 and 986 (because there would be no revenue share on 0870 and no more revenue share on 0845 than already existed).

7.9 We note O2's comments that the size of bundles may fall as a result of BT's charging structure, as the cost/revenue balance is upset. However, as we set out in paragraphs 4.14 to 4.19 above, we have considered the issue of cost recovery by MNOs. We note that if MNOs were to follow Ofcom's policy preference for these number ranges they would be able to avoid the higher termination charges

[130] O2 Response to the Draft Determination, page 3.
[131] O2 Response to the Draft Determination, page 3.

introduced by NCCNs 985 and 986, and therefore the impact on the cost/revenue balance of the bundle would be reduced.

Scope of the Dispute

Submissions

7.10 H3G comments that Ofcom has excluded the effects of porting of numbers between TCPs from the scope of the Dispute partly because Ofcom said in paragraph 3.39 of the Draft Determination that this issue had not been raised by any Parties to the Dispute. H3G argues this reasoning is not correct as they raised this issue on three occasions (i) via their dispute submission; (ii) email correspondence regarding queries raised by Ofcom; and (iii) their response to Ofcom's draft Section 191 request.[132]

7.11 T-Mobile/Orange argues that Ofcom has wrongly failed to consider the issue of discrimination to be part of the scope of this dispute.

Our view

7.12 In paragraph 3.39 above we noted that none of the Parties has raised the issue of numbers ported between TCPs as regards the 'porting differential', i.e. the specific concern raised by C&W (see also paragraph 3.34(iii) above). We acknowledge that H3G did raise the issue of porting between TCPs in its submission, subsequent emails and in their response to the draft information request, but only as regards a different issue, i.e. difficulties in calculating the ARP. Furthermore, we consider that our comment at paragraph 5.318 of the Draft Determination, about the calculation of an average retail price for BT-terminated 0845/0870 traffic is also applicable to the alleged difficulties from porting at the TCP end raised by H3G.

7.13 We do not agree with T-Mobile/Orange that the issue of discrimination was excluded from the scope of the Dispute, as we have considered this issue in paragraphs 4.87-4.91 above and in our analysis of the effects on consumers and competition in Section 5 above.

Ofcom's analytical framework

Submissions

7.14 O2 does not agree that the three cumulative Principles applied in the Draft Determination are necessarily the correct framework for this Dispute, having been drafted in relation to Ofcom's purported 080 policy.[133]

7.15 T-Mobile/Orange also does not accept or endorse the analytical framework of the three Principles applied by Ofcom. It argues that these principles arbitrarily and wrongly focus on MNOs' costs, revenues and retention rather than the costs of BT, the party providing the service which is being charged for and which is the subject matter of this dispute.[134]

[132] H3G Response to the Draft Determination, page 5.
[133] O2 Response to the Draft Determination, page 1.
[134] T-Mobile/Orange Response to the Draft Determination, page 12.

7.16 The Frontier Report (jointly commissioned by O2, Vodafone and H3G) notes that 0845/0870 calls are likely to provide an example of a two-sided market and, since there are two relevant groups of consumers, it is in principle necessary to consider the costs and benefits of both callers and SPs.[135] In particular, Frontier Economics argues that the efficient outcome of any changes would depend on (i) the costs on both sides of the market i.e. OCPs, TCPs and SPs; and (ii) the benefits for the two groups of consumers (mobile callers and SPs).[136]

Our view

7.17 In relation to O2's response, we believe that the three Principles are the correct framework because, as set out in paragraph 4.62 above, we consider that there is significant overlap in the issues that need to be examined between this Dispute and the 080 Determination. We note in paragraph 4.62-4.63 above that there are some material differences in the detailed specification of Principle 1 to reflect the different circumstances in this Dispute i.e. the detail of the policy preference is different and this is reflected in the different application of Principle 1.

7.18 In response to T-Mobile/Orange's argument, as set out in paragraphs 4.5-4.9 above, for 0845/0870 calls there are two types of consumer at either end of the call (the customers of the OCP) and the call recipient at the terminating end (the NTS SP, which is the customer of the TCP). The position of both types of consumers is relevant to our consideration of our statutory duties. For this reason, we needed to consider the impact of the NCCNs 985 and 986 in relation to both types of consumer and it was not appropriate to focus just on one end of the call i.e. the termination end.

7.19 This is especially so because SPs choose 0845/0870 numbers (rather than a different NTS or geographic number) because these numbers provide a price signal to callers. When OCPs charge more for calls to these numbers, this could adversely affect both callers and SPs. However, the OCP does not have an incentive to take this negative effect into account because the SP is the customer of the TCP rather than the OCP, i.e. there is an externality.

7.20 Whilst Principle 1 focuses on the MNO's cost and retention, the purpose of that analysis is not to limit MNOs to cost recovery only, but to ensure the NCCNs *at least* permit reasonable cost recovery (see paragraph 5.18 of the Draft Determination). Principles 2 and 3 take into account the effects at both the originating and terminating ends of the call. As explained at paragraphs 4.45-4.47 and 4.96-4.97 above, this includes the analysis of the costs and revenues of BT (and other TCPs).

7.21 Our approach thus accords with the Frontier Report on this issue, in that we consider the efficient outcome of any changes would depend on (i) the costs on both sides of the market i.e. OCPs, TCPs and SPs; and (ii) the benefits for the two groups of consumers (mobile callers and SPs). This is explicit in Ofcom's analytical framework in Section 4 above.

[135] The Frontier Report, paragraphs 7 and 8.
[136] The Frontier Report, paragraph 15.

The relevance and specification of Principle 1

Cost recovery

Submissions

7.22 Both T-Mobile/Orange and Vodafone question the relevance of retail retention in Principle 1 (rather than termination costs).[137]

7.23 H3G is concerned about the application of Principle 1. It considers that it is manifestly unfair that, as a matter of policy, BT should be free to seek to recover a margin on the provision of 0845/0870 origination via its commercial arrangements with service providers while MNOs are denied the opportunity to do any more than recover costs.[138]

7.24 BT rejects Principle 1 for the following reasons. Firstly, as set out in its Notice of Appeal to the CAT in the 080 Determination,[139] it argues that there is no legal basis for such a principle, which does not appear in Section 192 of the 2003 Act. Second, it argues that Principle 1 has no proper economic foundation – for the reasons set out by Dr Maldoom in BT's 080 submissions. It further argues that the fact that Ofcom adapts and amends the specification of Principle 1 between disputes demonstrates its lack of generality. Principle 3 has this form of generality but Principle 1 does not. BT then adds that there is no basis for assuming it is necessary or economically rationale for retentions across geographic and 0845 calls to be equalised or one to be used as a benchmark for the other.

7.25 BT contends that it is not at all clear what Ofcom means by 'sufficiently large' other than what appears to amount to a subjective view by Ofcom on retentions being 'significantly higher' (see paragraph 5.30 of the Draft Determination) or 'generally higher' (see paragraph 5.35 of the Draft Determination) than geographic call price equivalents.[140] It argues that Principle 1 is arbitrary in that it is represented as a binding constraint on BT's behaviour but not that of the MNOs. Ofcom could equally have set out constraints for all parties in the 0845 value chain to ensure that prices are 'reasonable' to end-users. On this latter issue, it asks whether or not Ofcom regards current prices for 0845 from the MNOs as 'reasonable' or not.

Our view

7.26 In relation to the arguments of T-Mobile/Orange and Vodafone, our views on this issue are discussed in paragraphs 7.18-7.20 above.

7.27 In regard to H3G's argument, as stated in paragraph 4.15 above, we consider that given that MNOs choose how much cost recovery they obtain from geographic calls (as the retail price is not regulated), we would expect them to be recovering a reasonable allocation of their costs (which may include a margin, as per the economic definition of costs). Also, through our application of Principle 1, we are not restricting MNOs to only recover costs from 0845/0870 calls, but we want to ensure NCCNs 985 and 986 *at least* permit reasonable cost recovery, as set out above at paragraph 7.20 and in paragraph 5.18 of the Draft Determination.

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[137] T-Mobile/Orange Response to the Draft Determination, page 6 and Vodafone Response to the Draft Determination, paragraphs 3.1-3.3.
[138] H3G Response to the Draft Determination, page 1, final paragraph and page 2, paragraph 2.
[139] http://www.catribunal.org.uk/files/1151_BT_Notice_160410.pdf
[140] BT Response to the Draft Determination, section 4, paragraphs 24-27.

7.28 We disagree with BT's first argument that Principle 1 has no legal basis. We understand that BT is suggesting that the application by Ofcom, of a principle that does not appear explicitly in the 2003 Act has no legal basis and is therefore fundamentally flawed.[141] When considering any dispute Ofcom is required to ensure that its determination is consistent with the statutory duties set out in Sections 3 and 4 of the 2003 Act, having regard to the objectives set out in Article 8 of the Framework Directive. We consider that the three Principles are consistent with those duties. Additionally, the three Principles (including Principle 1) that we apply in this dispute cover the same substantive issues as existing regulatory principles, the six principles of pricing and cost recovery, in the relevant circumstances. For example, Principle 1 relates back to the principles of cost causation, distribution of benefits and cost minimisation. The six principles of pricing and cost recovery are also not to be found explicitly within the 2003 Act; they are however in our view an appropriate regulatory construct which have been previously applied by Ofcom in resolving disputes in accordance with our duties, and have not been challenged by BT or any party in relation to their legality. The three Principles should be regarded in exactly the same light, as an appropriate tool for resolving this dispute remaining consistent with our obligation to fulfil our statutory duties under the 2003 Act.

7.29 We reject BT's second argument that in the circumstances of the Dispute Principle 1 has no proper economic foundation. As we explained at paragraph 4.128 above, our key disagreement with BT's evidence, and with Dr Maldoom's arguments specifically, on this question is that for the purposes of the Dispute we take as given our current regulatory policies. Our reasoning for Principle 1 in the circumstances of the Dispute is set out in paragraphs 4.14-4.19 above.

7.30 We disagree with BT's argument that the fact that Ofcom adapts and amends the specification of Principle 1 between disputes demonstrates its lack of generality. The underlying issue in relation to those disputes that BT refers to remains the same; it is the application of Principle 1 to those respective disputes that differs according to the policy. For example, our regulatory policy on the pricing of 0845/0870 calls is different from our policy on the pricing of 080 calls. This difference is reflected in the different application of Principle 1 as between the 080 Determination and this Dispute.

7.31 In response to BT's argument that it is not clear what Ofcom means by 'sufficiently large', we consider that the meaning is precisely and fully explained in paragraphs 5.32-5.35 of the Draft Determination.

7.32 In regard to BT's argument that Principle 1 imposes a binding constraint on its behaviour, in our view this is only analogous to the binding constraint on TCPs' termination charges when BT is the OCP. As set out in paragraph 4.18 above, BT, which has SMP in wholesale call origination, is assured of the recovery of its efficiently incurred costs of origination through the NTS Condition. It seems reasonable that OCPs without SMP should also be permitted to recover their efficiently incurred costs of origination.

7.33 Finally, in response to BT's question as to whether or not Ofcom regards current prices for 0845 from the MNOs as 'reasonable' or not, as previously explained we do not consider MNO's retail prices for 0845/0870 calls to be optimal. The reason for this is because they depart from our policy preference, which is to treat calls to these

[141] We note that BT makes reference to section 192 of the 2003 Act. We assume this is a typographical error, as that section sets out provisions relating to appeals, not legal duties or objectives.

numbers in the same way as geographic calls, as set out in paragraphs 2.39-2.55 above. However, the scope of this Dispute addresses whether the termination charges presented in NCCNs 985 and 986 are fair and reasonable, not the MNOs' retail prices *per se*. Furthermore, BT is incorrect to state that in addressing the Dispute Ofcom could equally have set out constraints for all parties in the 0845 value chain to ensure that prices are 'reasonable' to end-users, because this would involve a departure from the current regulatory policy. It would require consideration in a policy project, such as Ofcom's current policy project, the NGCS Review, to decide whether it would be appropriate to change regulatory policy to an approach along the lines suggested by BT.

The specification of Principle 2

Direct effect

Submissions

7.34 C&W queries the onus placed on TCPs in the Draft Determination to demonstrate the consumer benefits of their termination rates whilst there is no similar onus on MNOs to demonstrate how the rates are unfair or unreasonable.[142]

Our view

7.35 We disagree with C&W's characterisation of the onus placed on TCPs, for the reasons set out in paragraphs 2.150-2.155 of the Supplementary Consultation. In addition, as noted above, the scope of the Dispute addresses whether the termination charges in NCCNs 985 and 986 are fair and reasonable, not the MNOs' retail prices *per se*. The bulk of further comments on the Direct effect are dealt with in Section 8 which addresses responses to the Supplementary Consultation.

Mobile tariff package effect

Submissions

7.36 C&W argues that Ofcom needs to consider the consumer benefit that may be generated through the TCP offering as a whole, such as by subsidising improved wholesale, retail or other tariff offerings. C&W calls this "Fixed Tariff Package Effects". C&W also argues that Ofcom has not fully considered the benefit to consumers as 0845 and 0870 revenues are transferred to other communications providers, thereby creating the ability for these operators to generate their own positive tariff package effect.[143] C&W states that as a result in a decision where the final determination is acknowledged by Ofcom to be "finely balanced", it believes there is enough doubt in relation to the precise negative impact of the Mobile tariff package effect to suggest that the Direct effect may not need to be as significant as Ofcom originally considered in the Draft Determination.[144]

7.37 BT makes eight criticisms of Ofcom's analysis of the Mobile tariff package effect in the Draft Determination:[145]

[142] Cable & Wireless Response to the Draft Determination, page 6.
[143] C&W Response to the Draft Determination, page 9.
[144] Cable and Wireless Response to the Draft Determination, page 11.
[145] BT Response to the Draft Determination, paragraphs 29-42.

(i) the Mobile tariff package effect is not relevant in the context of dispute resolution;

(ii) Ofcom has failed to consider waterbed effects on TCPs (which, using C&W's terminology, we refer to as the Fixed tariff package effect);

(iii) Ofcom gives greater emphasis to waterbed effects in the Draft Determination than it does in the 080 Determination. (BT also suggests that we placed essentially no weight on the Mobile tariff package effect in the 080 Determination);

(iv) the approach to the Mobile tariff package effect is inconsistent with the CC's and Ofcom's own approach to the regulation of mobile termination charges;

(v) there are distortions to competition from the current framework in which the MNOs can ignore Ofcom's policy on the pricing of 0845/0870 calls but BT is forced to comply;

(vi) there is an exact parallel between the distortions between fixed and mobile networks in the Dispute and in the market review of mobile termination;

(vii) as in the 080 Determination, there are special considerations for 0845 numbers to justify dismissing the waterbed effects; and

(viii) BT argues that it could not have anticipated that Ofcom would give credence to the Mobile tariff package effect and has had insufficient time to consider how the economic modelling work might be extended.

7.38 T-Mobile/Orange[146] and O2[147] both argue that weighting the Direct effect more heavily than the Mobile tariff package effect is inappropriate. T-Mobile argues that we have understated and failed to give sufficient weight to the Mobile tariff package effect, as the market is highly competitive, and so it is inevitable that any revenues received from 0845/0870 calls will be competed away through other services to the benefit of consumers.

7.39 O2[148] argues that MNOs set retail prices in the effectively competitive mobile access and call origination market, and as a result, allocate the significant fixed and common costs to services in accordance with Ramsey pricing principles. This ensures that output and welfare is maximised. O2 considers that Ofcom's preference that all calls to 0845 and 0870 numbers should be treated in the same way as calls to geographic number, would result in a loss of output, in circumstances where the price of elasticity of demand for calls to 0845 and 0870 numbers is different to that for geographic numbers. O2 accepts that there might be some kind of market failure that would justify deviating from a competitive outcome, or some other distributional consideration. However, O2 suggests that no evidence for that is presented in the Draft Determination. In O2's view, Ofcom does not appear to have taken into account the suboptimal output implications of applying a greater weighting to the Direct effect compared to the Mobile tariff effect. Accordingly, it is not clear that applying such a weighting is consistent with Ofcom's duty to further the interests of consumers.

[146] T-Mobile/Orange Response to the Draft Determination, page 15.
[147] O2 Repsonse to the Draft Determination, page 3.
[148] O2 Response to the Draft Determination, page 3.

7.40 The Frontier Report also makes a similar argument to O2's, stating that in order to consider the appropriate structure and level of both retail charges and interconnection payments, it is necessary to consider the overall effect on welfare (i.e. a welfare-based analysis that considers the costs and benefits to both sets of consumers: SPs and mobile subscribers).[149] It argues that it is not possible, without detailed analysis that considers all of the elements of the tariff packages, to conclude that BT's proposal would increase overall welfare of mobile customers.[150]

Our view

7.41 We first address each of BT's and C&W's arguments in turn below. We then we address the comments of the MNOs. For the reasons set out below, we either reject all these criticisms or consider that they do not materially affect our conclusions.

<u>Relevance in the context of dispute resolution</u>

7.42 To support its argument that the Mobile tariff package effect is irrelevant in the context of dispute resolution, BT refers to footnote 5 of Richards 1.[151]

> "*This is an assessment just looking at the impact of NCCN956 on 080 calls alone. It is not a legitimate argument to take into account whether the benefits to MNO customers from excessive pricing of 080 calls will be passed back through 'mobile package effects'. This is a 'waterbed' type of argument which, even if it contained some element of truth, applies equally to all CPs in this sector and where there are converged offerings of fixed and mobile services from many players. If Ofcom or the MNOs wish to take account of wider effects, then such effects are equally important to the terminating CPs contracting for termination of 080 calls with the MNOs and their full range of services and customers as well.*"

7.43 Using the terminology adopted in this Dispute, the argument in Richards 1 is that, if the Mobile tariff package is relevant, then so also is the Fixed tariff package effect. We consider this argument below.

7.44 In our view the Mobile tariff package effect is a foreseeable and predictable consequence of NCCNs 985 and 986. This effect adversely affects consumers through higher prices for mobile services (other than 0845/0870 calls). Consistent with our statutory duties, taking the Mobile tariff package effect into account is therefore necessary and appropriate. As we explain below, it is also consistent with previous regulatory practice in the 080 Determination and by the CC, the CAT and Ofcom in the regulation of mobile termination charges. Ignoring this effect, as BT suggests, would be both wrong and inconsistent with past practice.

7.45 Similarly, we also consider it relevant to take into account another effect that is foreseeable, the Indirect effect, i.e. higher termination profits from charges levied by the TCP on one set of customers (OCPs) may lead it to set lower prices to another set of customers (SPs).

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[149] Frontier Report, paragraphs 8 and 17.

[150] Frontier Report, paragraph 12.

[151] BT also refer to paragraph 3.38 of their response to the 080 Draft Determination where they raised a similar argument that Ofcom was wrong to limit its consideration to the tariff packages of MNOs alone as "it is well documented and accepted by Ofcom that the MNOs are offering converged bundles of services both fixed and wireless and that they are in direct competition with other CPs, many of whom do not have mobile divisions".

Fixed tariff package effect

7.46 C&W and BT note that the TCP (and other affected CPs) may supply a range of services other than NTS termination and hosting, and argue that consequently there is a Fixed tariff package effect which is also relevant to the effects on consumers.

7.47 Neither BT nor C&W have set out in any detail how the Fixed tariff package effect would operate, but our understanding is as follows:

(i) BT initially earns increased profit from termination of 0845/0870 calls from charges levied on OCPs through NCCNs 985 and 986. Similarly, other TCPs that introduce their own tiered termination charges would also earn increased termination profits.

(ii) BT or other TCPs pass on some or all of this increased profit in lower prices for other fixed services that they sell, such as fixed access, calls or broadband services.

(iii) these lower prices provide benefits to the consumers of those other fixed services.

7.48 We set out our response to the arguments in favour of a Fixed tariff package effect in the following paragraphs.

7.49 First, we observe that the source for the Fixed tariff package effect is the increased profits from the charges levied on OCPs for termination of 0845/0870 calls. This is the same source as for the Indirect effect, as described at paragraph 7.45 above. Therefore, the Fixed tariff package effect is not additional to the Indirect effect, because both depend on the same 'pot' of termination profit. To the extent that the Fixed tariff package exists, it would displace the Indirect effect - if both effects are present, then the larger the Fixed tariff package effect, the smaller the Indirect effect.

7.50 Second, as for the Indirect effect, the larger the price reduction by OCPs on 0845/0870 calls (i.e. the larger the positive Direct effect), the lower the tier of termination charges, and hence the smaller the TCP's profit per minute and the smaller the Fixed tariff package effect.

7.51 Third, there is a clear incentive on the TCP underpinning the Indirect effect, i.e. to pass on increased termination profits from 0845/0870 calls to SPs if there is sufficient competitive pressure from other TCPs. This is because, if the TCP acquires another SP by offering lower prices (or better quality) for hosting services, it will receive more 0845/0870 calls to terminate, on which it earns the termination profits. This underpins the TCP's willingness to offer lower hosting prices, i.e. this is why it is profitable for the TCP to behave in this way.

7.52 Similarly there is a clear incentive underpinning the waterbed effect for the Mobile tariff package effect. If the MNO acquires another mobile customer by offering lower prices for other mobile services, it will sell more 0845/0870 calls, on which it earns a profit (depending on the difference between its retention and its marginal cost of origination). This underpins the MNO's willingness to offer lower prices for other mobile services, which is why those prices are expected to rise if the MNO earns a reduced profit on 0845/0870 calls as a consequence of NCCNs 985 and 986.

7.53 However, no such clear incentive has been identified either by BT or C&W to underpin the Fixed tariff package 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 the Fixed tariff package effect. However, as we comment in paragraphs 2.67 *et seq.* of the Supplementary Consultation, 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 a Fixed tariff package effect could arise as a consequence of NCCNs 985 and 986. We also recognise that if this effect did arise it would provide benefits to consumers through lower prices for other fixed services. But the lack of a clear incentive, unlike either the Indirect effect or the Mobile tariff package effect, suggests that there is greater doubt about the significance of the Fixed tariff package effect to this Dispute.

7.54 Fourth, if the Fixed tariff package effect were large, there is a risk that it could adversely affect competition for other fixed services whose prices are affected. This is because the lower prices set by some competitors would reflect the use of profits earned as a TCP on 0845/0870 calls, not the operator's performance or efficiency in those other fixed services. However, we do not place significant weight on this potential concern, as it is unlikely that such a distortion is material, given the scale of the profit on 0845/0870 termination relative to the size of the markets for the other fixed services. We discuss this question of materiality in further detail below, when assessing the mirror image of this issue, i.e. BT's argument that the Mobile tariff package effect distorts competition between fixed and mobile operators.

Consistency with 080 Determination

7.55 We consider that BT has incorrectly characterised the 080 Determination and, for this reason, it wrongly suggests that we placed no weight on the Mobile tariff package effect in the 080 Determination.

7.56 Our approach to considering the Mobile tariff package effect in this Dispute, as set out in the Draft Determination, is consistent with our reasoning in the 080 Determination in the following respects.

7.57 First, we explicitly identified the Mobile tariff package effect as a relevant effect in the analytical framework of the 080 Determination. For example, paragraph 4.16 of the 080 Determination states that:

> "*There is also the potential for an impact on mobile tariffs overall. A reduction in the retention on 080 calls might lead MNOs to increase other prices in their packages, such as retail prices for other number ranges, handset subsidies etc. This is the "Mobile tariff package" effect, which could have a detrimental effect on consumers.*"

7.58 Second, the Mobile tariff package effect is explicitly identified as an element of Principle 2 in paragraph 4.25 of the 080 Determination:

> "*the payment in either direction should, taking into consideration our statutory duties:*
>
> (i) *Provide benefits to consumers, taking into account Direct, Indirect and Mobile tariff package effects;…*"

7.59 Third, we discussed the Mobile tariff package when responding to arguments put by respondents to the Draft Determination (see paragraphs 5.74-5.83 of the 080 Determination).

7.60 Fourth, we explicitly recognised the relevance of the Mobile tariff package effect to the analysis of the effects on consumers at paragraph A3.74 of the 080 Determination:[152]

> "*Such a positive Direct effect might however need to be weighed against the potential for other prices for mobile services to increase via the Mobile tariff package effect.*"

7.61 The Mobile tariff package effect was therefore relevant in the 080 Determination as in this Dispute. The difference is that we articulate our analysis of this effect more fully in this Dispute, as reflected in the Draft Determination and the Supplementary Consultation. This is understandable given our conclusion on the Direct effect in the 080 Determination; specifically, our view that there was likely to be a negative Direct effect in the form of an incentive on MNOs to raise 080 call prices (see paragraph 6.9 of the 080 Determination). This conclusion meant that a detailed analysis of the Mobile tariff package effect was not required to reach a conclusion in that Dispute.

Consistency with regulation of mobile termination charges

7.62 BT's view of the waterbed effect and its reference to the CC's analysis in mobile termination suggests that lower 0845/0870 prices are desirable. This is also Ofcom's view in this Dispute. We also agree that, if the Direct effect on consumers was positive and equal in size to the negative Mobile tariff package effect, it would be appropriate to conclude that there are overall benefits to consumers from these two effects. This is because we place more weight on the Direct effect than on the Mobile tariff package effect, i.e. in these circumstances we have a clear policy preference for a pricing structure that involves lower 0845/0870 call prices.

7.63 Therefore, BT is incorrect to suggest that "*Ofcom essentially takes the 'status quo' as optimal in spite of having a policy which supports lower retail charges*".[153] We did not suggest in the Draft Determination that the status quo is optimal. Indeed, on the contrary, it is undesirable that MNOs do not follow our policy preference and choose instead to set 0845/0870 prices above geographic call rates. To the extent that NCCNs 985 and 986 would lead to lower 0845/0870 prices more closely aligned with geographic rates, this would be a desirable effect.

7.64 However, contrary to BT's suggestion, our view does not imply that the waterbed or Mobile tariff package effect should be ignored.[154] In the analysis of mobile termination

[152] This Annex formed the analysis set out in the Draft Determination on the first question in the scope of the dispute, i.e. termination charges. The Mobile tariff package effect is also discussed in relation to the second question in the scope, i.e. origination payments – see Annex 4 of the 080 Determination.

[153] BT Response to the Draft Determination, paragraph 34.

[154] Paragraph 35 of the BT Response to the Draft Determination also suggests that "the impact on consumers of reducing termination charges would be far greater than the impact of some lowering of MNO profits on 08x calls. It is extremely difficult to see how some modest tariff rebalancing (even if it were to occur and which is far from evident) as a result of N985, could induce the smallest amount of exclusion to mobile networks for consumers." First, since NCCNs 985 and 986 increase BT's termination charges and do not reduce them, the meaning of the first sentence in BT's comment is not entirely clear. However, it may be a drafting error and instead of "reducing termination charges" BT intended to refer to reducing 0845/0870 call prices. If so, the question of the relative size of the Direct

charges, Ofcom did not ignore the waterbed effect and neither did the CC or the CAT – it was fully taken into account when deciding on the regulation of mobile termination charges.[155]

7.65 The CC accepted the relevance of the waterbed effect when assessing the level of the mobile termination price caps. There are numerous references to it in the CC's Mobile phone wholesale voice termination charges Determination (16 January 2009) ("the CC Determination"),[156] such as:

> "*As there has been no dispute that the waterbed effect is strong…*"[157]
>
> "*… one cannot ignore the fact that when it comes to MNOs which also operate in the retail market, there is a waterbed effect*"[158]

7.66 The CAT's judgment on non price control matters in *Hutchison 3G UK Limited v. Ofcom* [2008] CAT 11 also relied on the waterbed effect for its conclusion that there should be a price cap on H3G.[159]

7.67 Furthermore, there is an important difference in the facts between the analysis of NCCNs 985 and 986 and mobile termination. With NCCNs 985 and 986, whether 0845/0870 prices fall, stay the same, or increase, we expect the Mobile tariff package effect to be negative for consumers, because NCCNs 985 and 986 impose an increase in the level of BT's termination charges above the bottom tier (see paragraph 5.168 of the Draft Determination). In contrast, with mobile termination the waterbed effect (analogous to the Mobile tariff package effect) is only negative for consumers if the mobile termination rate (analogous to the Direct effect) is reduced. This difference arises because NCCNs 985 and 986 involve significant increases in the level of termination charges, as well as the change in the structure that could lead to a positive Direct effect.[160]

7.68 Therefore, we reject BT's suggestion that we have adopted an inconsistent analytical approach between mobile termination and this Dispute. In fact, it is BT's suggested

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and Mobile tariff package effects - and BT's analysis of the Direct effect - is discussed in detail in the Draft Determination and elsewhere in this Section. Second, BT appears to be under a misapprehension that the adverse effect of the Mobile tariff package effect relies on it leading to the exclusion of consumers from mobile networks - it does not. Higher prices for other mobile services have a negative effect on consumer welfare whether or not it affects the rate of mobile subscription. Similarly, lower prices for 0845/0870 calls increase consumer welfare whether or not they lead to an increase in the penetration of mobile subscription.

[155] On page 18 the Orange/ T-Mobile Response to the Draft Determination also refers to the empirical analysis of the waterbed effect by Genakos and Valletti (CEP Discussion Paper No 827, October 2007, Testing the "Waterbed" Effect in Mobile Telephony).

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

[157] CC Determination, paragraph 8.81.

[158] CC Determination, paragraph 8.96.

[159] It was most relevant to the CAT's conclusion of a significant distortion of competition in the retail market, because in the absence of a price cap on H3G the waterbed effect was asymmetric between H3G and other MNOs - see, for example, paragraphs 211-212 and 296 of the CAT judgement on non price control matters, http://www.catribunal.org.uk/files/Jdg_CAT11_1083_H3G_200508.pdf

[160] Alternatively, the effect on the price of calls to mobile could be construed as analogous to the Direct effect. Under this interpretation it is still the case that the waterbed effect is only negative if mobile termination rates fall (thereby providing an incentive on OCPs to reduce the prices of calls to mobile), whereas in the Dispute there is a negative Mobile tariff package effect regardless of the direction of the Direct effect.

approach that would be inconsistent, because it would ignore the Mobile tariff package effect despite its relevance to the effects on consumers.

Distortions to competition between BT and mobile operators

7.69 As we understand it, BT's allegation is that MNOs use profits earned through pricing of 0845/0870 calls (which fails to comply with Ofcom's policy preference) to subsidise other services on which they are competing against BT; and that BT is prevented from doing likewise because it is forced to comply with Ofcom's policy. The other services to which BT is referring may include voice calls and access, and broadband services.

7.70 First, BT's argument is not relevant to 0870 calls for which the regulation applies equally to all OCPs. It is only for 0845 that the regulation differs between BT and the MNOs: BT has an obligation to link prices for 0845 and local calls, but other OCPs, including the MNOs, are free to depart from this (see paragraphs 2.51-2.55 above).

7.71 Second, we do not consider it likely that the profit that MNOs earn on 0845 calls is capable of providing a subsidy that would lead to a material distortion of competition in either voice or broadband markets. Based on the information available to us, an indication of the potential scale of the impact is provided by Table 5.3 in the Draft Determination which sets out MNOs' estimates of the financial impact of reducing 0845/0870 prices to below 12.5ppm, which would bring them broadly into line with geographic call rates. Since these figures include the financial impact on 0870 calls as well as 0845 calls, they are likely to overstate the scale of the effect. The largest figure in Table 5.3 is £60m for [✂]. The aggregate figure across all MNOs is about [✂].[161]

7.72 £60m represents about 1.4% of [✂] revenue from mobile services in 2008 (1.4% in 2009). [✂]m is about [✂]% of the MNOs' total revenue of £15.4bn in 2008[162] ([✂]% of [✂]bn[163] total revenue in 2009).

7.73 The size of the market for fixed voice calls was about £4.4bn in 2008[164] and about £4.7bn for fixed access (£[✂]bn and £[✂]bn[165] respectively for 2009). Even if [✂] used the entirety of £60m to lower its prices in either voice calls or access, it would only represent 1.3-1.4% of either market ([✂]% for 2009). The aggregate figure across all MNOs represents less than [✂]% of either market (less than [✂]% in 2009). Furthermore, these percentage figures are likely substantially to overstate the effect for a number of reasons: mobile-originated calls and mobile access are currently defined by Ofcom as being in separate markets from fixed-originated call and fixed access, reflecting limits on the extent to which MNOs compete against BT and other fixed operators; the percentage figures above assume that the entirety of

[161] These impacts are generally larger than the financial impact if MNOs do not change their retail prices (as estimated by both BT and the MNOs - see Tables 5.1 and 5.2 in the Draft Determination). BT's view of the Direct effect is that it would be more profitable for MNOs to reduce their retail prices than to maintain them (in contrast to the MNOs' estimates in Table 5.3 in the Draft Determination). Therefore, the scale of the impact consistent with BT's view would be significantly smaller than as set out here.
[162] Figure 4.40, Ofcom Communications Market Report, 2009. http://stakeholders.ofcom.org.uk/binaries/research/cmr/CMRMain_4.pdf
[163] From Ofcom Communications Market Report, 2010. To be published 19 August 2010.
[164] Figure 4.31, Ofcom Communications Market Report, 2009. http://stakeholders.ofcom.org.uk/binaries/research/cmr/CMRMain_4.pdf
[165] From Ofcom Communications Market Report, 2010. To be published 19th August 2010.

the £m amount is used to reduce each of calls and access prices; and the £m figures include 0870 calls as well as 0845 (as noted above).

7.74 Some MNOs are present in the market for broadband (residential and SME) which was worth £3.4bn in 2008[166] ([✂]bn[167] in 2009). The £m amounts as a percentage of this market represent 1.8% for [✂] and [✂]% for all MNOs taken together in 2008 ([✂] and [✂]% for all MNOs together in 2009). For the same reasons as noted above, these percentage figures are likely substantially to overstate the effect. In addition, the MNO with the largest share in the retail broadband market is Orange – its share was 5.8%[168] in 2008 ([✂]%[169] in 2009) compared to BT's share of 26.9%[170] ([✂]%[171] in 2009).

<u>Distortions to competition between fixed and mobile operators in the mobile termination market review</u>

7.75 BT argues that there is an exact parallel between the distortions between fixed and mobile networks in the Dispute and in the mobile termination market review.

7.76 In the Wholesale mobile voice call termination market review, we stated that if mobile OCPs set excessive prices for mobile call termination while fixed OCPs are only able to charge regulated (cost-orientated) prices for fixed termination, this would result in a transfer of funds from fixed to mobile operators. We stated that this transfer of funds was not an efficient allocation of resources and even if excess profits are competed away, it could potentially result in an inefficient structure of retail wholesale and retail prices.[172] As a result, we argued that in a situation where fixed and mobile operators may begin to compete with each other, this could also result in a competitive distortion. This is because excessive mobile termination rates could distort consumers' choices between fixed and mobile services, reducing scope for competition between fixed and mobile networks in the longer term. Therefore, we concluded that the harm that could arise as a result of distortions of competition between fixed and mobile providers (or in tilting the playing field in a period when scope for fixed/mobile convergence may emerge) is likely to be significant.[173]

7.77 Whilst we recognise that there may be some parallels between profits earned on unregulated termination charges and any generated by 0845/0870 calls, we do not consider that this concern is significant for the reasons set out above in relation to BT's argument about distortion of competition between BT and mobile operators (see paragraphs 7.69-7.74 above). In addition to those points, we would also note that mobile-to-mobile and fixed-to-mobile calls make up a much greater proportion of mobile traffic than 0845 calls, and therefore the scope for profit generation through unregulated mobile termination rates to cross-subsidise other services is likely to be

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166 Figure 4.45, Ofcom Communications Market Report, 2009. http://stakeholders.ofcom.org.uk/binaries/research/cmr/CMRMain_4.pdf

167 From Ofcom Communications Market Report, 2010. To be published 19th August 2010.

168 Figure 4.48, Ofcom Communications Market Report, 2009. http://stakeholders.ofcom.org.uk/binaries/research/cmr/CMRMain_4.pdf

169 From Ofcom Communications Market Report, 2010. To be published 19th August 2010.

170 Figure 4.48, Ofcom Communications Market Report, 2009. http://stakeholders.ofcom.org.uk/binaries/research/cmr/CMRMain_4.pdf

171 From Ofcom Communications Market Report, 2010. To be published 19th August 2010.

172 For example, the price of calls to mobiles from, say, fixed lines would be relatively high, and other charges for mobile services (for example, monthly access fees) relatively low.

173 Wholesale mobile voice call termination, Market Review, Volume 2 – Main consultation, paragraphs 5.31 to 5.47. http://stakeholders.ofcom.org.uk/binaries/consultations/wmctr/summary/wmvct_consultation.pdf

much more significant than through the retail prices of 0845 calls. Therefore, we do not consider it likely that the profits that MNOs earn on 0845 calls are capable of providing a subsidy that would lead to a material distortion of competition between fixed and mobile operators.

Special considerations for 0845 numbers

7.78 BT also referred to paragraph 5.81 of the 080 Determination, which set out relevant distributional and equity considerations applicable to pricing for calls to 080 numbers and argued that a similar analysis was relevant to 0845 calls. We agree with BT that these considerations were not explicitly discussed in the Draft Determination. We have now considered their relevance to 0845 and 0870 numbers.

7.79 We note that 0845 and 0870 numbers are used for a variety of purposes, some of which are similar to those for which 080 numbers are used (for example, social or charitable services used by vulnerable consumers). However, 0845 and 0870 numbers are also used, for example, by utility companies, banks, and local authorities to deliver a range of services that are not particularly targeted at vulnerable consumers (although we accept that a proportion of users of these services may be vulnerable consumers). BT provided us with its top ten 0845 and 0870 SP customers (excluding its own services) based on February 2010 call volumes. These are set out in Tables 5.10 and 5.11 at paragraph 5.206 of the Draft Determination.

7.80 It therefore appears to us that the majority of services delivered via 0845 and 0870 numbers are substantially commercial in nature, so use of these numbers by vulnerable consumers may not be as significant as for 080 numbers. That said, however, we recognise that these numbers may still be used by vulnerable consumers, there is an externality between the OCP and the SP (as set out in paragraph 4.6 above), and we have set out a clear policy preference for the retail pricing of these calls. For these reasons, we give the Direct effect relatively greater weight than the Mobile tariff package effect,[174] although the extent of this greater weight is less pronounced than in the 080 Determination due to the variation in use of these number ranges.

Ability to anticipate the relevance of the Mobile tariff package effect

7.81 BT is wrong to claim that it could not have anticipated that Ofcom would give credence to the Mobile tariff package effect in the Draft Determination. As set out above, the Mobile tariff package was relevant to our analysis in the 080 Determination in the analytical framework, in the wording of Principle 2, in the discussion of responses to the 080 Draft Determination, and in the analysis of both questions in the scope of that Dispute. The relevance of the Mobile tariff package effect to our analysis of the effects on consumers should therefore have been clear to BT.

Conclusion on BT's and C&W's comments on Mobile tariff package effect

7.82 For the reasons that we have detailed above, we either reject BT's and C&W's criticisms in relation to our analysis of the Mobile tariff package effect or consider that they do not materially affect our conclusions. We consider that the Mobile tariff package effect is likely to be significant and as a result it plays an important role in

[174] This is set out in paragraph 4.33 above.

our analysis – e.g. see paragraphs 5.230-5.236 of the Draft Determination and 2.143-2.149 of the Supplementary Consultation.

MNOs' comments on Mobile tariff package effect

7.83 In relation to the MNOs' comments about the structure of prices, as set out in paragraphs 4.31-4.32 above, we would generally agree that the balance of MNOs' retail prices across the services they offer is a matter to be determined through competition. However, special considerations apply to 0845 and 0870 calls due to our policy preference for the retail prices of these calls, and so we consider that a departure from this general view is warranted in the context of this Dispute.

7.84 Our policy preference reflects both i) the existence of a market failure; and ii) our statutory duties. In terms of our statutory duties, we have an obligation to consumers, including 0845/0870 SPs and callers to these numbers. Therefore, it is necessary to balance the benefits to both of these groups rather than simply focusing on consumers at one end of the transaction (see paragraph 4.8 above), and we welcome acknowledgement of this in the Frontier Report.

7.85 As set out in paragraph 2.2 above, we have a policy preference for the prices of 0845/0870 calls to be aligned with the prices of geographic calls, and consider that this is likely to be why many 0845/0870 SPs have chosen this number range rather than a different NTS or geographic number. However, when the OCP charges more, this could adversely affect both callers and SPs. Even in a competitive market, at the origination end the OCP may not have an incentive to fully take into account this negative effect on SPs since they are the customers of the TCP not the OCP (i.e. there is an externality between the OCP and SPs). This is a source of market failure. Therefore, in the Draft Determination we based our analysis of the relatively greater weight to be placed on the Direct effect than the Mobile tariff package effect on an analysis of market failure (even if we did not use that specific phrase). The evidence to support the existence of this market failure is set out in the policy documents from which our policy preference derived (see Section 2 above). Furthermore, given the distortion of the OCP's incentives (due to the externality), the competitive outcome among MNOs at the OCP end is likely to result in a suboptimal price structure and output. The greater weight that we assign to the Direct effect takes account of the desirability of this market failure being ameliorated (through lower 0845/0870 call prices, more closely aligned with geographic rates).

Balance between Direct and Mobile tariff package effects

Submissions

7.86 BT suggests that Ofcom's position on the balance between Direct and Mobile tariff package effects is difficult to comprehend. On the one hand, Ofcom states that it has a clear preference for the Direct effect but then immediately afterwards seems to downplay this stance.[175]

7.87 BT also argues that Ofcom suggests that it will weigh up the two effects as if a quantitative analysis was feasible, but it is clearly unable to perform this task. The assessment required to apply Principle 2 is found not to be feasible in practice, at least in quantitative terms.[176]

[175] BT Response to the Draft Determination, paragraph 44.
[176] BT Response to the Draft Determination, paragraphs 45-46.

Our view

7.88 There is no inconsistency in the paragraphs of the Draft Determination regarding the balance between the Direct and Mobile tariff package effects referred to by BT. To be clear, both the Direct and Mobile tariff package effects are relevant and important considerations for assessing the effects of NCCNs 985 and 986 on consumers. But we place more weight on the Direct effect.

7.89 We have not attempted to quantify precisely the overall effect on consumers of the Direct, Mobile tariff package and Indirect effects, as we do not consider that such an exercise would yield sufficiently reliable results to be informative on the basis of the evidence before us. However, our analysis is informed by our view of the following (see also the further discussion in paragraphs 8.141-8.155 below):

a) direction of each of the effects;

b) evidence on the potential scale of the effects, e.g. using the evidence on financial impacts at Tables 5.1-5.3 of the Draft Determination;

c) inter-relationship between the effects, e.g. that the benefits to consumers from the Indirect effect are smaller, the larger the benefits from the Direct effect; and

d) bounds on the relative sizes of the effects, e.g. see the discussion of the "reference case" at paragraphs 5.194-5.198 of the Draft Determination.

The impact on competition

Submissions

7.90 BT argues that if it or any other party were to attempt to apply commercial arrangements that constituted a material distortion of competition it would imply abuse of a dominant position and such behaviour could be addressed via the Competition Act 1998. BT states that it has not been found to hold a dominant position in the termination of 0845 calls from MNOs.

Our view

7.91 In handling and resolving disputes under the 2003 Act, we are required to act in accordance with our statutory duties in that Act. Given our statutory duties in the 2003 Act, it is necessary for us to consider within this dispute the impact on competition, wherever it may be relevant. Although distortions of competition can often involve the existence and abuse of market power, it is also possible for competition to be distorted through the way in which industry arrangements operate. NCCNs 985 and 986 change the pre-existing industry arrangements, not only in relation to BT as the TCP but also in general, given our view (in agreement with BT) that we expect other TCPs over time broadly to replicate BT's NCCNs.

7.92 We have considered four potential areas of concern about competition effects. Of these, the potential concern about distortion of competition among TCPs would rely on the existence of market power by BT, because it would involve the inability of other TCPs to replicate BT's termination charges. However, we have concluded that the risk of a material distortion of competition among TCPs is relatively low. The other potential concerns – about distortion of competition among transit operators, OCPs, and MNO hosting of MVNOs – would not rely on BT having market power in the relevant termination market, but instead on the implications of the industry arrangements initiated by NCCNs 985 and 986 for the distorted incentives of different players.

7.93 Finally, simply as a matter of fact, we note that BT was found to be dominant in a market including the termination of 0845 and 0870 calls from MNOs for the period May 2004 to January 2006 in the NCCN 500 Decision[177] (see paragraphs 4.88 above and A2.10-A2.11 of the Draft Determination). In relation to the period relevant to the Dispute we have made no assessment of BT's dominance (or SMP), so there is neither a finding that BT is dominant (or has SMP) or that it is non-dominant (or does not have SMP).

The six principles of pricing and cost recovery

Submissions

7.94 T-Mobile/Orange argues that we have failed to apply the established six principles of pricing and cost recovery that have been applied in previous disputes – including those relating to interconnection charges where they focused on the recovery of costs – and are referred to in the dispute guidance. T-Mobile/Orange states that it is not immediately self-evident that the three Principles have substantively the same content as the six principles, and even if they did, T-Mobile/Orange submits that the six principles provide a much clearer and more conventional framework for the analysis of costs. For example, they argue that we should have particular regard to principle of the cost minimisation, since the costs of provision (by BT) have not increased, but as a result of increased termination charges, MNOs will have to pass a price increase on to customers.[178]

7.95 Additionally, T-Mobile/Orange argues that Ofcom's three Principles as applied to BT's new charging structure raise the wholly new and different issue of how interconnection charges may be set to exercise effective control of the retail prices of other parties, with those retail prices being used as the trigger for punitive and non-cost related termination charges. T-Mobile/Orange states that this issue of the control of retail prices could only be considered to be contained within the six principles if those principles were to be interpreted so widely as to cover any possible effect on a communications market, which would leave no limitation on Ofcom's price-setting interventions. As a result of all of this, T-Mobile/Orange is of the view that Ofcom should have proper regard to these six principles in its Final Determination of this dispute.[179]

7.96 C&W on the other hand states that Ofcom "*has distilled its usual six principles of: cost causation; cost minimisation; effective competition; reciprocity; distribution of benefits and practicability into three specific principles for the purposes of this dispute*".[180]

7.97 BT states in the context of the six principles, as argued by Dr Maldoom, that externalities arising from non-compliance with Ofcom's 08x policies were not taken into account in the 080 Determination, and that this view is also applicable here.[181]

[177] NCCN 500, 1 August 2008.
[178] T-Mobile/Orange Response to the Draft Determination, page 5.
[179] T-Mobile/Orange Response to the Draft Determination, page 5.
[180] Cable and Wireless Response to the Draft Determination, page 4.
[181] BT Response to the Draft Determination, paragraph 48.

Our view

7.98 As set out in paragraphs 4.37-4.41 above, we consider that the six principles of pricing and cost recovery cover the same substantive issues as the analytical framework of Principles 1 to 3 that we have used in this Dispute. Therefore we consider that our analytical framework and assessment is consistent with the six principles of pricing and cost recovery.

7.99 In relation to T-Mobile/Orange's point about the focus on cost recovery using the six principles of pricing and cost recovery in previous disputes about interconnection charges, we note that for the purposes of considering the Dispute, we are concerned with the balance of prices (and the benefits) between the two sets of consumers, namely SPs and callers. Therefore it is not simply an issue of cost recovery by BT - 0845/0870 calls are different to geographic calls in that revenue share is permitted on 0845 calls and may be relevant on 0870 calls (see discussion in paragraphs 2.17-2.19 above and paragraph 7.108 below).

7.100 We consider that T-Mobile/Orange has mischaracterised the principle of cost minimisation, which is not about the relationship between BT's termination charges and its costs as T-Mobile/Orange suggests, but is instead about whether BT (and other operators in the value chain for 0845/0870 calls) only incur efficient costs.[182] Furthermore, the substantive issue to which T-Mobile/Orange refers, whether BT should be permitted to raise its termination charges without its costs having increased, is considered in detail in our analysis using the three Principles.

7.101 Additionally, we note T-Mobile/Orange's view on these charges acting as an effective charge control, but we do not consider this to be the case for the reasons set out in paragraphs 4.98-4.101 above and paragraph 7.121 *et seq.* below in relation to price regulation through the back door. We also disagree with T-Mobile/Orange's suggestion that this issue would not be contained within the six principles. The six principles simply provide a general framework for the analysis of issues of pricing and cost recovery, assisting us to identify the relevant trade-offs and to strike an appropriate balance in reaching our conclusions (see paragraph 4.39 above). They certainly do not in and of themselves exclude from legitimate consideration any of the issues assessed in this Dispute.

7.102 We agree that we could have chosen to structure our analysis using the six principles, but this would simply have represented a different way of organising the same substantive assessment. We do not consider that such a different organisation of the analysis would necessarily have been clearer, noting that Principle 1 is more specific than any of the six principles, reflecting the particular circumstances relevant to the Dispute (especially our policy preference on the pricing of 0845/0870 calls), and that the three Principles are cumulative, i.e. all three need to be satisfied, whereas this is not the case for the framework provided by the six principles.

7.103 In relation to BT's comments from Dr Maldoom, we comment on the presence of an externality and the resulting need to balance the benefits to both sets of consumers (taking into account the needs of the SPs and why they have chosen the number range) in paragraphs 4.5 to 4.9 above. We have taken it into account in our analysis, indeed, we put greater weight on the Direct effect in part for this reason, as discussed above.

[182] In other words, in terms of the different types of economic efficiency, cost minimisation is about productive efficiency, whereas the relationship between prices and costs is about allocative efficiency.

Benchmarking

Cost of termination

Submissions

7.104 Vodafone states that to the extent that any costs should be examined as part of the analysis, those of the TCP would appear to be more logically relevant to assess whether a change to the existing arrangements for terminating arrangements is fair and reasonable.[183]

Our view

7.105 We have considered benchmarks in relation to the cost of termination – see paragraphs 4.44 to 4.47 above. Our view remains as set out in those paragraphs.

Termination rate relative to the cost of termination

Submissions

7.106 T-Mobile/Orange argues that BT is a monopoly provider of call termination seeking to boost its revenues and profits at the expense of mobile consumers despite there having been no increase in the underlying costs of the service provided.

Our view

7.107 We have not made a finding that BT is a monopoly provider of call termination for 0845/0870 calls for the period covered by the Dispute (see paragraph 4.88 above).

7.108 As we explained in paragraphs 4.45-4.47 and 4.96-4.97 above, whilst we accept that it is not clear that there has been an increase in the costs of BT for providing 0845/0870 call termination, to the extent that revenue share is considered reasonable, the appropriate comparison is between the termination cost and the net termination charge (gross charge minus any revenue share with the SP), not the gross charge. This is reflected in our analysis when applying the three Principles, such as an assessment of the Indirect effect in Principle 2. We assess whether NCCNs 985 and 986 generate Indirect benefits for 0845/0870 SPs and callers, for example through increased revenue share or improved quality of hosting services, or simply yield higher margins for BT.

Other analytical issues

Discrimination

Submissions

7.109 T-Mobile/Orange considers that BT's charges are discriminatory with different OCPs being charged different amounts for the equivalent services without any proper justification being put forward for the difference in treatment.[184] It further comments that, in line with EU and UK competition law and previous case law, Ofcom needs to

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[183] Vodafone Response to the Draft Determination, paragraph 1.4.
[184] T-Mobile/Orange Response to the Draft Determination, page 2.

consider whether this action is placing the parties affected at a competitive disadvantage.[185]

7.110 T-Mobile/Orange argues that Ofcom's consideration of the discrimination issue at paragraphs 4.87-4.91 above is woefully inadequate and that simply referring to the 080 Determination and stating that, in the context of that Dispute, which did not involve an investigation under the Competition Act 1998, it did not consider whether there was an abuse of a dominant position through discriminatory pricing, is not a sufficient answer to the issue of discrimination.[186] It further argues that "*BT has put forward no other proper basis for considering them [retention rates] to be a relevant differentiating factor*"[187] and that Ofcom need to address the real question of whether retail charges relevant to BT's termination charges.

7.111 T-Mobile/Orange considers that BT's dominance and SMP in the market for NTS call termination is central to the Dispute. It refers to the 2004 NTS Call Termination Market Review (the "2004 Market Review")[188] which provisionally found BT to have SMP and a decision under the NCCN 500 Decision,[189] which also concluded that BT was dominant. It asserts that "*BT must have SMP for 0845/0870 calls terminating on its network for the same reasons that every TCP is considered to have SMP for geographic calls terminating on their networks*".[190]

7.112 T-Mobile/Orange also considers that we cannot ignore BT's SMP when determining this Dispute and that the Final Determination should contain a clear statement that we have no reason to believe anything has changed in NTS market(s) since 2006 that would likely change our view on BT's dominance.

7.113 Vodafone considers that Ofcom cannot safely conclude that BT's charges do not amount to discriminatory pricing which would create the potential for competitive distortions, without, explicitly conducting an assessment of BT's potential market power in this case.[191]

Our view

7.114 We disagree with T-Mobile/Orange's assertion that our analysis of discrimination at paragraphs 4.87-4.91 above is inadequate. We consider that the issue of discrimination has been sufficiently addressed in these paragraphs and in our analysis of the effects on consumers and competition in paragraphs 5.37 *et seq.* of the Draft Determination.

7.115 BT is not subject to SMP obligations or any pricing regulation in respect of termination of 0845/0870 calls. The MNOs have highlighted the NCCN 500 Decision and the 2004 Market Review as evidence that BT is in a position of dominance. However, the NCCN 500 Decision only found BT to be dominant between May 2004 and January 2006, and any dominance finding for the period relevant to the Dispute would require a fresh assessment with reference to current factors and economic conditions. It is not appropriate or feasible for us to seek to undertake such an

185 T-Mobile/Orange Response to the Draft Determination, page 12.
186 T-Mobile/Orange Response to the Draft Determination, page 10.
187 T-Mobile/Orange Response to the Draft Determination, page 11.
188 http://www.ofcom.org.uk/consult/condocs/ntsctmr/.
189 http://www.ofcom.org.uk/bulletins/comp_bull_index/comp_bull_ccases/closed_all/cw_823/NCCN_500.pdf
190 T-Mobile/Orange Response to the Draft Determination, page 9.
191 Vodafone Response to the Draft Determination, paragraph 2.27.

assessment in the context of dispute resolution. The 2004 Market Review only *provisionally* concluded that BT had a position of SMP and it was not completed, so no formal conclusion was reached as to whether BT has SMP in the termination of NTS calls.

7.116 We note that our analysis of the definition of the market in the NCCN 500 Decision (i.e. a single market across all TCPs) differed significantly from our analysis of the relevant market for geographic calls (i.e. a separate market for each TCP). Therefore, we disagree with the parallel that T-Mobile/Orange seeks to draw between termination of 0845/0870 calls and geographic calls.

7.117 We also disagree with T-Mobile/Orange's suggestion that we have no reason to believe that anything has changed in NTS market(s) since 2006. On the contrary, we consider that there has been a material change in circumstances, because we now consider that BT's billing system as a transit operator is no longer acting as a serious barrier to other TCPs replicating BT's variable termination charges (see paragraph 5.220 of the Draft Determination), whereas this was a relevant consideration in the analysis of BT's dominance in the NCCN 500 Decision.[192]

7.118 Contrary to the suggestion made by Vodafone, we have not reached a conclusion that BT's charges do not amount to discriminatory pricing. As explained in paragraph 4.90 above, we conclude on a different point, i.e. that BT's termination charges are not in principle per se discriminatory, but it depends on the facts of each case. Furthermore, in the context of this Dispute, we have not sought to establish whether BT has engaged in an abuse of dominance under UK and EC competition law according to the requisite legal standards, nor would it be appropriate or feasible for us to seek to conduct such an assessment in the limited time we have to resolve disputes under the 2003 Act.

Regulation "through the back door"

Submissions

7.119 T-Mobile/Orange, Vodafone, H3G and Virgin Media state that BT, in seeking to influence MNOs' retails charges, are effectively introducing a form of retail price regulation "through the back door". T-Mobile/Orange states that by doing this "*BT is attempting to step into the role of regulator. This is wholly improper*".[193]

7.120 Vodafone and Virgin Media suggest that BT's termination charges will ultimately lead to material distortions as between the origination and termination markets and interfere with and dictate consumer preferences. Vodafone suggests that this, "*should itself be sufficient grounds for rejecting BT's charging arrangements*".[194]

Our view

7.121 We refer to paragraphs 4.100-4.101 above in which we stated that the resolution of this Dispute is not imposing any new regulation to restrict the retail pricing freedom on OCPs and that regulation of the price of calls to 0845 and 0870 numbers was a matter being considered under the NGCS Review. For the purposes of this Dispute, we consider that any issues relating to the existing regulatory obligations and policy are outside of the scope.

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[192] For example, see paragraphs 5.56-5.63 of the NCCN 500 Competition Act Decision.
[193] T-Mobile/Orange Response to the Draft Determination, page 9.
[194] Vodafone Response to the Draft Determination, paragraph 2.22.

7.122 Having considered the responses from the MNOs we understand that they are suggesting that BTs proposals effectively operate as a form a price regulation, regulating the margin that OCPs are capable of earning and, that the structure amounts to a type of indirect third party price control with BT attempting to step into the role of regulator. Therefore, they suggest that notwithstanding the distinction between dispute resolution and policy projects made in the Draft Determination, they are concerned that if NCCNs 985 and 986 are found to be fair and reasonable, they may in practice be forced to price at a particular level and therefore a level common to all MNOs.

7.123 We carefully considered the effects of NCCNs 985 and 986 on consumers and competition in our analysis. Whilst we now consider that NCCNs 985 and 986 would be likely to incentivise MNOs to reduce their retail prices, we do not know the exact nature of the effect on prices including what the magnitude of this effect would be, and MNOs would not be precluded from continuing to price at different rates. We do not therefore accept that NCCNs 985 and 986 would act as a "price control" in the way that the MNOs contend.

7.124 We have assessed the effects on consumers and competition in our analysis of Principle 2 at Section 5 of the Draft Determination. For the reasons set out in this Section, we disagree with Vodafone and Virgin Media that BT's termination charges will ultimately lead to material distortions as between the origination and termination markets and interfere with and dictate consumer preferences. Therefore, we also do not agree with Vodafone's suggestion that this is sufficient grounds for rejecting BT's charging arrangements.

Application of BT's approach to other markets

Submissions

7.125 T-Mobile/Orange argues that "*if BT were to be allowed to retain these charges, then we would expect that mobile operators should equally be given the flexibility to structure their mobile termination charges so as to impact the level of fixed-to-mobile prices*". However, they also suggest that should there be a move away from a cost-based interconnection to more of a bilateral bargaining model, which would have far-reaching and difficult to predict consequences for operators, competition and consumers, this should be done through a market review rather than in the context of a dispute.[195]

Our view

7.126 As noted in relation to a similar point previously made by O2, mobile termination charges are not part of the scope of this Dispute and are therefore not a relevant topic for further discussion (see paragraph 4.103 above). However, we discussed the wider implications of NCCNs 985 and 986 in general at paragraphs 2.157-2.164 of the Supplementary Consultation.

[195] T-Mobile/Orange Response to the Draft Determination, page 25.

Comments on the submission by Dr Maldoom

Submissions

7.127 BT[196] responds to the comments made by Ofcom on the submissions by Dr Maldoom by standing by the observations made that Principle 1 is not in fact valid as a general "principle" and that externalities are important for other providers of 08x calls.

Our view

7.128 We agree with BT and Dr Maldoom about the existence of externalities and that they are relevant to our analysis. But we disagree that this undermines Principle 1, for reasons set out in paragraphs 4.14-4.19 and 4.128 and 7.29 above.

Ofcom's provisional analysis of NCCN 985 and NCCN 986

Provisional analysis of Principle 1

Submissions

7.129 BT provides some estimates of MNO retail charges and observes that there is no doubt that "*the MNOs are making truly enormous margins on 08x*".[197]

7.130 BT comments that "*in the April 2010 mobile termination consultation, Ofcom has proposed setting termination charges based on LRIC at 0.5p per minute (2008-2009 prices).*"[198] On this basis BT states there is no question that origination costs are less than termination costs even allowing for retailing costs. BT further comments that "*the costs of origination of 0845 calls will be no different to those of 080 calls (beyond the 2p transfer) and effectively close to zero in the short run on which pricing would be based in competitive markets but which only appears to apply to a minority of the MNO customers of these calls*".[199]

7.131 IVR agrees with the benchmark applied by Ofcom for each MNO to achieve a suitable retention for the origination of 0845/0870 calls and notes that BT meets the requirements of Principle 1.[200]

7.132 Vodafone urges Ofcom to proceed with caution in seeking to set a figure for cost of origination following only a limited investigation as part of a four month dispute process. Vodafone considers that cost of termination may be an appropriate starting point for any analysis on cost of origination, however, the costs of network termination are typically subject to greater analysis such as a market review and the costs of origination are not determinative in this case. Vodafone suggests it would be premature for Ofcom to reach any conclusion about the costs of origination of MNOs in the Final Determination.[201]

7.133 T-Mobile/Orange argues, firstly that Principle 1 amounts to regulation of MNOs' retail call charges which is not justified by regulation.[202] It adds, secondly, that Ofcom's

[196] BT Response to the Draft Determination, paragraph 52.
[197] BT Response to the Draft Determination, paragraphs 8 to 11 and paragraph 53.
[198] BT Response to the Draft Determination, paragraph 9.
[199] BT Response to the Draft Determination, paragraph 49.
[200] IVR Response to the Draft Determination, page 2.
[201] Vodafone Response to the Draft Determination, paragraph 3.3.
[202] T-Mobile/Orange Response to the Draft Determination, page 13.

interpretation of Principle 1 does not follow from Principle 1 itself – cost recovery alone is not enough, they should also make a margin but Principle 1 relates to cost recovery. Even if this is economic cost, it does not explain why MNOs' retention should be pegged to geographic retention, particularly given they offer a bundle of services and so margins vary across services according to the demand elasticities of the particular services. Thirdly, it adds that Ofcom seems to be suggesting MNOs should accept a lower retention on 0845 calls than on geographic calls, which is entirely unjustified. If this were the case, it argues, fourthly that it would lead to the perverse situation where MNOs would have an incentive to encourage their customers to search out the geographic number that sits behind the 0845 number in question (e.g. by using a website such as http://www.saynoto0870.com/) and to call that number instead (or, alternatively, for the MNO to translate the number itself before it leaves the MNO's network so as to earn a higher retention). It thus speculates that this cannot possibly be Ofcom's intention.[203]

7.134 C&W suggests that rather than considering the recovery of the efficient costs of origination, Ofcom considers whether average retention is "sufficiently large" relative to the retention on geographic calls. The average retention that an MNO makes on a particular call type is no measure of efficiently incurred costs and is evident from the MNOs' arguments in relation to the Mobile tariff package effect. C&W thus argues that it is a completely different test to the one Ofcom set out.

Our view

7.135 On BT's submission, we have not established the margins or profits that MNOs are making on 08x calls. As set out in paragraphs 4.48-4.59 above, the MNOs provided Ofcom with their views on the costs of 0845/0870 calls. We did not however reach a conclusion on this issue and instead, given our policy preference for the retail pricing of 0845 and 0870 calls, we considered that cost recovery on geographic calls forms the appropriate reference point for cost recovery on 0845/0870 calls (as reflected in the application of Principle 1 to this Dispute). We also note that our assessment in the 080 Determination that the MNOs' efficient cost of origination of 080 calls was unlikely to exceed 5ppm does not necessarily apply to 0845/0870 calls. In particular, the figure of 5ppm relied on the exclusion of most of the CARS costs, given the specific factors relevant to 080 calls.[204]

7.136 As regards Vodafone's comment, we have not sought to definitively attach a figure to the costs of origination. Instead we have used the MNOs' cost recovery on geographic calls as the appropriate reference point (see paragraph 4.60 above).

7.137 We note IVR's agreement with our analysis of Principle 1.

7.138 On T-Mobile/Orange's first argument that Principle 1 amounts to regulation of MNOs' retail call charges which is not justified by regulation, paragraphs 4.100-4.101 and 8.121 below set out our views on this issue.

7.139 On T-Mobile/Orange's second argument that cost recovery alone is not enough and C&W's argument that Principle 1 should only consider the recovery of the efficient costs of origination, as set out in paragraph 4.15 above, we consider that the linkage in our policy preference between prices for 0845/0870 calls and geographic calls

[203] T-Mobile/Orange Response to the Draft Determination, page 14.
[204] See paragraphs 5.111-5.118, 6.6 and A3.29 of the 080 Determination. At paragraph 5.115 we stated that "We acknowledge that in only favouring the minimum costs to be recovered from 080 call prices, the remainder might need to be recovered by MNOs from other mobile services."

implies a corresponding linkage in the extent of cost recovery on these calls as set out in Principle 1. Further, as set out in paragraphs 5.32 *et seq.* of the Draft Determination, Principle 1 provides protection for the MNOs so that NCCNs 985 and 986 *at least* permit reasonable cost recovery and that extent of cost recovery is determined by reference to the unregulated choice of the MNOs on geographic calls (which may include a margin, as per the economic definition of costs).

7.140 On T-Mobile/Orange's third argument that Ofcom seems to be suggesting MNOs should accept a lower retention on 0845 calls than on geographic calls, we accept that the retention on 0845 calls is likely to be lower than for geographic calls for those operators who align their prices for these two call types (i.e. in line with our policy preference). However, the 0845 number range exists to combine revenue share with the link to geographic pricing, as set out by our policy position (see paragraphs 5.32-5.34 of the Draft Determination). As a result of this purpose for the number range and our policy position, we do not consider it unreasonable for the retention on 0845 calls to be lower than that for geographic calls for those operators who align their retail prices.[205] In regard to T-Mobile/Orange's fourth argument that this would lead to a perverse situation, it is not clear to us that this would be the case. For example, SPs may offer a geographic number as an alternative to their 0845 number, but if OCPs started translating the numbers before delivering them to the TCP, then some SPs might reconsider their position on providing geographic alternative (and this is for the SP to decide). Additionally, BT has been subject to this regime of lower retention on 0845 calls than on geographic calls since 1996, yet it is not clear that during this period it has led to the sort of behaviour described by T-Mobile/Orange.

Provisional analysis of Principle 2

Mobile tariff package effect

<u>Submissions</u>

7.141 The MNOs have raised a variety of concerns in relation to the Mobile tariff package effect relating to the scale and importance of the effect. Firstly, T-Mobile/Orange states that generally in Europe, empirical evidence shows the waterbed effect in relation to mobile services is strong, and argues that in the competitive UK market, the waterbed would be expected to be even stronger. As a result, it claims it is reasonable to assume a virtually complete waterbed (or in this case, Mobile tariff package effect).[206]

7.142 Secondly, Vodafone, T-Mobile/Orange, O2 and H3G all reiterate the importance of the Mobile tariff package effect and some repeat their views presented in the Draft Determination. Vodafone reiterates that given the scale of the new charges, it will have to recover the costs from its subscribers somewhere, whether it is through higher 0845/0870 prices or rebalancing of tariffs across the basket of services.[207] However, it expands this point by stating that if BT's wholesale charging structure were to lead to lower 0845 and 0870 call charges, this reduction will be "highly likely" to lead to a rebalancing of tariffs elsewhere in the retail bundle.[208] As a result, Vodafone argues that the effect of NCCNs 985 and 986 will be to distort the pricing

[205] Indeed, we also note that this has been the case for BT since 1996.
[206] T-Mobile/Orange Response to the Draft Determination, page 18.
[207] Vodafone Response to the Draft Determination, paragraph 2.20.
[208] Vodafone Response to the Draft Determination, paragraph 2.21.

decisions of mobile operators (through increases in mobile charges in some form) and ultimately to interfere with and dictate consumer preferences.[209]

7.143 H3G and T-Mobile/Orange argue that such an increase in prices for other services has a real risk of detrimental outcomes for consumer welfare. H3G argues that this is likely to be well in excess of those alleged by BT to arise in respect of current 0845 and 0870 retail pricing,[210] and T-Mobile/Orange states that even if there were some reduction in 0845/0870 prices, overall consumer welfare will be reduced by a movement away from the optimal retail price structure determined in the competitive market.[211]

7.144 BT provides a quotation from paragraph A12.82 of Ofcom's consultation document in the current Wholesale mobile voice call termination market review[212] and suggests that there is a clear transfer of revenue from the fixed to the mobile sector in 08x calls (as for mobile termination) and that there are no dynamic efficiency concerns arising from NCCNs 985 and 986 (which were discussed in the quotation in relation to mobile termination). BT considers that Ofcom should exclude the Mobile tariff package effect or at most state it as having a neutral impact on the assessment in the Dispute.[213]

7.145 BT asserts that Ofcom's analysis is fundamentally flawed because Ofcom assumes that profits are retained in the fixed sector but competed away in the mobile sector but there is competition in termination of 08x calls.[214]

<u>Our view</u>

7.146 We agree that the Mobile tariff package effect is relevant, and also note that not only is the waterbed effect well-established in the analysis of mobile termination, it is also accepted by the CC and the CAT and supported by evidence from specific tariffs (for example H3G's We Pay tariff, as referred to in the CAT judgment in *Hutchison 3G UK Limited v. Ofcom* [2008] CAT 11), as well as empirical papers. However, as discussed in paragraph 5.184, the Wholesale mobile voice call termination market review suggested that, while the evidence was not conclusive, the waterbed effect is unlikely to be 100% complete.

7.147 In paragraph 5.185 of the Draft Determination, we discussed a difference between mobile termination and 0845/0870 calls in that the latter are sold by the MNO to the same customer as other mobile services and within the same overall tariff package, while the former is sold by the MNO to a customer (i.e. the OCP) who is different from its own subscriber to whom it sells other mobile services. As a result, we consider it likely that the Mobile tariff package effect is at least as complete as the waterbed effect in mobile termination. Our conclusion on the scale of the Mobile tariff package effect remains as set out in paragraph 5.189 of the Draft Determination.

7.148 Therefore we do not agree with C&W's comment that there is enough doubt in relation to the Mobile tariff package effect to suggest the Direct effect does not need

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[209] Vodafone Response to the Draft Determination, paragraph 2.22.
[210] H3G Response to the Draft Determination, page 2.
[211] Pages 16/18, T-Mobile/Orange Response to the Draft Determination, pages 16-18.
[212] Wholesale mobile voice call termination market review, Volume 3 – Supporting annexes, paragraph A12.82.
http://stakeholders.ofcom.org.uk/binaries/consultations/wmctr/annexes/wmvct_annexes.pdf
[213] BT Response to the Draft Determination, paragraph 87.
[214] BT Response to the Draft Determination, paragraph 87.

to be as significant as set out in the Draft Determination. As set out at paragraphs 2.149 of the Supplementary Consultation, and paragraph 7.88 above, in our view the overall effect on consumers depends on the relative sizes of the offsetting effects, which are uncertain.

7.149 Some of the MNOs have argued that there may be a distortion to retail pricing away from the "optimal" structure determined in a competitive market, resulting in a loss of consumer welfare. However, as set out in paragraphs 7.19-7.85 above, we consider that there is an externality between the OCP and the SP in relation to 0845/0870 calls, and so even in a competitive market, the structure of prices may not be efficient.

7.150 We have already explained why our approach to the analysis of the Mobile tariff package effect in this Dispute is both appropriate and consistent with the mobile termination market review. BT's suggested approach to exclude it or to assume it is neutral is both wrong and inconsistent with the analysis of mobile termination (see paragraphs 7.41 *et seq above*).

7.151 In mobile termination the concern about a transfer from the fixed to the mobile sector is where mobile termination rates, which are paid by fixed operators to mobile operators, are set too high relative to cost. This is not the case for 0845/0870 calls, since the termination payments relevant to the Dispute are paid by mobile operators to TCPs, which are generally fixed operators. Indeed, BT is seeking through NCCNs 985 and 986 to raise its termination charges above the cost of termination, which would seem to imply a transfer of revenue from the mobile to the fixed sector.

7.152 We discuss dynamic efficiency concerns in our assessment of the effects of NCCNs 985 and 986 on competition, including tariff innovation by OCPs (see paragraph 8.157 below).

7.153 BT is incorrect to suggest that Ofcom assumes that profits are retained in the fixed sector. On the contrary, in the Draft Determination we took into account a positive Indirect effect, recognising the competition in termination of 08x calls. We stated that competitive pressure may force BT to pass on higher termination charges to SPs in the form of lower hosting charges/higher outpayment (revenue share) and/or higher quality hosting services (paragraph 5.229 of the Draft Determination). We also recognised that the potential scale of the Indirect effect and the Mobile tariff package effect is similar (paragraph 5.233 of the Draft Determination).

Indirect effects – SPs

Submissions

7.154 T-Mobile/Orange and Vodafone state that BT has no obligation to pass on any revenue share to SPs and there is no reason to believe that they will do so, nor is there any evidence in the Draft Determination which supports the theory. T-Mobile/Orange suggests that "*it is far more likely that BT will retain these revenues itself, which will simply result in a transfer of revenues from consumers of mobile services to BT, placing MNOs at a competitive disadvantage*".[215] T-Mobile/Orange also suggests that BT's position in the NTS market(s) must be a key factor in determining whether any additional revenue will be shared with SPs.

[215] T-Mobile/Orange Response to the Draft Determination, page 2.

7.155 T-Mobile/Orange has suggested that even if other TCPs do exert competitive pressure on BT in the NTS hosting market, there is no reason or evidence in the Draft Determination that shows why they would not retain the additional revenues as opposed to passing this through to SPs.[216]

7.156 Vodafone argues that even if revenue did flow through to NTS hosting customers, paragraphs 5.226-5.227 of the Draft Determination seem to demonstrate that any pass through received by the NTS hosting customer would not result in material improvements that would benefit subscribers of CPs.[217]

7.157 Vodafone states that if consumers were to benefit from increased NTS services, then BT would need to pass on the entirety of its new revenue streams to it's hosting customers, which seems unlikely considering BT's commercial rationale for this new charging regime – to generate additional revenues for itself – and that we have not found any evidence demonstrating that BT would pass on the higher termination payments to its NTS hosting customers.

7.158 Vodafone also considers that it is difficult to see how BT could contractually guarantee increased revenues for hosting customers when an MNO may elect to change its retail prices. If MNOs were to reduce their retail prices for calls to these number ranges to avoid BT's wholesale charges, there will be no additional revenue to share with SPs and no prospects of enhanced NTS services.[218]

7.159 H3G disagrees that in due course competitive pressures will force BT to pass through the benefit from the termination charges to the SP end. H3G argues "*this is highly speculative given BT's dominance in this market, in part a factor of its scale. And of course the size of the windfall it will receive as a result, relative to that achievable by its competitors, is likely only to enhance this position*".[219]

7.160 H3G goes on to suggest that if we do believe that SPs will benefit from BT's proposals in time, then the better view would be to wait until such time as there is the requisite competition before allowing proposals of the type suggested by BT and not allowing BT to unfairly profit in the meantime.

7.161 BT suggests that there will be a clear benefit to SPs as TCPs move away from the traditional pricing approach for 08 services, which will make more revenue available for TCP's to share with SPs. BT also states that the SP market is fully competitive and, because of the implementation of NGN portability, TCPs will be able to attract SPs to their networks with better commercial offerings.[220] BT also argues that "*TCPs do not need to make a guarantee to flow through this increase in revenue to make this a reality as the market will develop based on the level of wholesale price transparency. [SPs] know there is now more revenue available across the NTS platform and will move to those TCPs who can improve their commercial offering through a more equitable revenue share*".[221]

<u>Our view</u>

[216] T-Mobile/Orange Response to the Draft Determination, pages 19-20.
[217] Vodafone Response to the Draft Determination, paragraph 2.23.
[218] Vodafone Response to the Draft Determination, paragraph 2.24.
[219] H3G Response to the Draft Determination, page 3.
[220] BT Response to the Draft Determination, paragraphs 92-93.
[221] BT Response to the Draft Determination, paragraph 94.

7.162 The respondents make comments in relation to two issues, which we consider in turn below: (i) pass-on by TCPs to SPs; and (ii) Vodafone's comment on contractual difficulties.

7.163 Our analysis of pass-on of higher termination charges by TCPs into better deals for SPs is set out in paragraphs 5.220-5.223 of the Draft Determination. We note that neither the MNOs nor BT provide any compelling new evidence to alter our analysis. The evidence that supports the theory of pass-on by TCPs is the ability of other TCPs broadly to replicate BT's NCCNs, including some TCPs that have already done so, as set out in paragraphs 5.211-5.218 of the Draft Determination.

7.164 As to H3G's suggestion that we should wait until there is the requisite competition before allowing proposals, we note that there may be a lag in other effects as well as the Indirect effect (such as the Direct effect or the Mobile tariff package effect – see paragraph 5.188 of the Draft Determination.

7.165 On the point raised by Vodafone, that it would be difficult for BT to contractually engage with SPs to pass on revenues due to the potential for changing revenue streams as MNOs change retail prices, we consider this to be a transitional and/or contractual issue. We agree with Vodafone that the level of the termination charge, and hence the amount of any revenue that the TCP could pass on to the SP depends on the average retail prices set by the MNOs. It would be for TCPs to decide how best to respond to this dependency, given competition amongst TCPs. For example, they might choose to wait to see the MNOs' pricing responses to NCCNs 985 and 986 or they might renegotiate contracts when there were sufficiently large changes or they might introduce contractual terms that were contingent on the termination revenues they received from OCPs.

Indirect effect – callers

Submissions

7.166 T-Mobile/Orange considers that even if BT did pass on additional revenues to SPs, "*it is not clear that such revenues would be employed to the benefit of callers to 0845/0870 numbers. By contrast, Ofcom can be confident that any excess of revenue over cost earned by the MNOs on 0845/0870 calls will be competed away by lowering other charges to consumers*".[222] Conceptually an argument can be made that more revenue to either side will lead to better services and hence such an argument does not provide the basis to favour one side over the other.[223]

7.167 BT suggests that, "*these renewed/enhanced commercial offerings will change the market dynamic for Service Providers lowering costs of calling, enhancing their products and services and enhancing competition generally*" such that revenues that flow to them will be competed away.[224]

Our view

7.168 Our analysis of benefits to callers is set out in paragraphs 5.224-5.227 of the Draft Determination. We consider it uncertain whether and to what extent SPs will improve the availability or quality of their services to the benefits of 0845/0870 consumers.

[222] T-Mobile/Orange Response to the Draft Determination, page 2.
[223] T-Mobile/Orange Response to the Draft Determination, page 19.
[224] BT Response to the Draft Determination, paragraph 93.

We note that neither the MNOs nor BT have provided any compelling new evidence to affect our analysis.

Conclusion on consumer effects

Submissions

7.169 BT notes that Ofcom's analysis is that the waterbed effect is negative irrespective of the direction of change in 08x prices, which it claims is in stark contrast to Ofcom's analysis of the waterbed effect for mobile termination.[225]

Our view

7.170 The Mobile tariff package effect has a negative impact on consumers regardless of whether 0845/0870 prices increase, fall or stay the same. This is because NCCNs 985 and 986 have the effect of reducing the profits earned by MNOs on 0845/0870 calls, as set out in paragraph 5.168 of the Draft Determination and paragraphs 2.146 to 2.149 of the Supplementary Consultation.

7.171 As explained above at paragraph 7.67, this reflects an important difference in the facts between the analysis of mobile termination and NCCNs 985 and 986, which involve significant increases in the level of termination charges, as well as the change in the structure of charges (i.e. the linkage to the OCP's retail price) that could lead to a reduction in 0845/0870 call prices (see paragraph 7.67 above).

Effect on competition among TCPs

Submissions

7.172 BT states that, at the time the Draft Determination was issued, there were three CPs who have implemented new termination rates in relation to OCP retail prices and that BT has received a further OCCN from a fourth CP with an effective date of 1 September 2010. BT is also engaged in further discussions with more TCPs hosting NTS number ranges and believes there are good grounds for arguing that industry will adopt NCCN 985 as a standard.[226]

7.173 Virgin Media suggests that Ofcom should undertake a review of the market for NTS call termination and that it would expect that BT, and indeed other TCPs, would be found to have SMP in that market and that relevant *ex-ante* remedies would accordingly be applied.[227]

Our view

7.174 We acknowledge BT's point that three CPs have already implemented new charging structures through the OCCN process and that a fourth is currently due to be effective as of 1st September 2010. As reflected in paragraph 5.216 of the Draft Determination, this is part of the evidence to suggest that the risk of a material distortion of competition among TCPs is relatively low.

7.175 We note the issue raised by Virgin Media; this falls within the scope of our current policy project, the NGCS Review. Without the same constraints as apply to dispute

[225] BT Response to the Draft Determination, paragraph 88.
[226] BT Response to the Draft Determination, paragraph 95.
[227] Virgin Media Response to the Draft Determination, page 2.

resolution, we expect the NGCS Review to be capable of reaching a clearer view of the desired outcomes and the appropriate policy option(s) to achieve them (see paragraph 2.155(c) of the Supplementary Consultation.

Competition in transit

Submissions

7.176 BT asserts that the basic principles of transit services remain unchanged as a result of NCCN 985 and NCCN 986 and therefore there is no distortion, material or otherwise, in the transit market.[228] It also notes that C&W has now adopted a pricing structure not dissimilar to BT's OCP-specific termination rates.[229]

7.177 In its response to the Draft Determination, C&W maintains its concerns in relation to the competitive impact on transit market ahead of further negotiations to alleviate this issue.[230]

7.178 T-Mobile/Orange also notes and agrees with the issues raised by C&W and emphasises there are significant concerns which will result in distortion of competition in the transit market. It notes that the history of the telecommunication sector shows that inefficient practices arise when significant arbitrage opportunities exists such as inefficient routing to circumvent earlier international accounting rate systems. It states that these concerns are much stronger than Ofcom's tentative conclusion on the risk of distortion in the transit market.

7.179 H3G agrees with Ofcom's concern on distortion of competition in the transit market due to the inability of the transit operator to identify the OCP for all calls.[231] It considers this risk to be substantial and is not aware of any feasible solution to address this issue.[232]

Our view

7.180 On the need for transit providers to know BT's OCP-specific termination rates, BT has reiterated its commitment to provide transit providers with the information necessary to charge the appropriate rate and to ensure that no transit provider is disadvantaged by a MNO's refusal to agree a price point.[233] This would allow transit providers to set an appropriate rate for OCPs for traffic that is routed via a transit provider to BT.

7.181 However, there is a remaining concern related to the ability to identify the OCP for all calls. In paragraph 5.248 of the Draft Determination, we noted that BT may be unable to determine the identity of the OCP if the call is from a ported number and the TCP is unable to identify the OCP based on the ingress route, such as because the call arrives via another transit provider who does not provide the OCP identity. We still consider that the identity of the OCP can only be known in all circumstances if (i) either this information becomes a mandatory element of the call information field via standardisation or (ii) all transit providers voluntarily pass this information along the call chain. Neither of these solutions are available at the present time. We agree

[228] BT Response to the Draft Determination, paragraph 101.
[229] BT Response to the Draft Determination, paragraph 96.
[230] C&W Response to the Draft Determination, page 12.
[231] H3G Reponse to the Draft Determination, page 3.
[232] H3G Response to the Draft Determination, page 3.
[233] BT Response to the Draft Determination, paragraph 99.

with H3G's comments that no technical solution has so far been identified by BT or others.

7.182 Although the scale of this concern is uncertain we maintain our concern about the risk of a distortion in the transit market in the absence of a mechanism to solve this problem regarding the ability to identify the OCP of the call.

Competition among OCPs

Submissions

7.183 T-Mobile/Orange considers that the termination charges BT is proposing would create competitive distortions among OCPs and place T-Mobile/Orange at a competitive disadvantage. T-Mobile/Orange argues that in the Draft Determination we have overlooked a number of points:

(i) the termination charge which is set by BT then becomes a variable cost for the MNO providing the service and this affects the terms on which that service can be provided to the retail customer. BT's ladder of charges therefore places MNOs in a position where the cost of providing services to one set of customers, is determined by the prices charged to other customers and indeed the prices charged by the MNO's MVNOs to their retail customers.

(ii) BT's termination charges form part of the marginal cost of the 0845/0870 calls and at the very least create a floor to the retail call prices. Operators and MVNOs will not want to price below this floor, therefore, BT's charges carry a serious risk of forcing removal of the lowest prices for these calls in tariffs. This will result in operators avoiding higher termination charges by removing or adjusting tariffs with the highest price for these calls and will lead to a loss in the range of tariffs available and a convergence of prices across the market for these calls.

(iii) depending on how all the practical considerations relevant to operators pricing play out, it could also be the case that operators will be forced to price in a similar way, although no model has been developed to capture all the relevant considerations. [234]

7.184 Vodafone considers that BT's charging structure will distort its pricing decisions and commercial strategy. It goes on to suggest that "*BT's charges therefore have the effect, if not the object, of dictating consumer preferences and distorting a highly competitive retail mobile access and origination market that currently delivers differentiation and choice for mobile consumers*", and will have a direct adverse effect on its customers.[235]

7.185 Vodafone has identified its recent "bolt-on" proposition as an innovative product that is unlikely to be retained should BT be allowed to implement these charges. This was introduced in response to another MNO competing in this market, and was BT's charging structure to remain in place, the retention of such a consumer proposition would no longer be tenable, nor would any future innovative offerings.[236] Additionally,

[234] T-Mobile/Orange Response to the Draft Determination, pages 21-22.
[235] Vodafone Response to the Draft Determination, paragraph 2.2.
[236] Vodafone Response to the Draft Determination, paragraphs 2.11-2.14.

Vodafone has noted that other TCPs are beginning to introduce similar charging regimes, which further reduces the likelihood of future pricing innovations.

7.186 O2 states that mobile retail bundles include calls to a variety of call types with different termination rates. It argues that in practice, retail prices are set on the basis of an expected call volume. In this way, the average retail prices of a call within a bundle is less than the termination rate of many of the calls within that bundle (if the bundle is fully exploited). For example, O2 offers a tariff enabling customers to make 1200 minutes of call, including calls to mobiles, for £30 a month. This equates to 2.5ppm, less than mobile termination rates.[237]

Our view

7.187 In relation to T-Mobile/Orange's comments about the cost of services to one set of customers being determined by the prices to another, the suggestion of a floor to retail call prices, and the range of packages available, we consider that T-Mobile/Orange has not taken sufficient account of the effect of the structure of NCCNs 985 and 986. We commented on this point, for example, at paragraphs 2.65 and 2.129(a) of the Supplementary Consultation. We also note O2's observation that the average price of a call in a bundle can be below the termination charge of many of the calls within the bundle, further suggesting that in practice the level of the termination charge may not impose a rigid floor on prices.

7.188 We also comment in paragraph 2.65 of the Supplementary Consultation on Vodafone's suggestion of reduced tariff innovation, noting that as well as the structure of BT's termination charges, the methodology to derive the MNO's average retail price is also relevant. Vodafone recognises the potential relevance of the derivation of the average retail price, although it suggests that it is "wholly unclear" how the bolt-on proposition would be treated in the calculation.[238] Our view remains that this is an issue that could be addressed in commercial negotiation between the Parties (see paragraph 5.335 of the Draft Determination).

7.189 We addressed the risk of pricing in a similar way or, in the extreme, uniform retail prices (both by and between operators) at paragraph 2.64 of the Supplementary Consultation. We also addressed the suggestion of NCCNs 985 and 986 causing a general distortion of competition at paragraph 5.265 of the Draft Determination. On both issues, neither T-Mobile/Orange nor Vodafone provides a compelling new argument or evidence to lead us to change our view.

Competition in MVNO hosting

Submissions

7.190 T-Mobile/Orange argues that "*Ofcom's suggestion that termination charges could be payable on an average price but that calculations could then be applied to determine individual payments from the MNO and the MVNOs that it hosts is hopelessly impractical*". It suggests that the MNO and MVNO "*would in effect be forced to align to the retail prices of its host MNO. Thus, Ofcom needs to take seriously T-Mobile/Orange's concern that the charging structure will weaken price flexibility and hence competition between operators and MVNOs*".[239]

[237] O2 Response to the Draft Determination, page 3.
[238] Vodafone Response to the Draft Determination, paragraph 2.14.
[239] T-Mobile/Orange Response to the Draft Determination, page 22.

7.191 Vodafone considers that BT's termination charges "*could distort the mobile wholesale access and origination market because they might cause MNOs to adjust their own wholesale charges in order to recover the charges that BT would levy for originating calls on behalf of the virtual mobile network operator operating on the network of the MNO*". Vodafone further argues that "*there is the clear potential for one MNO OCP to be placed at competitive disadvantage in the wholesale access and origination because of their wholesale customer mix and their traffic volumes*". Vodafone considers this is not only a result of the commercial strategy of the MNO OCP, "*but is rather the direct result of the unjustifiable discriminatory pricing of an unavoidable trading partner that appears to face no competitive constraint*". Vodafone considers Ofcom's proposed remedies for this to be highly speculative and that it is clearly inappropriate for Ofcom to form a definitive conclusion at this stage.[240]

7.192 Vodafone further states that Ofcom's proposal that MNOs might simply include the retail pricing of their wholesale customers as part of their own average retail price merely increases the complexity of calculating such an average.

7.193 BT considers that the issue of MVNOs is not an issue for them. MVNO's are not billed by BT and BT has no contractual arrangements with them and any such rate applicable to MVNOs is a matter for the host MNO.

7.194 BT asserts the MVNOs are not disadvantaged by NCCN 985 because each MNO has been informed, not only of a new pricing mechanism, but also of what specific price-point would apply. In this regard NCCNs 985 and 986 are consistent with other price notifications which, have the same impact on MNOs and MVNOs. In addition, BT has made it clear on a number of occasions that the price variations from MVNOs should be included in the price point that each given MNO will settle on. Moreover, where there is any issue of MVNOs releasing data to the host MNO, BT has offered to settle the matter directly with the MVNO or to accept a solution from the host MNO.[241]

<u>Our view</u>

7.195 We note the practical issues of setting individual charges for MVNOs which T-Mobile/Orange raise.

7.196 Despite the potential difficulties faced by MNOs and MVNOs, we reiterate that 0845/0870 calls appear to constitute a small proportion of total mobile-originated calls, which may make any effects on competition in MNO hosting of MVNOs relatively small and/or short-lived (see paragraph 5.280 of the Draft Determination).

Provisional analysis of Principle 3

Average price calculation

<u>Submissions</u>

7.197 T-Mobile/Orange and Vodafone argue that it is not practical for an MNO to liaise with its wholesale partners to include their retail prices as part of its own ARP. This increases the complexity of such a calculation and has competitive issues as both the MVNO and MNO are competing in the same markets. Virgin Media (which is an

[240] Vodafone Response to the Draft Determination. Paragraph 2.25.
[241] BT Response to the Draft Determination, paragraph 105.

MVNO, Virgin Mobile) also comments that the existence of MVNOs provides a significant challenge to establishing average retail prices.

7.198 T-Mobile/Orange, Vodafone, Virgin Media and H3G consider that it is not practicable to calculate an ARP. T-Mobile/Orange suggest Ofcom have not given enough guidance on the issue. Vodafone has used the example of their bolt-on proposition which applies to calls to 080, 0845 and 0870 numbers as a barrier to calculating an ARP. Virgin Media considers it very unlikely that the Parties will be able to agree on a methodology. H3G suggests that BT's efforts so far have been far too simplistic and that "*Ofcom's suggestion that it may be proportionate to exclude international roaming partners' retail prices from the calculation of ARP simply serves to highlight how complex and impracticable it would be for BT and the OCPs to derive an ARP*".[242]

7.199 H3G also suggests that other factors have not been taken into account sufficiently. These factors include taking account of traffic originating on their national roaming partner's network and the fact their retail billing system is unable to distinguish between calls to BT and non-BT terminated 0845 and 0870 numbers, which is further complicated by the porting between TCPs of 0845 and 0870 numbers.

7.200 BT considers that the Draft Determination suggests, not only that we believe it to be practicable to identify a methodology to derive a reasonable estimate of the MNO's ARP, but that the MNOs have been able to calculate a view of their ARP. In BT's view this calls into question the argument of the MNOs that they cannot calculate an accurate ARP and negotiate with BT as to what position on the ladder they should fall. BT considers that the MNOs should engage with BT in order to incorporate material changes in this average over time, as BT has done with its own NTS out-payments.[243]

7.201 IVR agrees with Ofcom that a suitable solution should be in place for TCPs to determine the retail prices charged by MNOs for calls to 0845 and 0870 numbers. It further comments that in order to calculate an ARP for calls to 0845 and 0870 numbers it has taken an average of the prepay, contract and business tariffs available on the respective websites of each MNO to arrive at a retail rate for the purpose of selecting the relevant step in their pricing ladder.[244]

Our view

7.202 We consider that the concerns raised by the MNOs in their submissions about the difficulties involved in establishing an ARP for calls to their 0845/0870 numbers are consistent with the concerns we addressed in paragraphs 5.315-5.323 of the Draft Determination. We stand by our views that it should be possible to negotiate an ARP with BT. We consider that each MNO should be in a position to estimate its own ARP for 0845/0870 calls to an acceptable degree of accuracy and subject to a reasonable verification procedure. We also consider that MNOs should be able to liaise with their MVNO partners whilst also complying with relevant competition law in order to incorporate their ARP for 0845/0870 calls into the overall average. None of the submissions received in response to the Draft Determination have provided compelling new arguments or evidence for us to change our views on this matter.

[242] H3G Response to the Draft Determination, page 4.
[243] BT Response to the Draft Determination, paragraphs 107-110.
[244] IVR Response to the Draft Determination, page 4.

7.203 We do not agree with T-Mobile/Orange's suggestion that we should provide further guidance. As we noted at paragraphs 5.317 and 5.320 of the Draft Determination so far there have not been any meaningful negotiations between the Parties on the methodology to derive the ARP and there are many alternative calculation methods which could be pursued. We consider that it would be premature for us to impose on the Parties a specific method.

7.204 We draw a different conclusion from H3G on our suggestion that it may be proportionate to exclude international roaming partners' retail prices from the calculation of the ARP. H3G suggests that this illustrates the complexity and impracticability. But we note that H3G does not provide any evidence to contradict our reasoning at paragraph 5.321 of the Draft Determination that international roaming accounts for a relatively small proportion of 0845/0870 calls. In the absence of such evidence, we consider that this serves to illustrate how the calculation of the ARP can be simplified and be made practicable.

7.205 We disagree with H3G's statement that we have failed to take into account practical concerns with factoring in traffic originating from their national roaming partner's network when considering H3G's ability to calculate an ARP. In cases where calls originate on the roaming partner's network, the retail price applied is still that of H3G and therefore H3G's ARP would not be affected. The relevance of national roaming to the different issue of wholesale billing accuracy is discussed at paragraph 7.217 below.

7.206 We disagree with H3G that we failed to take into account the fact that its retail billing system is unable to distinguish between calls to BT and non-BT terminated 0845/0870 numbers. We commented on this point at paragraph 5.318 of the Draft Determination. H3G has not provided arguments or evidence to negate our reasoning set out in that paragraph (which also applies to calls to numbers that are ported between TCPs).

7.207 We do not entirely agree with the suggestion by BT (who only had access to the non-confidential version of the Draft Determination) that the MNOs have already calculated their ARPs. One MNO [✄] has calculated the ARP for its own retail prices, but this does not take account of the retail prices of its wholesale partners. Two other MNOs [✄] have provided average price figures, but only in relation to a sub-set of their customers. We also note that all three of these MNOs have raised concerns about the calculation of an ARP (see paragraphs 5.287-5.291 of the Draft Determination).

7.208 We note IVR's method of calculating an ARP. This seems to involve one specific method, which is consistent with the general approach we described at paragraph 5.322(c) of the Draft Determination in the event that the MNO is unable or unwilling to provide an estimate of its ARP. But there may be other methods which could also be used. As noted above, we consider that (if relevant) this matter should be the subject of commercial negotiations between the Parties.

MNO pass-on to MVNOs

<u>Submissions</u>

7.209 H3G considers "*that it is too simplistic to expect OCPs to negotiate and agree a contractual basis for charging with their MVNOs*". H3G suggests the options to the OCP would be to collude with their MVNOs on price or to set different retail prices, however, this will mean that either the MVNO or the MNO take a retrospective hit and effectively pay a higher rate to BT. H3G considers this issue can not be argued away as even if an ARP is agreed, there will always be winners and losers, which is an inherently unfair situation for OCPs and MVNOs.[245]

Our view

7.210 We note H3G's comments surrounding the difficulty MNOs face in negotiating and agreeing a contractual basis for charging with their MVNOs. The issues raised are ultimately a consequence of BT's proposed approach of averaging the ARP across MNOs and MVNOs. Whilst we have not identified a specific solution to the point raised by H3G, there could be commercial negotiations on this matter.

7.211 We also note that we set out Virgin Mobile's reasons for its 0845/0870 price increases at paragraph 2.121 of the Supplementary Consultation and provided our view at paragraph 2.129(c) of the Supplementary Consultation.

Porting at OCP end

Submissions

7.212 BT states it is able to use the CLI information and ingress route information to identify the originating MNO.[246]

7.213 H3G is concerned that billing by CLI would lead to material billing discrepancies a potential distortion in competition and is unaware of any mechanism to remedy this issue. It disagrees with Ofcom's view that this issue is capable of resolution through commercial negotiations.[247].

Our view

7.214 We addressed the issue of calls originating on ported numbers in paragraph 5.333 of the Draft Determination. BT does not identify a mechanism to address our concern related to the correct identification of the OCP for all calls from ported numbers. It does not provide a solution to address the specific practical issue we noted in using CLI for identifying the OCP for calls from ported numbers when such calls arrive at BT's network via another transit operator. Ingress routing information is not sufficient when this traffic arrives via a transit provider.

7.215 We maintain that this should be addressed by BT or in commercial negotiations between the Parties to ensure billing accuracy without distorting competition (on which our concern is reiterated at paragraphs 7.181 to 7.182 above).

Calls from national roaming partners

Submissions

7.216 H3G states that we have not adequately taken into account the practical concerns with traffic originating on their national roaming partner's network in determining an accurate ARP.[248]

[245] H3G Response to the Draft Determination, page 4.
[246] BT Response to the Draft Determination, paragraph 115.
[247] H3G Response to the Draft Determination, page 5.
[248] H3G Response to the Draft Determination, page 4.

Our view

7.217 In relation to national roaming traffic, ingress route information would not be sufficient to identify the OCP (in this case H3G); in the case of calls from ported numbers, CLI information would not identify the OCP of the call. We consider that this is an additional practical issue related to billing accuracy and neither the Parties nor we have identified a suitable mechanism to overcome this.

Complexity: unforeseen, unintended or wider implications

Submissions

7.218 H3G suggests that "*BT's proposal would also make it difficult for OCPs to have differentiated retail prices for different operators (e.g. if a particular TCP offered a kick-back in return for a lower retail price on their number ranges)*".[249]

7.219 H3G also considers that "*a further complicating factor is that BT's proposal is far too static- OCPs regularly change their retail prices, so having a fixed band charging system would be immensely complex. It creates the risk that operators would have to give notice to BT in advance of making changes to their retail prices, in order that BT could apply the correct band charges*". H3G would be very concerned about the suggestion that they would be obliged to share future pricing information with a competitor.[250]

7.220 Virgin Media states "*that the scope for mandating of formal regulatory measures absent of a market review or resolution of a dispute is limited*", and believes that "*it is incumbent upon Ofcom to seek, for example, undertakings from BT that it will not impose any additional or more onerous termination charging ladders on OCPs and that it will not, in particular, facilitate the imposition of arbitrary termination charges by third party TCPs via the BT transit product*".[251]

Our view

7.221 We note H3G's comments regarding the notification of price changes to BT in advance of their implementation. We agree that there is a legitimate concern that OCPs should not have to notify retail price changes to BT. However, we consider that the disclosure of sensitive pricing information would not be required in order to provide BT with an adjustment to the ARP. We would expect the Parties to resolve such issues during their commercial negotiations on the approach to providing ARP information.

7.222 In relation to H3G's comments regarding differential retail rates, we are not aware of any situation where MNOs set different call charges dependent on the call recipient and we note that H3G has not provided evidence to support the practical significance of its concern.

7.223 As regards Virgin Media's request, we do not consider that it would be appropriate for Ofcom to seek undertakings from BT as suggested. Undertakings are voluntary commitments and would not be appropriate here, as BT disagrees with our reasoning and approach so would not be likely to "sign up". More fundamentally we have no regulatory role in seeking to prohibit an action on the part of a CP when we have no

[249] H3G Response to the Draft Determination, page 5.
[250] H3G Response to the Draft Determination, page 6.
[251] Virgin Media Response to the Draft Determination, page 2.

statutory authority to do so. In resolving any dispute we are constrained by Section 190(2) to the actions we can take and although these actions are without prejudice to our other powers BT is not subject to SMP regulation in relation to the termination of 0845/0870 calls.

Section 8

Ofcom's response to submissions on the Supplementary Consultation

Introduction

8.1 This Section sets out the submissions we have received from the Parties and interested parties in response to the Supplementary Consultation. Some of the responses we received refer to issues which we have covered in Section 7 above (remaining submissions and responses on the Draft Determination) and where possible we have cross-referred to our response in that Section.

Ofcom's overall approach to the dispute resolution process and other miscellaneous issues

The dispute resolution process

Submissions

8.2 Vodafone agrees with Ofcom's views expressed at paragraphs 2.5 to 2.11 of the Supplementary Consultation that the dispute resolution process is by its very nature different from a policy review or an ex ante analysis of relevant markets.[252] Vodafone argues that circumstances where the only way to test the validity of an economic theory would involve a protracted investigation akin to that of a policy review. Vodafone considers that Ofcom is clearly entitled to determine that such an exercise is not appropriate. Vodafone also argues that in the context of a dispute governed by strict time limits, one party to the dispute cannot be permitted to persistently prolong the process by offering additional arguments in the form of economic theory. It also argues that when the underlying economic model proposed by a party to the Dispute is of limited value, further elaboration and interrogation of that model will serve no purpose in the context of determining the Dispute.[253]

8.3 H3G agrees with Ofcom that the wider implications of NCCNs 985 and 986 must be taken into account, and are better addressed in the context of policy development rather than a dispute.[254]

8.4 O2 also agrees with Ofcom that the theory posited by BT would require an enormously complex assessment to calibrate any Direct effect; and that such matters cannot be assessed in the context of a four month dispute. O2 also argues that the right course of action is for Ofcom to issue a Final Determination that NCCNs 985 and 986 are not fair and reasonable, and that the Parties should revert to the previous arrangements, and that all of the issues should be considered in the NGCS Review. [255]

8.5 C&W argues that Ofcom has made much of the constraints placed upon it through its duty to resolve disputes within the statutory timescales. C&W notes that Ofcom not

[252] Vodafone Response to the Supplementary Consultation, paragraph 5.2.
[253] Vodafone Response the Supplementary Consultation, paragraph 1.7.
[254] H3G Response the Supplementary Consultation, page 2.
[255] O2 Response the Supplementary Consultation, page 2.

only has a duty to resolve disputes in a timely manner, but also to consider them on their merits. C&W believes that Ofcom has chosen to cite time constraints rather than make full use of the time provided under exceptional circumstances in order to fully resolve this Dispute. C&W additionally notes that Ofcom, although citing a lack of empirical evidence by BT to back up its detailed economic theory, concludes that "*in the context and timeframe of this Dispute, we do not consider that it was possible to initiate our own empirical analysis*". C&W comments that NCCNs 985 and 986 could very well satisfy the test, if there were empirical evidence to prove it and that it is frustrated by this approach considering Ofcom has already cited exceptional circumstances and yet is reluctant to provide the necessary resource to adequately reach a convincing resolution. It further adds that in parallel, Ofcom has issued Section 135 requests to operators in relation to the NGCS Review and the Bad Debt Surcharge review. C&W suggests that the same information could be used as empirical evidence in this dispute. C&W also notes that BT's decision to include 0845 and 0870 calls in call packages may have had a subsequent effect on call volumes and this could provide some empirical evidence on the consumer benefits to be gained through the Direct effect.[256]

Our view

8.6 We agree with the comments from Vodafone, H3G and O2 that the dispute process is not an appropriate place to review issues which would be placed better in a policy review.

8.7 We note C&W's comment that it is frustrated that Ofcom did not initiate its own empirical analysis. However, we disagree with C&W that it would be appropriate to undertake a level of analysis more usually found in a policy review, for the reasons set out in paragraphs 2.5-2.14 of the Supplementary Consultation, in the context of a time-limited dispute resolution process. We also consider that it would be extremely difficult to resolve the question of the relative sizes of the Direct, Indirect and Mobile tariff package effects, all of which are uncertain. Even if we had clear models to test these empirically (which is not the case, e.g. see paragraph 2.141 in the Supplementary Consultation), this would be a major undertaking without any guarantee of success in deriving a robust result. We disagree with C&W's comments that, because Ofcom has found exceptional circumstances to apply in this Dispute, it now has an opportunity to undertake further detailed analysis; it is still incumbent upon Ofcom to resolve this Dispute in as short a timeframe as practicable in light of the clear intention of the legislation from which our dispute resolution powers derive.

Providing regulatory certainty

Submissions

8.8 Vodafone considers that if Ofcom's Final Determination adopts in large part the findings of the Draft Determination and Supplementary Consultation, the uncertainty arising from BT's specific charging structure will be resolved. However, Vodafone believes that there remains considerable wider uncertainty and concern about continuing changes to the commercial arrangements for termination of calls to 0845 and 0870 number ranges.[257] Vodafone also notes that a number of other TCPs have introduced similar charging structures and that it has already expressed its objections to the parties concerned.[258] Vodafone would expect these other TCPs to take

[256] C&W Response to the Supplementary Consultation, page 3.
[257] Vodafone Response to the Supplementary Consultation, paragraph 6.1.
[258] Vodafone Response to the Supplementary Consultation, paragraph 6.2.

account of Ofcom's conclusions and withdraw their commercial arrangements, but notes that this outcome is not assured. Vodafone therefore believes that it would be more efficient for Ofcom to make clear that the conclusions would apply to disputes relating to similar commercial arrangements; and that a clear statement to this effect would also reduce the risk that new tiered structures are introduced, albeit with minor modifications to the previous arrangements.[259] Vodafone also requests therefore that Ofcom issues a clear direction that its approach in this case is to have application to parties beyond those involved in this Dispute.

8.9 Vodafone considers that in light of our stated intention to address many of the wider issues arising from the dispute over BT's 0845 and 0870 termination charges via a policy review, an unambiguous statement of our view at this stage would enable MNO OCPs to operate on the basis that commercial arrangements for NTS termination would remain unchanged at the very least until such time as Ofcom has concluded its policy review of number translation services.[260] O2 is also of the view that we should make it clear that our findings in the present case will apply to any similar future NTS charge increases, at least while we conduct the NGCS Review.[261]

8.10 C&W argues that the Draft Determination does not provide unequivocal guidance as to the validity of setting wholesale rates based upon retail pricing nor does it provide any form of judgement on BT's rates other than such a judgement is complicated and time consuming.[262] C&W reiterates that if Ofcom fails to make a categorical judgement the result will simply be a continued flow of disputes. C&W anticipates that should the Draft Determination stand in its current form, the next step will be for a TCP to devise a more aggressive pricing structure that allows a greater Direct effect.

Our view

8.11 We are required to resolve disputes as regulator and in accordance with our statutory duties. In particular, we are required to apply those duties in a consistent manner, and we would expect to take a similar approach in any future dispute relating to the imposition of tiered termination rates for NTS number ranges, subject of course, to the need to consider the individual facts of any dispute referred to us. Therefore, we regard this determination as providing additional guidance to industry as to Ofcom's view of such charging structures. In particular, in this Dispute we have set out three Principles which we consider must be met for a tiered charging structure to be considered fair and reasonable and have related these Principles back to our duties under the 2003 Act, including our principal duty which includes an obligation to further the interests of consumers in relevant markets, where appropriate by promoting competition.

8.12 We have acknowledged, in the context of Principle 2, that the issue of consumer benefit is extremely complex and cannot be simply resolved as several competing aspects need to be considered. We have, in concluding on this aspect of the dispute, received an unprecedented amount of information from the Parties and interested parties in order that we could make our decision based on all relevant information. In relation to Principle 2, our decision that the question of consumer benefits remains sufficiently unclear for a risk that a negative impact on consumers could arise, provides useful guidance to industry of the considerations that will be

[259] Vodafone Response to the Supplementary Consultation, paragraph 6.3.
[260] Vodafone Response to the Supplementary Consultation, paragraph 6.3.
[261] O2 Response to the Supplementary Consultation, page 2.
[262] C&W Response to the Supplementary Consultation, page 3.

applied when considering whether a charging structure would benefit consumers; and that for any charging structure to satisfy Principle 2, we consider that a clear benefit would need to be demonstrated. Additionally, given our conclusion on the magnitude of the Direct effect and the reasons for it (see paragraphs 8.141 *et seq.* below) we are minded to consider it unlikely (subject always to the specific facts of any particular case) that a more aggressive termination pricing structure would change our analysis in the absence of a model of MNOs' price-setting behaviour that was shown to be more comprehensive or reflective of real-world pricing decisions.

8.13 We do not consider it appropriate to comment further, as suggested by some respondents, on tiered charging systems in general, as such a statement would be a statement of policy which is beyond the scope of this Dispute. We believe that this is all the more appropriate when a policy review is already underway to review the NTS regime as a whole.

8.14 We have a statutory duty to resolve all disputes, on the merits of the information and evidence provided to us, within a four month period unless there are exceptional circumstances. There may be circumstances in which we consider it would be appropriate for us not to resolve a dispute within four months where the issue in dispute is being or is about to be considered as part of a policy project, and wait until the project has concluded before resolving the dispute. That question can only be addressed by considering the individual circumstances that pertain at the time, and it would not be appropriate to provide further guidance on such considerations within this Dispute.

The NGCS Review

Submissions

8.15 H3G considers it would be premature to introduce such a radical change to termination charging, which would entail cost and risk, until we have completed our own study into the charges (wholesale and retail) for 08 numbers. If NCCNs 985 and 986 are allowed to stand, but the NGCS Review leads to a different result, the industry will be faced with a further significant change in policy in a very short space of time. H3G considers that such disruption is not desirable. Therefore, it supports our view that it is better to address these issues simply as part of the NGCS Review, rather than this dispute process. Additionally, H3G is of the opinion that we should be investigating BT's market power as part of its wider NGCS Review.[263]

8.16 H3G has re-emphasised that many of the billing system problems, in particular in relation to calls to and from ported numbers, can only be adequately addressed, if at all, if the UK adopts a centralised database of ported telephone numbers. H3G urges Ofcom, as part of our NGCS Review, to reconsider the introduction of such a database, especially if Ofcom gives any consideration to the idea of pegging termination rates to the retail rates charged by OCPs for such calls.[264]

8.17 O2 comments that it is unaware of any principle of regulatory law giving the right to BT (or TCP) to some unspecified share of their profit/revenues, insofar as they can use that to offer services to their own customers. If there is to be such a principle, then it is for us in the context of a policy review to explain how it is beneficial to consumers, and allow all stakeholders to comment. If it is acceptable, then it should be more widely applicable.

[263] H3G Response to the Supplementary Consultation, pages 2 and 3.
[264] H3G Response to the Supplementary Consultation, page 3.

8.18 O2 considers that the Parties should revert to trading arrangements before NCCNs 985 and 986 were introduced and that all the issues and "knock on" effects should be considered in the round in the NGCS Review. O2 also considers that we should review our policy preference in the context of the NGCS Review and that it is not appropriate for us to settle this dispute based on our policy preference.[265]

8.19 IVR and C&W both consider that we should not make any decisions in this Dispute on the basis of the forthcoming NGCS Review. IVR do not consider that any policy change stemming from the NGCS Review could be achieved in a 12 month timescale as suggested by us in paragraph 2.163 of the Supplementary Consultation. Therefore, it would not be consistent to view any future policy as a mitigating factor in this Dispute.[266] C&W consider that BT's innovative pricing methodologies are moving at a faster rate than the timetable for the NGCS Review and that we must address the current Dispute upon its merits and not seek to avoid decision making on the basis of the forthcoming review.[267]

Our view

8.20 At paragraph 2.163 of the Supplementary Consultation, we discussed the potential for disruption in the industry if these NCCNs are found to be fair and reasonable and the resulting NGCS Review was to introduce significant changes to the regulatory regime for 0845/0870 numbers. We acknowledged our concerns regarding this, however, as set out in paragraph 2.162 of the Supplementary Consultation, we must resolve this dispute now and cannot wait until the end of the NGCS Review.

8.21 We note H3G's view that BT's market power should be investigated as part of the NGCS Review. We consider that the matters under investigation in the NGCS Review are not matters for this Determination.

8.22 We have responded to the porting issue previously in the Draft Determination at paragraphs 5.330-5.334. We maintain the view that this is not an issue for concern unless the call passes through a transit provider or a national roaming partner (see paragraphs 7.181 and 7.217 above).

8.23 Regardless of whether we determine that NCCNs 985 and 986 are fair and reasonable, the issue of a centralised database for ported numbers is not being considered in the context of the NGCS Review. This is a wider porting issue and while H3G has raised concerns about porting of numbers in this Dispute, we do not consider this particular issue to fall within the scope of this Dispute or the NGCS Review.

8.24 The NGCS Review will conduct a full strategic review of non geographic numbers. We are aiming to publish a consultation document in Autumn 2010.

8.25 In relation to this Dispute, we disagree with O2 that it is not appropriate for us to resolve this Dispute based on our current policy preference. Any change in policy resulting from a market review is forward looking; we consider our current policy preference, that all calls to 0845/0870 numbers should be treated the same way as calls to geographic numbers, is the appropriate basis for us to use in order to resolve this dispute.

[265] O2 Response to the Supplementary Consultation, page 3.
[266] IVR Response to the Supplementary Consultation, page 5.
[267] C&W Response to the Supplementary Consultation, page 2.

8.26 O2 comments that it is unaware of any principle of regulatory law giving the right to BT (or TCP) to some unspecified share of their profit/revenues, insofar as they can use that to offer services to their own customers. We are making our decision based on our duties and existing policy preference for calls to 0845 and 0870. We have also considered the issue of retention on these calls in our assessment of Principle 1 in paragraphs 7.135 *et seq above.*

8.27 We are not, as IVR and C&W argue, avoiding making a decision based on the forthcoming NGCS Review. But we take account of relevant considerations, including those set out at paragraphs 2.157-2.165 of the Supplementary Consultation, which discuss unintended, unforeseen or wider implications.

Ex-post rationalisation by BT of the impact of NCCNs 985 and 986

Submissions

8.28 Vodafone notes that in the period since this Dispute was referred to Ofcom for resolution, BT has sought to claim that its charging arrangements can be justified on the basis that they may lead to a reduction in the retail charges for calls to 0845 and 0870 number ranges by MNO OCPs. Vodafone is concerned with the weight which Ofcom can safely attach to the BT economic framework and the outcomes it generates when seeking to determine the overall effect of the charging structure on the interests of consumers.[268]

Our view

8.29 In the context of resolving this Dispute we sought information from BT regarding the commercial rationale behind the introduction of new prices for calls to 0845 and 0870 numbers under NCCNs 985 and 986. As set out in paragraphs 4.110-4.119, none of the contemporaneous evidence that we have available to us provides any support for BT's contention that NCCNs 985 and 986 have been designed to reduce 0845/0870 retail prices; and the rationale that BT is now advancing appears to be quite different.

8.30 However, we determine disputes as the regulator, and as such we consider it is appropriate for us to do so based on the evidence which is now available to us. We have therefore undertaken substantial analysis of BT's economic modelling and attached an appropriate weight to this evidence (see paragraph 8.45 *et seq.* below).

Principle 2 – the Direct effect on consumers

Empirical evidence in relation to BT's models

Submissions

8.31 BT asserts that its analysis is empirically based. BT cites the empirical evidence directly available to it in paragraph 55 of its submission. This includes the price structures and pricing options published and marketed by the MNOs for the consumer market; commercial awareness of the nature of pricing offers to corporate customers; knowledge of the prices which BT Mobile has been offered for the supply of the BT MVNO network; appreciation of MNO network design and operation; awareness of what Ofcom has published on MNO costs; awareness of the Ofcom survey of NTS services in 2005 including attitudes of SPs to MNO pricing; and

[268] Vodafone response to the Supplementary Consultation, paragraph 1.3.

awareness of the results of the recent Ofcom stakeholder survey for the forthcoming review of NTS services.[269]

8.32 BT asserts that inferences drawn from the observations above provide reliable evidence which is substantively more objective than anything provided by other Parties.[270]

8.33 In relation to footnote 72 in the Supplementary Consultation, it argues that, other than observing that the pricing policy of BT Mobile is profit maximising across BT's overall portfolio, BT doubts anything further can be usefully added from this source given the very modest size of the BT mobile base which does not permit any econometric modelling or consumer surveys.[271]

8.34 Professor Dobbs (on behalf of BT) further adds that significant 'weight' should be put on inferences drawn under the 'profit maximisation hypothesis'. MNOs claim to face a competitive environment – in such an environment, if they significantly mis-price their offerings, they will be driven out of the market place. It is entirely reasonable to assume therefore that MNO pricing generally, including tariff packages, need to be in the ball-park of being profit maximising – both before and after the wholesale price changes.[272]

8.35 Professor Dobbs notes though that Ofcom challenges the scope of analytic modelling in general. However, he comments that Ofcom itself often cites and relies on economic modelling to infer likely behaviour of economic agents (as for example in mobile termination). The use of such models in this dispute is therefore far from unusual. He asks what kind of empirical evidence Ofcom would consider relevant here, along with how it could have a material impact. He argues that there can be no question that the current dispute has been greatly informed by the presentation of explicit economic models. It has helped participants to the debate to focus on what the real issues are and to discuss whether issues the models ignore are important or not. BT's economic models show that the NCCN proposals tend to 'tilt' the profit functions of the MNOs such that they will tend to reach maximum profits at lower 08x retail prices post-NCCN implementation.[273]

8.36 Vodafone argues that BT's economic framework should be treated with caution principally because it does not capture the 'real world' factors that influence the way commercial entities operate in the market.[274] It argues that it is necessary for Ofcom to: (i) investigate the extent to which BT's economic theory and the outcomes that it generates are robust to real world settings; and (ii) consider whether there is any factual evidence that is consistent with the economic theory BT has advanced.[275] Vodafone argues that pricing is never in static equilibrium. MNOs are constantly in the process of revising prices as they explore consumer reaction and, in the case of 08x prices, this has, in some instances, led to recent upwards revisions. Vodafone

[269] BT Response to the Supplementary Consultation, paragraphs 53 to 55.
[270] BT Response to the Supplementary Consultation, paragraph 56.
[271] BT Response to the Supplementary Consultation Paragraph 54.
[272] Professor Ian Dobbs economic report, section 1 ("Dobbs 5"), submitted by BT in their Response to the Supplementary Consultation.
[273] Dobbs 5, section 5.
[274] Vodafone Response to the Supplementary Consultation, paragraph 1.5.
[275] Vodafone Response to the Supplementary Consultation, paragraph 1.3.

state that this is a constantly evolving process and so at any one point in time we should not expect prices to conform to profit maximising levels.[276]

8.37 It further argues that an MNO will never optimise individual prices along a continuous range of possible price points. In practice, there will be numerous constraints on prices, including practical billing system constraints, as well as objectives of tariff simplicity and transparency. It is the latter that will often mean that an MNO may price below "profit maximising levels" in order to achieve a common price point across a number of 08 services. It adds that this is not to deny that MNOs seek to profit maximise – they clearly do as a fiduciary duty to shareholders – the point is simply that they take account of other objectives such as achieving particular discrete tariff points, the benefits of which are not reflected in the simple continuous and static analytical model of Dobbs 4 and previous versions.

8.38 In Vodafone's view, those 'real world factors' explain why price elasticity and spillover effects can simultaneously be low. Vodafone attaches a graph showing how, if spillovers are zero and the profit maximisation assumption is relaxed, MNOs will have a strong incentive to raise the 08 price. This, in Vodafone's view, shows that the Dobbs model contains important limitations and cannot capture the range of factors that shape MNOs' pricing decisions.[277]

8.39 T-Mobile/Orange comments that Ofcom is required by Article 8(1) of Directive 2002/21/EC to comply with the principle of proportionality in resolving disputes. T-Mobile/Orange submits that it would not be proportionate to rely upon a theoretical model for the purposes of resolving a dispute without undertaking adequate consideration of whether that theoretical model is likely to be applicable to the actual facts of a dispute.[278] T-Mobile/Orange argues that the model has not been empirically verified and so it is not logical to conclude, without empirical investigation, that it is more likely than not that retail call prices will fall as a result of the NCCNs. It is ultimately a question of fact as to which of the scenarios considered in the modelling actually exist.[279] It argues that the Frontier Report is correct to point out that it is necessary to consider all the dimensions of retail competition before drawing inferences as to MNOs' pricing incentives, including the need to consider substitution and complementarities between MNOs' services. As such it considers that Ofcom is wrong to dismiss points on the grounds that Frontier Economics does not provide specific empirical evidence to demonstrate that these are relevant or important considerations for the MNOs in practice. T-Mobile/Orange argues that the Frontier Report provides a valid theoretical response to a purely theoretical point made by BT.[280]

8.40 T-Mobile/Orange argues that Ofcom should take proper account of the fact that MNOs are operating in a complex competitive environment and set multiple prices in different combinations to seek to satisfy the demands of different parts of their customer base. MNOs tailor their offering to match the demands of different groups of customers. Therefore it argues that models that rely upon the simple assumption that MNOs set the price of one service (alone) so as to maximise the profits to be

[276] Vodafone Response to the Supplementary Consultation, paragraph 3.8.
[277] Vodafone Response to the Supplementary Consultation, paragraph 3.10-3.11.
[278] T-Mobile/Orange Response to the Supplementary Consultation, paragraph 17(3).
[279] T-Mobile/Orange Response to the Supplementary Consultation, paragraph 17 and 17(1).
[280] T-Mobile/Orange Response to the Supplementary Consultation, paragraph 22.

derived from that service are unlikely to capture the full effects of the proposed charges on consumers and competition.[281]

8.41 T-Mobile/Orange further adds that at a high level of abstraction and over the long run, it is true that MNOs are profit-maximising undertakings, but that does not mean that it is an appropriate or empirically justified assumption to make when seeking to predict how MNOs are likely to set prices of individual services in the short run. It comments that on a day to day basis, it is clearly the case that decision makers within MNOs do not have perfect information and will likely not be able to assess the effect of changing the price of one service on the MNO's overall profit across all services until after the event.

8.42 O2 argues that BT's economic evidence is merely an elaborate theoretical model, and not sufficiently comprehensive or reflective of real world pricing decisions. It comments that BT's models are inconsistent as they assume that MNOs seek to maximise profits, but not BT. It adds that they were also only implemented after the fact to justify the NCCNs, rather than to model the effect of the NCCNs before implementation. Therefore, it argues that little or no weight should be given to the analysis.[282] It additionally comments that as it is BT who has posited such positive Direct effects, it is reasonable for Ofcom to conclude that BT has not made out a convincing case beyond identifying them as a theoretical possibility and that BT has, therefore, failed to provide justification for the new charges.[283]

8.43 H3G argues that it is unsafe to rely on BT's theoretical evidence without robust testing of the assumptions underlying its modelling. It comments that an accurate assessment of the magnitude of the Direct effect will require substantial empirical analysis, based on cross industry data. It states that only Ofcom is likely to be in a position to conduct such a study but it agrees that the scale of such an exercise is best suited to a market review process, where there is sufficient time available to carry out an investigation of this scope adequately rather than a time limited dispute resolution process. It argues that a curtailed analysis by contrast is unlikely to survive scrutiny and would risk serious prejudice to a variety of stakeholders, principally consumers.[284]

Our view

8.44 We acknowledge that the empirical evidence available from all parties and interested parties on the Direct effect is limited. We disagree with BT's arguments that its models are empirically based.

8.45 Neither BT nor Professor Dobbs have provided supporting empirical evidence in relation to demand elasticity or the structure of MNOs' demands, other than some 'stylised facts'. But BT's framework is not entirely consistent with the 'stylised facts' as its reconciliation of the evidence of inelastic demand for 0845/0870 calls with profit maximisation by the MNOs relies on the existence of a significant spillover effect, yet the available evidence does not support a strong spillover effect – see paragraphs 8.56-8.66 and 8.84-8.95 below for a discussion on the elasticity of demand and spillover effects. Additionally, the specific evidence referred to by BT does not support its claim that its analysis of the Direct effect is empirically based. For example, some of the evidence referred to by BT is not relevant to the Direct effect,

281 T-Mobile/Orange Response to the Supplementary Consultation, paragraph 23.
282 O2 Response to the Supplementary Consultation, paragraph 5, page 2.
283 O2 Response to the Supplementary Consultation, paragraph 1, page 2.
284 H3G Response to the Supplementary Consultation, paragraphs 3 to 4.

such as the appreciation of MNO network design and operation, and the attitudes of SPs. The other evidence identified by BT merely provides background points, but does not provide a proper empirical evaluation of the validity or comprehensiveness of BT's theoretical models or the real-world accuracy of their predictions.

8.46 In regard to BT's response to footnote 72, we note that BT's response is limited to BT Mobile. We consider though that it would have been possible for BT to test its models using its BT Group experience of offering 0845/0870 services to consumers, including empirical evidence relating to BT's decision to include them in bundles, as referred to by C&W. If the models were able to explain BT's decision-making in pricing 0845/0870 services to consumers then this may have been viewed as being supportive of BT's models capturing 'real-world factors' (although this would relate to pricing decisions by a fixed operator, there would need to be specific reasons why MNOs' pricing decisions were different to negate the relevance of such evidence to this Dispute).

8.47 In response to Dobbs 4, we agree that "*the current dispute has been greatly informed by the presentation of explicit economic models*". As Professor Dobbs points out, Ofcom itself often cites and relies on economic modelling to infer likely behaviour of economic agents. This is also the case in this Dispute, since the economic models are highly relevant to our conclusion on the direction of the Direct effect.

8.48 As noted in paragraph 2.98 of the Supplementary Consultation, we do not object to BT's assumption that the MNOs will seek to maximise their profits. But the inferences drawn under the profit maximisation hypothesis in Dobbs' models reflect the specific way in which profit maximisation is set out in those models (such as the considerations that are and are not included in the MNO's profit function). We consider that BT's theoretical models cannot be relied on adequately to capture all of the important real-world considerations in those profit-maximisation decisions and so this feeds into the uncertainty we have on the magnitude of the Direct effect – see paragraph 8.143 below. In this regard we also note T-Mobile/Orange's statement that whilst MNOs are profit-maximising undertakings over the long run, that may not be an appropriate or empirically justified assumption to make when seeking to predict how MNOs are likely to set prices of individual services in the short run.

8.49 We note the arguments of Vodafone, T-Mobile/Orange, O2 and H3G on BT's analysis and agree that there are limits to BT's analysis because it does not comprehensively capture the 'real world' factors that influence the way commercial entities operate in the market. This is reflected at paragraphs 2.137-2.141 of the Supplementary Consultation. As such we maintain our conclusion that the magnitude of the Direct effect is uncertain.

8.50 We are not however persuaded by Vodafone's argument that MNOs will have a strong incentive to raise price if spillover effects and elasticity are small and the profit maximisation assumption is relaxed. In the example provided, Vodafone assumes that the MNO foregoes profit maximisation in order to reconcile inelastic demand at the initial retail price with absence of spillover effects. It is therefore not internally consistent for Vodafone to then reintroduce profit maximisation to argue that the MNO will have an incentive to increase price after the introduction of the WTS. If 'real world factors' missing from BT's model constrain prices to low (not profit-maximising) levels prior to the WTS, Vodafone has to explain why they no longer do so after its introduction.

8.51 We note T-Mobile/Orange's argument that it is not logical to conclude, without empirical investigation, that it is more likely than not that retail call prices will fall as a result of the NCCNs. We summarised the reasons for our view on the direction of the Direct effect in the Supplementary Consultation at paragraph 2.142 a), in particular, T-Mobile/Orange has not demonstrated to us that the effect identified by BT is irrelevant.

8.52 In relation to T-Mobile/Orange's argument that we were wrong to dismiss points made in the Frontier Report, we did not do so. Instead we set out the limitations to the analysis (see paragraphs 2.55 and 2.59 of the Supplementary Consultation) as we have done for all evidence and analysis that has been submitted to this Dispute. One such limitation was the lack of empirical evidence to support the arguments made by Frontier Economics (a limitation we also note in relation to BT's analysis) even though the analysis was commissioned by three MNOs who potentially could have provided supporting evidence, for example, on the "rules of thumb" pricing methodologies proposed by Frontier Economics.

8.53 We agree with T-Mobile/Orange's comment that models that rely upon the simple assumption that MNOs set the price of one service (alone) so as to maximise the profits to be derived from that service are unlikely to capture the full effects of the proposed charges on consumers and competition. However, as set out in paragraphs 2.73-2.84 of the Supplementary Consultation we considered that BT's further analysis in Dobbs 4 partially addressed Ofcom's concerns in relation to competitive interactions and pricing of other services. We have reflected this analysis in our conclusions on each of the direction and magnitude of the Direct effect.

8.54 We note O2's argument that BT's models are inconsistent as they assume that MNOs seek to maximise profits, but not BT. Paragraphs 8.100-8.110 below deal with this issue.

8.55 As regards H3G's comments, we set out our views on the limits of the dispute resolution process compared to policy reviews in paragraphs 8.6 to 8.7, and paragraphs 2.5-2.14 and 2.161-2.162 of the Supplementary Consultation.

Elasticity of demand

Submissions

8.56 BT states that the empirical evidence directly available to it (discussed above) places a number of important bounds on some of the economic parameters (including own price elasticity and any spillover effects), and that the inferences drawn from the observations above provide reliable evidence which is substantively more objective than anything provided by other parties.[285]

8.57 BT states that the widespread assertion by the MNOs (which BT assumes Ofcom considers to be 'weak' empirical evidence) means that the own price elasticity is less elastic than that implied by the Lerner condition and in turn this means that any spillover effect must be that of complementarity. At the same time, this places an empirical lower bound on the own price elasticity – it cannot be more elastic than the Lerner condition itself.[286]

8.58 BT also argues that it is possible to go further with the empirical evidence and place a bounded size on the spillover effect (which is discussed further below in paragraphs 8.77 *et seq* below). Given this limit on the size of the spillover effect, BT

[285] BT Response to the Supplementary Consultation, paragraphs 57-58.
[286] BT Response to the Supplementary Consultation, paragraph 59.

argues that the absence of quotas of free call minutes places an empirically based upper bound on the own price elasticity. BT believes that Ofcom can therefore be strengthened in its conclusion that 'price reductions are more likely than price increases'.[287]

8.59 Additionally, on the relationship between the assumption of profit maximisation by the MNOs, price elasticity and the existence of spillover effects, Dobbs 5 states that the new analysis of spillover effects in Dobbs 4 addresses the point raised by both Ofcom and some MNOs – that there is a contradiction between the assumption that MNOs set prices so as to maximise profits, and the claim (by MNOs) that 08x call demands are relatively inelastic (see discussion of spillovers in paragraph 8.68, 8.84 *et seq.*, and 8.107-8.110, and the assessment of Dobbs 4 in the Supplementary Consultation). However if spillover effects are not materially significant (as per Dobbs 3), then, Dobbs 5 agrees that as Ofcom points out, there is a tension between the presumption that demand is inelastic and the presumption that MNOs are profit maximising. He notes though that spillover effects may not be material but demands may well still be elastic i.e. it is far from obvious that demand is not elastic at current price levels. In other words, Professor Dobbs argues that current 08x prices are set at fairly high levels and it has been argued by some that only the price insensitive are still making such calls – but this observation in itself says nothing about the overall elasticity of demand.[288]

8.60 Therefore, Dobbs 5 argues that in the absence of empirical evidence to the contrary, the claim by MNOs that 08x call demands are inelastic remains to be validated. The observation of high prices for 08x calls is consistent with the idea that MNOs have indeed pushed these prices into the 'ball park' of the profit maximising point (and at that point demands are likely to be elastic).[289]

8.61 T-Mobile/Oranges argues that BT has made only the theoretical point that a finding that the price of 0845 and 0870 calls is inelastic at present levels would tend to imply that MNOs are not profit maximising (Dobbs 4, paragraph 13).[290]

8.62 Vodafone acknowledges that in Professor Dobbs' simple static equilibrium model, where MNOs are free to select any price point along a continuous range of possible values, small spill-over effects and inelastic demand would be inconsistent with profit maximisation by the MNOs. However, as explained in paragraph 8.36 above, Vodafone argues that pricing is never in static equilibrium and is constrained in practice by billing systems and objectives other than profit maximisation, such as tariff simplicity and transparency.[291]

8.63 IVR has provided some data on call volumes to 0845 and 0870 numbers dating from specific dates such as when O2 increased prices to 08 numbers in October 2007 by taking these calls out of bundles. IVR has broken down call volumes to reflect calls originated from BT, other landline operators, all mobile operators and specifically O2 for a period of 6 months before the change and 6 months after the change. The results clearly show a significant reduction in total 0870 call volumes which IVR argues can be attributed toO2 as a direct consequence of the price increase. The data it has for 0845 showed a marked increase in volumes although upon further analysis IVR noticed a significant customer acquisition which increased the amount

[287] BT Response to the Supplementary Consultation, paragraphs 60-62.
[288] Dobbs 5, section 2.
[289] Dobbs 5, section 2.
[290] T-Mobile/Orange Response to Supplementary Consultation, paragraph 22.
[291] Dobbs 5, section 3.

of calls to these numbers. IVR has not been able to break these down into specific call data but has concluded that without these new minutes, there would have been a reduction in 0845 minutes.[292]

8.64 IVR also looked at volumes when BT announced that 0845 and 0870 calls would be included in call packages from February 2009. IVR broke down call volumes to reflect calls originated from BT and calls from other (transit) operators for periods of 6 months previous and 6 months after this date. There was a marked increase in BT originated 0870 calls (IVR gained no new 0870 traffic streams during this period). There was a more limited effect on 0845 call volumes and IVR suggests this may have been that these calls were already heavily discounted, therefore any perceived saving was small.[293]

8.65 Based on this data IVR considers that this demonstrates pricing being elastic. IVR considers that MNOs can price below the 12.5ppm threshold to avoid BT's charges and this reduction will be sufficiently large to offer benefit to consumers resulting in increased call volumes. On the other hand if they increase prices, call volumes will reduce and they will be in a worse position.[294]

8.66 For these reasons IVR concludes the elasticity theory proposed by BT is significantly more conclusive than the inelasticity theory proposed by the MNOs.[295]

Our view

8.67 In relation to BT's comments that its empirical data provides some bounds on the economic parameters, whilst some data has been used to inform the analysis, we do not consider BT's evidence and inferences to be empirically based. This is because the inferences are reliant on the theoretical assumptions and analysis being correct and comprehensive, and so have not been independently tested. For example, the specific way in which Dobbs models profit maximisation is (in part) contradicted by submissions from MNOs. Both Vodafone[296] and T-Mobile/Orange[297] comment that, although they seek to profit maximise in the long term, there may be other factors/objectives that lead MNOs to deviate from the profit maximising price as set out in BT's models (as discussed in paragraphs 8.48 above).

8.68 We agree with Dobbs 5 and Vodafone that there is a tension between the presumption that MNOs are profit maximising and the presumption that demand is inelastic if spillovers are not significant. Whilst Professor Dobbs provides one interpretation for this, i.e. that demand is elastic, this does not appear to match with the balance of the evidence available to us, such as discussed in paragraphs 5.111 to 5.114 of the Draft Determination. As noted above, some of the MNOs provide an alternative interpretation, i.e. that BT's/Dobbs' models omit considerations that are relevant to their real-world pricing decisions.

8.69 The data provided by IVR provides an insight into the call volume response to both a 0845/0870 price increase by O2 and a 0845/0870 price decrease by BT, and certainly appears to support a downward sloping demand curve for these calls.

[292] IVR Response to the Supplementary Consultation, paragraphs 7,8,9 of page 2 and para 1 of page 3.
[293] IVR Response to the Supplementary Consultation, paragraphs 2,3,4 of page 3.
[294] IVR Response to the Supplementary Consultation, paragraphs 5,6,7 of page 3.
[295] IVR Response to the Supplementary Consultation, paragraph 7 of page 3.
[296] Vodafone Response to the Supplementary Consultation, paragraph 3.9.
[297] T-Mobile/Orange Response to the Supplementary Consultation, paragraph 24.

However, it is difficult to establish a definitive elasticity figure from this data. Although it now appears that migration by SPs away from 0870 is no longer an issue (as was the case with the previous data provided), there are potentially other variables over the time scale beyond those identified by IVR which we might need to control for. For example, the acquisition of new customers by IVR, price changes by other OCPs in the same period and the potential for arbitrage on 0845 to affect call volumes when included in bundles. Indeed, O2 noted in its response to the Draft Determination[298] that it used to include 0845 calls in bundles, but the tariffs attracted a significant number of customers who fully utilised their bundles, exclusively by making calls to international call forwarding services which often use 0845 due to the revenue share. Therefore if there was an element of arbitrage before the MNO took 0845 calls out of the bundle, this is likely to distort the call volume figures before the change. Additionally, IVR is reliant on publicly available published data, which may not provide an accurate representation of the effective "in-bundle" price or the characteristics of the out-of-bundle price (e.g. is it uniform across all customers?). Therefore although the data provided by IVR suggests that demand is not completely inelastic, it does not provide a reliable basis for us to form a definitive view on the size of the price elasticity for 0845/0870 calls.

Multiple Price Points

Submissions

8.70 BT comments that Ofcom's concerns on multiple price points stem from its understanding of parts of Reid 1, and so provided further clarification of Reid 1 in response to a number of technical questions from Ofcom on this analysis.[299]

8.71 In response to Ofcom's statement at paragraph 2.127 of the Supplementary Consultation, that BT has only partially addressed Ofcom's concerns regarding MNOs having multiple price points, T-Mobile/Orange contends that this is a significant point and the simple assumption that MNOs maximise profit on an individual service is not appropriate.[300] T-Mobile/Orange also responds to Ofcom's request in paragraph 2.65 of the Draft Determination for "*an explanation for the incentive to withdraw lower-priced tariffs*". They state that there are two reasons why they would need to withdraw lower priced tariffs. First, the simple fact is that some of the lower priced tariffs presently offered by T-Mobile and Orange would fall below the marginal cost of providing the service as a result of the introduction of NCCNs 985 and 986. Secondly, it is precisely such special offers and low tariffs which would make the calculation of an average retail price particularly difficult and which would make it even more difficult for T-Mobile/Orange to predict such an average price in advance.[301]

Our view

8.72 We asked Professor Tommaso Valletti to consider the clarifications provided by BT on the Reid 1 analysis. Annex 5 sets out his views on this. In summary, he considers that Reid 1 does not provide a sufficient or reliable basis for the reliance placed on it by Professor Dobbs in only modelling the average price and not multiple price points, especially in cases other than third degree price discrimination. In light of this, we

[298] O2 Response to the Draft Determination, page 3.
[299] BT Response to the Supplementary Consultation, paragraph 36.
[300] T-Mobile/Orange Response to the Supplementary Consultation, paragraph 18(3).
[301] T-Moble/Orange Response to the Supplementary Consultation, paragraph 33.

maintain our conclusion set out in paragraph 2.66 of the Supplementary Consultation.

8.73 In relation to T-Mobile/Orange's argument that some lower priced tariffs currently offered would fall below the marginal cost of providing the service and so would have to be removed, we note that the termination rate is based on the average retail price, and so equally there may be some higher priced tariffs which are significantly above the marginal cost.

8.74 First, given that the termination rate is based on the average retail price, then as set out in paragraph 5.267 of the Draft Determination, MNOs will still have significant freedom to set the individual prices consistent with the average. This is important for T-Mobile/Orange's argument about the importance of multiple price points as given the flexibility over the individual price points within the average, the importance of this issue is dependent upon how they calculate the average retail price.

8.75 Secondly, as set out in paragraphs 5.269-5.270 of the Draft Determination, we note that T-Mobile/Orange has not taken into account the effect that the removal of lower priced tariffs would have on the average 0845/0870 retail price, and therefore the termination charge payable. Therefore, if removing such tariffs resulted in T-Mobile/Orange being placed on a higher charging tier, it is not clear that the removal of the lower priced tariffs would be the optimal response to NCCNs 985 and 986.

8.76 Finally, we note that in its response to the Draft Determination O2 states that mobile retail bundles include calls to a variety of call types with different termination rates.[302] It argues that in practice, retail prices are set on the basis of an expected call volume. In this way, the average retail prices of a call within a bundle is less than the termination rate of many of the calls within that bundle (if the bundle is fully exploited).[303] For example, O2 offers a tariff enabling customers to make 1200 minutes of call, including calls to mobiles, for £30 a month. This equates to 2.5ppm, which is less than mobile termination rates. Therefore if this approach of *expected* call volumes is utilised by MNOs for geographic calls in inclusive bundles, it is not clear why it would be irrelevant for the pricing of 0845/0870 calls and the lower priced tariffs mentioned by T-Mobile/Orange.

Lack of competitive interactions and prices of other services

Submissions

8.77 In response to MNO's criticisms that BT had ignored the nature of competition between MNOs and linkages between prices of different elements in the mobile retail bundles,[304] BT states that the MNOs themselves argued in the 080 Determination that calls to 08 numbers were not included in the 'competitive bundle'. In BT's view, this is strong prima facie evidence that spillover effects cannot be large. BT cites the Draft Determination in the 08 dispute, where several MNOs argued that their customers place most value on low monthly recurring charges and increasing call minutes in their retail bundles, but do not attach great value to non geographic numbers being included in those bundles.

[302] O2 Response to the Draft Determination, page 3.
[303] See paragraph 7.187 *et seq.* above.
[304] The Supplementary Consultation, paragraphs 2.67-2.68.

8.78 BT states that spillover effects can also be viewed as "waterbed" effects. BT argues, any feedback effects are likely to be 'second order' and Ofcom itself, in the Draft Determination, did not anticipate that the waterbed effect would be 100%.

8.79 BT further argues that MNOs are in competition with BT and other fixed network operators for the supply of bundles of services. To the extent that there may be waterbed effects of the MNOs having to raise prices, then there could equally be opposite and contrary effects from other CPs and TCPs on end users.[305]

8.80 In Dobbs 5, Professor Dobbs responds to Ofcom's assertion that the spillover is only assessed as: (a) negative and (b) linear; and (c) that demand for 08 calls depends only on the price of 08 calls:[306]

a) Professor Dobbs argues that he does not assume that the spillover function is negative, but instead infers its gradient (at the current price) from the first order conditions for profit maximisation. He criticises paragraphs 2.27-2.29 of the Supplementary Consultation for suggesting that there is a need to assess the overall impact of substitution and complementarity effects to determine the sign of the spillover term. In his view, all that is required is that these effects are taken into account by the MNO when choosing its optimal 08x price.

b) Professor Dobbs explains that MNO's incentives to reduce prices in the presence of spillover effects are robust for price changes in the neighbourhood of the current retail price. He acknowledges that his assumption that the spillover function remains linear beyond that price can be criticised, and that strong concavity in the function might affect his conclusions. However, he argues that Ofcom has accepted that spillover effects may not be strong, so that the possible concavity in the spillover cannot be material. In the absence of spillovers, if MNOs are initially setting prices close to profit-maximising levels then there is a clear incentive to reduce retail prices (as shown in Dobbs 3). In any event, Professor Dobbs adds, a 'rigorous derivation of the spillover function from an underlying model of multi-product competition' would not resolve what is at issue. Any such model has to be stylised and would necessarily be open to further criticism for lack of realism concerning assumptions.

c) Professor Dobbs still considers the assumption that demand for 08 calls depends only on their price to be a reasonable approximation. If, however, there was a material feedback effect from induced reactions to prices and quantities back onto the demand for 08 calls, then the relevant demand curve becomes that which traces the overall effect of the change in 08x price on 08 call quantity. In his view, because the sensitivity analysis in Dobbs 4 considers a wide range of alternative values for demand elasticity, such effects can be considered 'covered'.[307]

8.81 Vodafone argues that spillover effects are likely to be small. In its view, for the majority of mobile consumers charges for calls to 0845 and 0870 numbers do not affect their decision when subscribing to an MNO.[308]

[305] BT Response to the Supplementary Consultation, paragraphs 36–47.
[306] The Supplementary Consultation, paragraph 2.27.
[307] Dobbs 5, section 3.
[308] Vodafone Response to Supplementary Consultation, paragraphs 3.6-3.9.

8.82 Notwithstanding the above, in Vodafone's view an error in Dobbs 4 invalidates the conclusion that MNOs are likely to reduce their 0845 and 0870 prices. Dobbs 4 focuses on the individual firm and fails to capture the impact of the industry-wide adoption of the WTS. In particular, Professor Dobbs' profit function captures the impact of a unilateral price change by an MNO. Implicit in this function are rivals' prices, so that a change in the MNO's 08x price will cause a price reaction from rivals. If following the introduction of the WTS, MNOs generally lowered (raised) their 08x prices, the profit function for the individual MNO would shift downward (upward). The implication is that Figures 6.1.1-6.2.9 in Dobbs 4 would shift downward for low prices on the horizontal axis, but shift upward for higher prices. In Vodafone's view, the same criticism could be applied to previous submissions of Professor Dobbs.[309]

8.83 T-Mobile/Orange argues that Ofcom cannot rely upon Dobbs 4 to conclude on the likelihood that the WTS will lead to lower or higher prices for 0845 and 0870 calls because:

a) The model relies on a 'first order Taylor series' to approximate the spillover function, which is unlikely to be valid across wide range of prices. The way in which spillover effects emerge is likely to be an empirical question, and Dobbs' model does not provide any evidence as to the actual form of the spillover function;

b) Professor Dobbs does not deal adequately with this concern. It is not clear how Professor Dobbs constructs Figure 7.1 of his report and he is only able to draw the 'vague conclusion' that it would take 'quite strong' concavity in the spillover function to significantly affect his conclusions; and

c) The model seems unreliable in precisely the current circumstances where it is unclear whether MNOs may need to make substantial revisions in light of the proposed charges.[310]

Our view

8.84 In our Supplementary Consultation, we noted that the evidence set out in the Draft Determination tends to suggest that spillover effects are not large.[311] Responses from stakeholders (including that from Vodafone) tend to confirm this view.

8.85 Our conclusions on the Direct effect do not rely on the existence of a significant spillover effect in the sense of Dobbs 4, and further discussion of its assumptions and conclusions may not be necessary. For completeness, however, we set out below our views on issues raised by stakeholders regarding Dobbs 4.

8.86 As regards BT's statement that "spillover "effects can be viewed as "waterbed" effects, we consider that these two effects are distinct (in the way in which the terminology has been used in this Dispute). Spillover effects (e.g. in Dobbs 4) reflect demand interdependencies between an MNO's services (and between the MNO's services and those provided by other MNOs) which are taken into account by the MNO when setting 0845/0870 prices. The analysis is focused on the implications of the demand interdependencies for 0845/0870 prices (i.e. the Direct effect) and there is no explicit analysis of changes in the prices of other services (i.e. the Mobile tariff package effect). In contrast, the waterbed effect is about the changes in the prices of

[309] Vodafone Response to the Supplementary Consultation, paragraphs 3.1-3.5.
[310] T-Mobile/Orange Response to the Supplementary Consultation, paragraphs 15-16 and 17 (2).
[311] The Supplementary Consultation, paragraph 2.59.

other mobile services. Furthermore, we explained in the Draft Determination that with waterbed effects each MNO sets 0845/0870 prices independently of its decisions to set prices for its other services.[312] A "waterbed effect" on other retail prices can therefore arise in the absence of any spillover effect.

8.87 Hence, the evidence that the spillover effect is not large does not imply that the waterbed effect is negligible or "second order". We comment on whether the waterbed effect is 100% complete at paragraphs 7.146-7.147 above.

8.88 As to BT's suggestion of opposite effects to the waterbed effect from other CPs and TCPs, we discuss so-called Fixed tariff package effects in Section 7.

8.89 On the topic of the sign of the spillover function, we agree with Professor Dobbs that Dobbs 4 does not assume that the spillover function is negative, but rather infers its gradient from the first order conditions for profit maximisation. Similarly, we agree that, in the Dobbs framework, if MNOs are profit maximising and demand is inelastic then as a logical inference there must be a complementary spillover effect. However, since this inference relies on the specific way profit maximisation is modelled in the Dobbs framework, its empirical relevance relies on the accuracy or comprehensiveness of that framework.

8.90 In relation to the linearity of the spillover function in Dobbs 4, we continue to believe that the spillover function is unlikely to be linear over a wide range of prices.[313] In the absence of supporting empirical evidence we are unable to reach a view on the shape of the spillover function. T-Mobile/Orange is in agreement with this view. As noted by Professor Dobbs, however, if spillover effects are insignificant the shape of the spillover function is largely irrelevant. In that case, as noted by Professor Dobbs, the relevant analysis in the Dobbs framework is that contained in Dobbs 3, which largely ignored spillover effects.

8.91 We share Professor Dobbs's view that any model (of multi-product competition or any other) must necessarily simplify features of reality. This is an important consideration when interpreting the results of any model. We explained in our Supplementary Consultation that in our view the usefulness of the "reduced form" approach in Dobbs 4 depends on how well it reflects the underlying features of the market or the structural models (in this case of multi-product competition) whose form it reduces.[314]

8.92 We noted that the absence of any rigorous derivation of the spillover function from an underlying model of multi-product competition makes it difficult to place a priori restrictions on the shape of the spillover function or the size of the effect.[315] Moreover, as highlighted by Vodafone the "reduced form" MNO's profit function must have rivals' prices implicit within it if strategic interactions have been modelled, and so the function would shift when other MNOs lowered (raised) their prices in response to the WTS. Dobbs 5 claims that the sensitivity analysis in Dobbs 4 would cover the effect of any feedback from induced changes in the prices of the MNO's other services (and also by other MNOs) back onto the demand for 08 calls (hence, the effect of a shift in the MNO's profit function arising from a shift in its demand curve for 08 calls). The extent to which it would also cover shifts of the MNOs' spillover function is unclear.

[312] The Draft Determination, paragraph 5.171.
[313] The Supplementary Consultation, paragraph 2.30.
[314] The Supplementary Consultation, paragraph 2.26.
[315] The Supplementary Consultation, Paragraph 2.31.

8.93 We consider however that Vodafone has not explained sufficiently its view that the profit functions in Dobbs 4 would necessarily shift downward for low prices and upward for higher prices. A change in a rival's price would be expected to shift one element of the profit function (the spillover term), and Vodafone has not provided reasons why the shift of the overall profit function would necessarily be in the direction it suggested.

8.94 Finally, we do not share Vodafone's view that the same criticism can be applied to previous submissions of Professor Dobbs. As we explained in our Supplementary Consultation, those submissions largely ignored spillover effects and treat an MNO as a niche monopolist.[316] They view prices for 08 calls as being set independently of other MNOs' prices, as they assume limited demand interdependencies between services provided by different MNOs. It follows that rivals' prices are not implicit in an MNO's profit function and so Vodafone's criticism does not apply.

8.95 In summary, we maintain our conclusion as set out in the Supplementary Consultation relating to competitive interactions and prices of other services.

Substitution

Submissions

8.96 In relation to the substitution concern expressed by Ofcom in paragraph 2.128 of the Supplementary Consultation, BT states that it is not actually considered to be material by Ofcom, and states that our text in paragraphs 2.85-2.89 of the Supplementary Consultation contains no evidence or even hypothesis from any party that this is likely to be a relevant or material factor. BT also cites Ofcom research to support this view that most SPs do not offer geographic alternatives to NTS numbers as a matter of course, and that firms do not tend to switch between 08 number ranges.[317]

8.97 T-Mobile/Orange argues that the Frontier Report is correct to point out that it is necessary to consider all the dimensions of retail competition before drawing inferences as to MNOs' pricing incentives, including the need to consider substitution and complementarities between MNOs' services. They state that Ofcom is wrong to dismiss Frontier Economics' points on the grounds that it does not provide specific empirical evidence to demonstrate that these are relevant or important considerations for the MNOs in practice. Frontier Economics' point is a valid theoretical response to a purely theoretical point made by BT.[318]

Our view

8.98 As set out in paragraph 2.127 (b) of the Supplementary Consultation, we do not consider that BT's response has directly addressed our potential concern regarding substitution between 0845/0870 calls and other mobile services, but the available evidence does not suggest that this is likely to be large (a view also set out in paragraph 2.89 of the Supplementary Consultation). We remain of this view. We also reiterate the view in paragraph 2.88 of the Supplementary Consultation that in our

[316] See paragraph 2.79 of the Supplementary Consultation. We explained that, in our view, earlier submissions do not consider Bertrand competition because they do not derive the competitive equilibrium when other MNOs optimise their prices and consider the profit-maximisation problem of the MNO in isolation.
[317] BT Response to the Supplementary Consultation, paragraphs 31-35.
[318] T-Mobile/Orange Response to the Supplementary Consultation, paragraph 22.

assessment of substitution we are considering substitution by callers between 0845/0870 and other types of calls, not by SPs.

8.99 In relation to T-Mobile/Orange's comments about the Frontier Report, we discuss this in paragraph 8.52 above.

Profit-maximisation by BT

Submissions

8.100 BT argues that whether or not BT itself is profit maximising is an irrelevant issue and says that Professor Dobbs sets this out clearly. It argues that the BT wholesale tariff schedule is an 'input' into the economic assessment of the welfare impact on consumers and it is not an 'output'. In any event, it argues that Professor Dobbs points out that BT is nevertheless constrained by Ofcom so its behaviour can be considered completely rational.[319]

8.101 More specifically, Professor Dobbs argues that the dispute is over a specific proposal and it is legitimate to ask whether this proposal is likely to be beneficial or not to retail customers. He argues that the question of whether it is profit maximising for BT, or not, is not the issue being addressed. He comments that the reports Dobbs 1-4 and Reid 1 do not address what a profit maximising schedule would look like for BT for the simple reason that this is not relevant to the Dispute. He notes though that if it is assumed that (i) all firms including BT are concerned with profit maximisation; and that (ii) the NCCN proposals are clearly not profit maximising for BT, then on the face of it, this seems to imply an inconsistency. However, he adds that whilst the NCCN proposals are probably not profit maximising for an unregulated firm (as remarked in Dobbs 4), BT is in fact subject to regulatory restraint and intervention (the present dispute being merely one example of such restraint. He thus argues that it is pointless for a firm to propose a price change that it knows will not ultimately be allowed by the regulator. On this view, he contends that the NCCN proposals are certainly not inconsistent with BT being a profit maximising regulated firm.[320]

8.102 BT itself states that it does not accept that it has failed to explain why its own behaviour is rational. It argues that it and its third party experts were very clear in the 080 Determination that there were significant negative externalities of the MNO pricing of 08 calls which were having a detrimental impact on its wider business. In particular, BT cites Dr Maldoom's reports that explained that the customer confusion created by the behaviour of the MNOs has seriously damaged the wider industry. It additionally comments that Ofcom's additional concerns regarding profit maximisation (see paragraph 2.96 of the Supplementary Consultation) on the ability of models to capture 'real world' decision taking (see paragraphs 2.98-2.99 of the Supplementary Consultation) are nothing to do with whether or not BT (or indeed all other parties in the value chain) is choosing to profit maximise or not.[321]

8.103 Vodafone argues that BT's economic framework should be treated with caution because it does not consider whether BT's objectives as a profit-maximising entity mean that the charging structure will produce the effects that BT now claims.[322] It argues that it is appropriate to consider whether the theory advanced by Professor Dobbs on behalf of BT in his papers is consistent both with the theory of BT acting as

[319] BT Response to the Supplementary Consultation, paragraph 48.
[320] Dobbs 5, section 4.
[321] BT Response to the Supplementary Consultation, paragraph 48.
[322] Vodafone Response to the Supplementary Consultation, paragraph 1.5.

a profit maximising entity and BT's internal documentation relating to its motives for the introduction of the charging structure.[323] Vodafone notes that the Draft Determination clearly suggests that BT did not expect its MNO OCP customers to reduce their retail charges (either at all or by a significant amount) as is claimed by Professor Dobbs. It thus argues that, as well as undermining the credibility of BT's claim that the charging structure will lead to reduced 0845 and 0870 call charges, it also appears to call into question BT's assertion that NTS hosting customers would benefit from the pass through of any new revenues acquired by BT at the expense of MNO OCPs. Accordingly, it argues that BT's charges would not lead to any material benefit for the subscribers of MNO OCPs.[324] Vodafone further adds that it would concur in the view that the factual evidence in respect of BT's commercial objectives would in itself constitute sufficient grounds for finding that BT's charges do not operate in the interests of consumers and are therefore not justifiable because BT's stated objectives are clearly at odds with the theory advanced by Professor Dobbs.[325]

8.104 T-Mobile/Orange notes that, at paragraph 20 of Dobbs 4, Professor Dobbs comments that "*the consequences for BT's profits are largely beside the point*". It argues that Ofcom has investigated and established BT's true motive in introducing these new charging structures (see paragraphs 4.110-4.120 of the Draft Determination). It comments that it is clear from the contemporaneous documentary evidence seen by Ofcom that BT introduced these additional new wholesale charges so as to increase its own revenues rather than to benefit consumers. It thus argues that the work that has been carried out by Professor Dobbs, Dr Maldoom *et al* after the event to attempt to establish a case for consumer benefits can be seen as more of an afterthought than connected in any way to BT's true rationale. As such, it contends that this is an important point which Ofcom must not lose sight of in determining the dispute.[326]

8.105 O2 argues that BT's models are inconsistent as they assume that MNOs, but not BT, seek to maximise profits. It further argues that they were only implemented after the fact to justify the NCCNs, rather than to model the effect of the NCCNs before implementation. Therefore, it suggest that little or no weight should be given to the analysis. It adds that what is manifest, and striking, is that nowhere in BT's own contemporaneous internal business documents at the time of introduction of NCCNs 985 and 986 is there even a hint of the theoretical argument now posited by BT. Instead, it states that the BT documents show a more obvious and entirely self-interested rationale from BT – that it wants to grab a greater share of MNOs' profits from a retail service offered by the MNOs. This, it points out creates a glaring contradiction in BT's argument: if, as BT's documents show, the motive is purely profit sharing, then BT's interests are that retail prices for 0845/0870 calls from mobile phones should be higher, not lower. In short, it considers that BT's argument is demonstrably a piece of theoretical economic advocacy put forward by BT after the fact, and in a context that bears no resemblance to the actual reasons relied upon by BT's own business managers at the time they formulated the new charges. It thus argues that Ofcom is entitled to disregard the BT theoretical evidence on this basis alone.[327]

[323] Vodafone Response to the Supplementary Consultation, paragraph 3.5.
[324] Vodafone Response to the Supplementary Consultation, paragraph 2.3.
[325] Vodafone Response to the Supplementary Consultation, paragraph 3.1.
[326] T-Mobile/Orange Response to the Supplementary Consultation, paragraph 24.
[327] O2 Response to the Supplementary Consultation, paragraph 5, pages 1 and 2.

8.106 H3G points out that the contemporaneous evidence shows that BT's sole motivation was simply profit maximisation.[328]

Our view

8.107 As set out in the Supplementary Consultation in paragraphs 2.90 to 2.99, contrary to BT's assertion, in our view it is relevant to consider profit-maximising behaviour by BT because it either reveals an inconsistency or a limitation in BT's analysis of the Direct effect.

8.108 We agree with Professor Dobbs that it is relevant to assess whether NCCNs 985 and 986 is likely to be beneficial for consumers. This is the analysis we have conducted.

8.109 Professor Dobbs' explanation why the NCCNs are consistent with profit maximisation by BT is that BT is subject to regulation, such as the current Dispute. We note that neither Professor Dobbs nor BT provide evidence to support the view that this was relevant to BT's design of NCCNs 985 or 986.[329] Furthermore, MNOs are also subject to dispute resolution or the threat of regulation more generally which could affect their behaviour, but neither effects are modelled by Professor Dobbs. In our view, therefore, even if the Dobb's 5 explanation is correct, it suggests a limitation in BT's models of the Direct effect.

8.110 BT's own explanation of why its behaviour is rational is different from that provided by Dobbs 5, referring instead to the detrimental effect of MNOs' pricing on its wider business. We note that BT has not provided evidence, such as a business case, to support this argument. In contrast, we note that BT's explanation now is not supported by the contemporaneous evidence (as set out in paragraphs 4.111 to 4.120 of the Draft Determination). For example, negative externalities were not referred to in BT's rationale for NCCNs 985 and 986 in its Internal Authority paper. We note that our analysis of the contemporaneous evidence is consistent with the suggestion by Vodafone, T-Mobile/Orange, O2 and H3G that the arguments that BT is now submitting in support of its NCCNs are ex-post rationalisation (see discussion of this in paragraphs 8.29-8.30 above). In addition, even if BT's explanation is correct, it points to wider considerations beyond those included in BT's economic models – similar or other wider considerations might also be relevant to MNOs' price-setting decisions.

Other issues

Submissions

8.111 Vodafone submits that Ofcom has misunderstood Vodafone's concerns about the scope for volatility in wholesale termination charges and its impact on pricing. It contends that Ofcom appears to consider that it is necessary to examine whether or not precisely the same commercial practice of very frequent changes to termination rates would be followed by TCPs in the context of charges for the termination of 0845 and 0870 calls. However, it submits that it was in fact seeking to highlight the potential for TCPs to adjust at will existing charging arrangements (such as increasing the level of the NTS termination charges) for NTS calls in an unconstrained way that would have an impact upon Vodafone's pricing decisions. It argues that if BT introduces a wholesale charge based on an average retail charge of the OCP there is clear scope for averaging to lead to frequent fluctuations (potentially

[328] H3G Response to the Supplementary Consultation, paragraph 6.
[329] [✂]

monthly) in the level of the wholesale charge that applies to the MNO OCP. It suggests therefore that this may lead to different charging arrangements with different TCPs. In these circumstances, it argues that it would be incentivised to introduce a one-size-fits all increase in call prices to 0845 and 0870 number ranges to "insure" itself against a variety of wholesale charging arrangements that might apply in an unpredictable manner.[330]

8.112 Dr Maldoom suggests that there is no compelling logic for Ofcom's argument that the special considerations applicable to 080 (in terms of "freeness" being a policy objective) do not apply in the same way to 0845/0870. The same underlying principle of collective brand value and the two-sided markets applies to all these number ranges. The only distinction that can reasonably be drawn is one of degree rather than principle. 080 numbers are widely used to support services of social value (e.g. helplines), and so the welfare cost of moving from reasonably uniform and transparent pricing might outstrip that for other number ranges. However, the same issues arise with 0845/0870, as in particular, 0845 appears to be subject to similar uses to 080, where SPs want to encourage calls but prefers not to use an entirely free number.[331]

Our view

8.113 In relation to Vodafone's argument, we did not consider it necessary to examine whether TCPs would follow precisely the same commercial practice as 'flip-flopping' in mobile termination charges. Instead, we considered it a useful benchmark for comparison given that it has been assessed as part of the MCT April consultation.

8.114 We remain of the view that it is unclear that the concern is of the same scale as for the regulation of mobile termination charges for the reasons set out in paragraph 2.116 of the Supplementary Consultation. However, we accept that MNOs may seek to self-insure against changes in termination rates (see paragraph 2.117 of the Supplementary Consultation). This possibility of an increase in 0845/0870 prices is taken into account in our conclusion on the direction of the Direct effect (see paragraph 2.136 of the Supplementary Consultation). It was also considered in our assessment of the impact on competition between OCPs (see paragraphs 5.271-5.274 of the Draft Determination).

8.115 In relation to Dr Maldoom's suggestion that there is no there is no compelling logic for Ofcom's argument that the special considerations applicable to 080 do not apply in the same way to 0845/0870. In fact we stated that special considerations do apply to 0845/0870 in paragraph 4.31. We have also considered this issue further in paragraph 7.78 *et seq.* above.

The Mobile tariff package effect (waterbed)

Submissions

8.116 Although we did not explicitly address the Mobile tariff package effect independently in the Supplementary Consultation, some of the Parties have provided some additional views on this.

8.117 Dr Maldoom's economic report, submitted by BT in their response to the Supplementary Consultation ("Maldoom 4") states that according to Ofcom, lower

[330] Vodafone Response to the Supplementary Consultation, paragraph 4.3.
[331] Maldoom 4, paragraph 20-21.

0845/0870 prices for MNOs will lead to higher prices for other mobile services, and a welfare loss for mobile customers. He argues that Ofcom has only taken into account the waterbed effect in the case of 0845/0870 calls. It was not raised in the 080 case, and there is no obvious reason for this difference.[332] Maldoom 4 argues that there is no logical reason that Ofcom should consider the waterbed effect for 0845/0870 numbers, but not for 080 numbers; the economic principles are exactly the same.

8.118 Maldoom 4 also argues that there is a question about the materiality of the waterbed that Ofcom seems not to have considered. NTS calls are presumably a relatively small contributor to the overall profitability of the typical mobile customer to an MNO, and Ofcom itself believes the waterbed effect is partial and not all of the fall in margins from NTS would translate into higher prices elsewhere.[333] He states that in practice, there may well be a waterbed effect, but a possible small adverse effect on one particular group of consumers cannot be a valid reason to veto a change in retail prices that should be net welfare improving. He argues that what are likely to be mild distributional consequences (with mobile customers making few NTS calls being slightly worse off) should not trump a clear efficiency gain. In any case, he suggests that it may well be that many mobile customers benefit if there is consumer detriment (as distinct to loss of consumer surplus) for mobile customers making NTS calls.[334]

8.119 Maldoom 4 argues at paragraph 32 that as a general argument, this smacks of rent protection. If retail prices set for 0845/0870 by MNOs were excessive, then the waterbed argument presents an insuperable roadblock to doing anything about it. Fixing the inefficiency must involve some transfer from MNOs and their customers. If the mobile sector is competitive and earns only normal returns, then this means mobile customers would need to pay something more for other services in the mobile portfolio. There is a strong analogy with mobile call termination – unregulated termination charges would be inefficiently high, but doing anything about it necessarily has an adverse impact on mobile customers through the waterbed effect.[335]

8.120 Vodafone argues that if we were to reduce 0845 and 0870 call charges, this would be highly likely to lead to some form of tariff rebalancing with charges for other call types and services being increased to recover revenues that would be lost from the lower 0845 and 0870 call charges. It further adds that, as stated in its dispute referral submission, and throughout subsequent responses to requests for information for Ofcom, calls to 0845 and 0870 numbers are not sold in isolation but are part of a wider basket of services offered pursuant to a mobile airtime contract. It suggests therefore that the key issue is to consider whether or not any reduction in 0845 and 0870 call charges can be said to be a sufficiently significant benefit that outweighs the harm to consumers arising from higher call charges elsewhere in the basket of services offered by MNO OCPs.[336]

8.121 Additionally, Vodafone's assessment is that the majority of consumers do not attach significant weight to the level charges for calls to 0845 and 0870 number ranges in their purchasing decision. It therefore argues that it is essential to assess whether BT's charges can be deemed to be welfare enhancing in the scenario where charges for other elements of the basket of services are increased to offset the revenues lost from calls to 0845 and 0870 number ranges. It argues that analysis of this particular

[332] Maldoom 4, paragraph 32.
[333] Maldoom 4, paragraph 39.
[334] Maldoom 4, paragraph 43.
[335] Maldoom 4, paragraphs 33-38.
[336] Vodafone Response to Supplementary Consultation, paragraph 3.12-3.13.

issue has been conspicuously absent from all of the submissions that BT has provided to Ofcom thus far.[337]

8.122 T-Mobile/Orange states that Ofcom is wrong to place greater weight on the Direct effect than the Mobile tariff package effect (for the reasons given in their response to the Draft Determination). It argues that Ofcom should place equal weight on the Direct effect and the Mobile tariff package effect when assessing the impact of BT's proposed charging framework on consumers. Additionally, it states that Ofcom is right to acknowledge at paragraph 2.143 of the Supplementary Consultation that the Mobile tariff package effect is likely to be significant.[338]

Our view

8.123 Our response to Dr Maldoom's suggestion that we did not consider the Mobile tariff package effect in the 080 Determination is discussed in paragraph 7.55 *et seq.*

8.124 Whilst NTS calls represent a relatively small proportion of MNO revenues (as described in paragraph 5.280 of the Draft Determination), this is also relevant to the size of the Direct effect (even if there is additionally a positive externality, which is reflected in the relatively greater weight we place on the Direct effect compared to the Mobile tariff package effect). More fundamentally, however, the key issue here is not just the potential revenue lost from 0845/0870 calls as a result of a reduction in the retail price, but also any additional termination charge which is payable if prices do not decrease to the bottom tier (as set out in paragraphs 5.195 of the Draft Determination and paragraphs 2.148-2.149 of the Supplementary Consultation). Therefore it is not clear that NCCNs 985 and 986 will be net welfare improving (this is discussed in greater detail in paragraphs 8.147-8.149 below).

8.125 In relation to Maldoom 4's argument about rent protection, firstly, our assessment of the Mobile tariff package effect is not rent protection because the maintenance of MNOs' profits is not a relevant consideration in our analysis, e.g. it is not considered at any point within the analytical framework or our application of the Principles as an objective. Instead, the relevant consideration is benefits to consumers, as set out throughout the Draft Determination and Supplementary Consultation. Secondly, it is not a "roadblock" to change because we have already identified circumstances in which we would consider a change in the structure of MNOs' prices to be overall beneficial to consumers (for example, see paragraphs 2.146-2.147 of the Supplementary Consultation). The concern is with the specific mechanism being used via NCCNs 985 and 986 to rebalance the prices as this involves increases in termination charges, and hence the potential for adverse effects on consumers (see discussion in paragraphs 8.150 *et seq.* below).

8.126 As set out in paragraph 5.189 of the Draft Determination and reiterated in paragraph 2.143 of the Supplementary Consultation, and below in paragraphs 7.82 to 7.85, we consider that there is likely to be a significant Mobile tariff package effect. This arises especially because of the additional termination charge that is levied by BT (above the bottom tier of NCCNs 985 and 986). Therefore, we agree with Vodafone that in order to determine whether BT's charges are welfare enhancing, it is necessary to consider whether NCCNs 985 and 986 generate benefits to consumers through the Direct effect (and potentially the Indirect effect) that outweigh the negative effect of the Mobile tariff package effect, and it is not clear to us that this is the case (see discussion below in paragraph 8.141). However, in an extension to the argument

[337] Vodafone Response to Supplementary Consultation, paragraph 3.13.
[338] T-Mobile/Orange Response to Supplementary Consultation, paragraph 26.

made by Vodafone, we also consider that this analysis and the Mobile tariff package effect are relevant not only for a 0845/0870 price reduction, but also if current 0845/0870 prices are maintained (or indeed are increased), as set out explicitly in Tables 5.9 and 5.12 in the Draft Determination and Table 2.2 in the Supplementary Consultation.

8.127 In relation to T-Mobile/Orange's comment about the relative weighting of the Mobile tariff package effect to the Direct effect, we discuss this in detail in paragraph 8.148 below.

Provisional conclusions on Direct effect on consumers

Submissions

8.128 BT is pleased to note that Ofcom has revised its opinion such that the Direct effect is 'more likely' to have a positive than negative impact on consumers.[339] However, BT believes that in the light of the additional material in this response, Ofcom would be reasonably entitled to strengthen its opinion on the Direct effect to be 'highly likely' rather than 'more likely' to have a positive impact on consumers.[340]

8.129 BT does not agree that it is at all relevant to have to quantify the magnitude of the Direct effect or to show that this outweighs any (implausible) feedback or waterbed effects. In any case, it argues that all of the analysis submitted strongly points to any feedback effects as essentially second order.[341]

8.130 BT and Maldoom 4 argue that it does not matter for efficiency whether the measure to implement lower retail prices is regulatory or whether it is a wholesale pricing innovation of TCPs, as in both cases there should be a net welfare improvement if prices fall. They argue that whether 'voluntary' or 'quasi mandatory', the impact on the MNO profits would be the same in all the scenarios which Ofcom sets out in paragraph 2.146 of the Supplementary Consultation; if the waterbed effect is to happen it will make no difference what the source of the price reduction actually is. BT and Maldoom 4 therefore question the validity of the distinction which Ofcom makes in paragraph 2.149 of the Supplementary Consultation – consumers will have no idea and certainly not care whether the reduction in 08x prices arises from Ofcom taking a unilateral action or one which arises from the competitive interactions of the marketplace. Consumer surplus is not predicated on such factors. BT notes, however, that if on the other hand Ofcom wishes to draw a distinction between an outcome which arises from a mandated decision by Ofcom and one of the workings of the marketplace then this can be debated but it is very difficult to see a rationale for such a distinction.[342]

8.131 In relation to Ofcom's point that the quantitative magnitude of the Direct effect is uncertain, Professor Dobbs (on behalf of BT) argues that the empirical magnitude of the Direct incentive effect actually varies from 'extremely strong' through to 'marginal', but generally in the direction of a retail price reduction (which end of the spectrum generally depends on parameter values). He argues that a wide range of values are considered for the key parameters in the economic models presented – thus, he considers that saying that there is uncertainty over the exact magnitude of the impact should not be allowed to cloud the fact that the incentive is there in pretty

[339] BT Response to the Supplementary Consultation, paragraph 29.
[340] BT Response to the Supplementary Consultation, paragraph 30.
[341] BT Response to the Supplementary Consultation, paragraph 65.
[342] BT Response to the Supplementary Consultation, paragraphs 67 to 73.

much all the scenarios. Further, on Ofcom's argument that the models do not capture 'real world complexity', he argues that it is worth emphasising that a range of complexity has been to an extent addressed in the economic modelling (including spillover effects, price discrimination and mobile tariff package effects, strategic interactions and so on) and the incentivisation effects (toward lower retail prices) are clear in the neighbourhood of current prices.[343]

8.132 Dr Maldoom argues that current NTS call pricing is not transparent to mobile customers and it may be that mobile customers are subject to "consumer detriment" due to unexpected charges etc. He argues that the consumer detriment could swamp consumer surplus effects, and Ofcom has not considered this. Therefore it is far from clear that there is even a dis-benefit to mobile customers from cheaper mobile-originated NTS calls.[344]

8.133 He further adds that given the observed pricing behaviour of MNOs for 08x calls and the reduced importance of BT as an originator, public policy does not seem to be correcting the OCP pricing externality satisfactorily. He suggests that BT's proposed link between prices and termination rates can be seen as a reasonable means for a TCP to seek to address the fundamental pricing externality that has increasingly been left unchecked by Ofcom. He adds that TCPs have every incentive to innovate in this way to preserve the collective NTS brand and to offer benefits to SPs that in turn lead to useful services for callers.[345]

8.134 C&W submits that much of the Supplementary Consultation understandably concentrates upon the economic analysis BT has submitted, which has led to Ofcom's change in position. C&W welcomes this finding, although it expresses disappointment that Ofcom has still chosen to find that BT's rates fail Principle 2 despite the changed view of the analysis.[346]

8.135 Vodafone queries whether Ofcom is able to conclude with any certainty in the first instance that 0845/0870 retail charges are in reality more likely to fall as a result of BT's new charging structure. It argues that Ofcom is already in possession of clear factual evidence from Vodafone (and presumably from other MNO OCPs) that would support its view that the economic framework proposed by BT is unlikely to be comprehensive in analysing the likely effects of BT's charging arrangements. Further, it adds that given the clear scope for an adverse wider mobile tariff effect (in terms of increases in tariffs for other services in the basket) and Ofcom's own uncertainty over the magnitude of any reduction in 0845 and 0870 call charges, BT's charges cannot be found to be found to be in the consumer interest since the overall impact on consumers will be adverse.[347]

8.136 O2 rejects Ofcom's proposed finding that the balance of available evidence suggests that it is more likely that the MNOs have an incentive to reduce call prices to 0870 and 0845 numbers, than to increase them.[348] It submits that the BT evidence falls at the first hurdle, namely that it is highly uncertain that any reliable figure could be attributed to the level of positive Direct effect. Indeed, it adds that there is plenty of evidence that consumers would be worse off. It points out that BT's own contemporaneous evidence suggests that MNOs would not reduce their retail

[343] Dobbs 5, section 6.
[344] Maldoom 4, paragraph 41.
[345] Maldoom 4, paragraph 24-26.
[346] C&W Response to the Supplementary Consultation, paragraph 2, page 1.
[347] Vodafone Response to the Supplementary Consultation, paragraphs 1.4 to 1.7.
[348] O2 Response to the Supplementary Consultation, paragraph 4.

charges for calls to 0845 and 0870 numbers, and, in addition, they would seek to recoup the additional costs by increasing other call prices and charges.[349] It argues that Ofcom's description of its revised provisional conclusion rests on its "policy preference" for a rebalancing of retail prices. However, the current set of prices has been determined in the context of a competitive market. This outcome maximises output and, therefore, welfare.[350] Therefore O2 considers Ofcom's policy preference to be inconsistent with the welfare maximising outcome of the competitive mobile retail market.[351] It argues that the consequence of the failure to reconcile Ofcom's policy preference and the outcome of the competitive mobile retail market leads Ofcom to its provisional conclusion on the premise that it cannot judge the relative sizes of the Direct effect, the Indirect effect and the Mobile tariff effect which, in O2's view, is unsatisfactory.[352]

8.137 T-Mobile/Orange submits that the only additional material which Ofcom relies on for its changed conclusion on Direct effect is the theoretical modelling conducted by Professor Dobbs, which is not a sufficient basis for drawing conclusions on MNO future pricing behaviour.[353] It contends that Ofcom has no justification for altering its conclusion in the Draft Determination that both the direction and magnitude of the Direct Effect of NCCNs 985 and 986 are uncertain. It argues that the burden of proof in justifying the proposed charges lies with BT, and BT has not adduced either empirical evidence or reliable and consistent theoretical analysis to support its contention that NCCNs 985 and 986 will lead to lower retail prices for 0845 and 0870 calls.[354]

8.138 T-Mobile/Orange agrees with Ofcom that any Direct effect cannot justify the proposed charges in light of the Mobile tariff package effect and Indirect effects.[355] T-Mobile/Orange submits that Indirect effects and the Mobile tariff package effect are likely to outweigh any positive Direct effect.[356] In particular they argue that given that in a highly competitive market MNOs cannot earn excess profits across the full range of their services, the implication of a rise in costs is that other prices will have to rise to compensate. It argues therefore that if, as BT claims, its attempts to earn an even greater margin on 08 calls by appropriating MNOs' revenues on those calls were to lead to a reduction in the price of such calls, the net effect of this would merely be to interfere with and to distort the competitive process, which will lead to other prices rising and will ultimately harm consumers.[357]

8.139 T-Mobile/Orange argues that Ofcom's conclusions at paragraph 2.136 of the Supplementary Consultation that "*the balance of available evidence suggests that it is more likely that the MNOs have an incentive to reduce these prices than to increase them*" is contradicted by Ofcom's own reasoning, and provides the following examples:[358]

a) at paragraph 2.30 and 2.31 of the Supplementary Consultation, Ofcom accepts that the form of the spillover function is an empirical question and one

[349] O2 Response to the Supplementary Consultation, paragraph 1.
[350] O2 Response to the Supplementary Consultation, page 3.
[351] O2 Response to the Supplementary Consultation, page 3.
[352] O2 Response to the Supplementary Consultation, paragraph 5.
[353] T-Mobile/Orange Response to the Supplementary Consultation, paragraph 14(1).
[354] T-Mobile/Orange Response to the Supplementary Consultation, paragraph 19.
[355] T-Mobile/Orange Response to the Supplementary Consultation, paragraph 14(3).
[356] T-Mobile/Orange Response to the Supplementary Consultation, paragraph 26.
[357] T-Mobile/Orange Response to the Supplementary Consultation, paragraph 27.
[358] T-Mobile/Orange Response to the Supplementary Consultation, paragraph 18.

on which it is not possible to place a priori restrictions, so that the spillover function may in fact be "strongly concave".

b) at paragraph 2.125 of the Supplementary Consultation, Ofcom notes that BT has not provided supporting empirical evidence in relation to demand elasticity or the structure of MNOs demands. Further, Ofcom states that Dobbs 4 "*is not entirely consistent with the 'stylised facts' [on which it relies] as its reconciliation of the evidence of inelastic demand for 0845/0870 calls with profit maximisation by the MNOs relies on the existence of a significant spillover effect, yet (as Dobbs 4 recognises) the available evidence does not support a strong spillover effect*". T-Mobile/Orange considers that this is a serious criticism of the Dobbs model which relies heavily on the assumption that MNOs set current 0845/0870 calls prices to maximise profits from these services.

c) at paragraph 2.128 of the Supplementary Consultation, Ofcom concludes that "*material concerns remain*" with BT's analysis. T-Mobile/Orange also notes that at paragraph 2.127, Ofcom states that BT has only "partially" addressed Ofcom's concern regarding MNOs having multiple price points, and in relation to competitive interactions and other mobile prices. T-Mobile/Orange contends that these are significant points and the simple assumption that MNOs maximise profit on an individual service is not appropriate. Ofcom further note correctly that BT has not directly addressed at all Ofcom's concerns regarding substitution between 0845/0870 calls and other mobile services and regarding profit maximising behaviour by BT.

8.140 H3G submits that it remains of the view that proposed charges risk an increase in either 0845/0870 charges or other aspects of the mobile bundle.[359] However it agrees that the industry change that NCCNs 985 and 986 represent would invariably affect the termination pricing decisions of other TCPs. Therefore, it agrees with Ofcom's comments in the draft re-determination relating to such ongoing effects.[360]

Our view

8.141 We note the Parties' comments on our conclusion on the direction and magnitude of the Direct effect. We consider that the submissions on this point have not provided compelling arguments or evidence to cause us to overturn our reasoning summarised in paragraph 2.142 of the Supplementary Consultation.

8.142 Our conclusion on the direction of the Direct effect remains as set out in paragraphs 2.132-2.136 and 2.142 a) of the Supplementary Consultation. We do not agree with BT's argument that a Direct effect that is positive for consumers is "highly likely" (instead of our view that it is more likely than a negative effect), because we maintain the view that BT has only partially addressed our concerns about its analysis (as set out above) and reflecting the balance of the available evidence. We also disagree with the suggestion from Vodafone, O2 and T-Mobile/Orange that our conclusion on the direction of the Direct effect is unjustified. In particular, whilst the evidence from the MNOs has identified additional considerations or constraints which may be relevant and could lead to price increases, it has not shown that effect of the structure of BT's NCCNs is irrelevant. Therefore, we maintain the view in paragraph 2.142 a) of the Supplementary Consultation that BT and its advisers have identified a relevant effect and that it would require strong opposing effect(s) to reverse the

[359] H3G Response to the Supplementary Consultation, paragraph 3, page 1.
[360] H3G Response to the Supplementary Consultation, paragraph 5, page 2.

incentive to reduce prices (e.g. as reflected in Professor Dobbs' comments, reported above).

8.143 We maintain our conclusion that the magnitude of the Direct effect is uncertain, as set out in the Supplementary Consultation in paragraphs 2.137-2.142 of the Supplementary Consultation.

8.144 On BT's and Dr Maldoom's argument that it is not necessary to demonstrate the magnitude of the Direct effect versus the Mobile tariff package effect, we disagree with this view. Paragraphs 5.230-5.235 of the Draft Determination and paragraphs 2.137-2.142 of the Supplementary Consultation set out our reasoning on this issue, which BT and Dr Maldoom have not adequately addressed as discussed below.

8.145 We disagree with BT's and Dr Maldoom's comments that it does not matter for efficiency whether the measure to implement lower retail prices is regulatory or a wholesale pricing innovation of TCPs. As we stated in paragraph 2.149 of the Supplementary Consultation, the two cases are only similar if the MNOs reduce their prices down to the bottom tier, since at this level the MNOs do not pay higher termination charges to BT. But above the bottom tier BT is charging a higher level of termination charges to the MNOs (compared to the situation before NCCNs 985 and 986) and this reduces the MNOs' profits from 0845/0870 calls. This increase in termination charges increases the size of the Mobile tariff package effect, compared to a rebalancing of prices as a consequence of direct regulation or voluntary action (which do not involve the payment of higher termination charges). BT and Dr Maldoom fail to take account of the increase in the level of BT's termination rates above the bottom tier of NCCNs 985 and 986. Given BT's apparent misunderstanding of the issues, we provide further articulation of our analysis in paragraphs 8.150-8.155 below.

8.146 We note Dr Maldoom's argument that there may be consumer detriment from current NTS call pricing to mobile customers. To say that Ofcom has not considered this is however incorrect. This is explicitly set out in Section 4 above (Ofcom's analytical framework) where we recognise that there is an externality between the OCP and the SP in relation to 0845/0870 calls. It is for this reason, as set out in paragraph 7.149, that we say that in a competitive market for 0845/0870 calls, the structure of prices may not be efficient. Additionally, we also set out that when the OCP charges more than our policy preference for 0845/0870 calls, it could adversely affect both callers and SPs. It is also reflected in the relatively greater weight we place on the Direct effect, (i.e. changes in 0845/0870 prices), than the Mobile tariff package effect, (i.e. the prices of other mobile services).

8.147 Dr Maldoom suggests that BT's tiered termination charges are a reasonable means for a TCP to address the pricing externality that has been left unchecked by Ofcom. First, we do not agree that NCCNs 985 and 986 will necessarily be an effective means to address the externality since they also involve an increase in the level of termination charges (as well as a change in their structure, as discussed above). Second, this explanation for the design or implementation of BT's NCCNs is not supported by the contemporaneous evidence (see paragraphs 4.111-4.120 and paragraph 8.110 above). Finally, we note that we are currently in the process of reviewing the NTS system in the NGCS Review. We consider that such a policy review by Ofcom is the appropriate forum to address the public policy issue raised by Dr Maldoom.

8.148 In relation to O2's argument about a failure to reconcile our policy preference for 0845/0870 and the outcome of the competitive market, we consider that this issue was reconciled in paragraph 4.6 above in our discussion of the externality between the OCP and the SP. This is set out in further detail in paragraphs 7.84-7.85 above. As a result of this externality, we acknowledge that the structure of prices may not be efficient, even in a competitive market.[361] This is also relevant for O2's comments about the consistency between welfare maximisation in a competitive market and our policy preference for 0845/0870 calls. The reason is because, although we would generally agree the balance of MNOs' retail prices is a matter to be determined through competition, our policy preference and the externality mean we consider that a departure from this general view is warranted in the context of this Dispute.[362] Therefore we consider that we have reconciled these views, and so there is no disparity in our conclusion. Whilst the presence of this externality informs our analysis (for example, it is one of the reasons for weighting the Direct effect more heavily than the Mobile tariff package effect), we consider the Direct, Indirect and Mobile tariff package effects on their own merits and in our analysis of these issues in Section 5 of the Draft Determination and Section 2 of the Supplementary Consultation.

8.149 We agree with T-Mobile/Orange, O2 and H3G that NCCNs 985 and 986 are likely to result in an increase in prices for other mobile services (i.e. through the Mobile tariff package effect – see discussion in paragraph 5.181 *et seq.* in the Draft Determination). Additionally, we agree that any reduction in 0845/0870 prices as a result of NCCNs 985 and 986 may not necessarily benefit consumers overall, although this is due to the additional termination charge which would be payable if prices did not fall to the bottom tier, rather than necessarily due to interfering with the competitive process. This is because, as noted above, there is an externality between the OCP and the SP in relation to 0845/0870 calls, and so even in a competitive market, the structure of prices may not be efficient. Finally, in relation to H3G's view of ongoing effects of NCCNs 985 and 986, we set out our views in relation to wider implications in paragraphs 8.183 *et seq* below.

Overall effect on consumers and the increase in termination charges

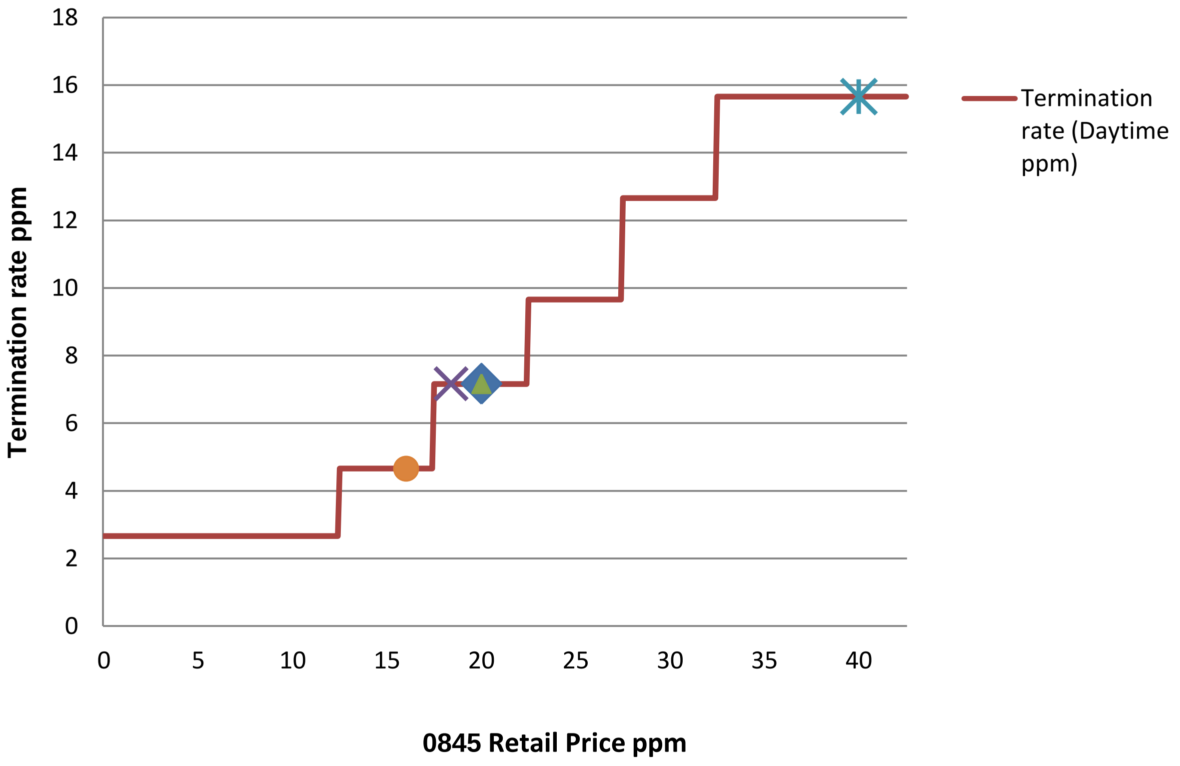
8.150 In paragraphs 2.143-2.149 of the Supplementary Consultation, we set out our revised provisional conclusion on consumer effects in light of the information received in response to the Draft Determination. We agreed with BT (and Maldoom 4) that a rebalanced structure of prices which involves a reduction in 0845/0870 prices down to the bottom tier would benefit consumers. However, we also noted the important contrast between MNOs rebalancing their prices to have lower 0845/0870 prices and higher prices for other mobile services voluntarily or as a consequence of possible future regulation and as a result of NCCNs 985 and 986. This is important because in the latter case, the rebalancing arises in the context of higher termination charges for retail prices above the bottom tier which will result in a loss of profit for MNOs – all they can do is minimise their loss of profit[363] (see paragraph 5.168 of the Draft Determination). To illustrate this important distinction further, we consider the MNOs' current ARPs (using the best information currently available to us) and the potential increase in termination charges under NCCNs 985 and 986.

8.151 Figures 8.1and 8.2 below show the current best available estimate we have of the 0845 and 0870 ARPs of the MNOs (using the data presented, for example, in

[361] The extent to which retail prices diverge from the preferences of SPs may be exacerbated if price transparency and callers' awareness of prices at the retail level is poor. Poor transparency means that callers exercise a weaker constraint on OCPs' retail pricing.
[362] As set out in paragraph 4.31-4.32 of the Draft Determination.
[363] [✂]

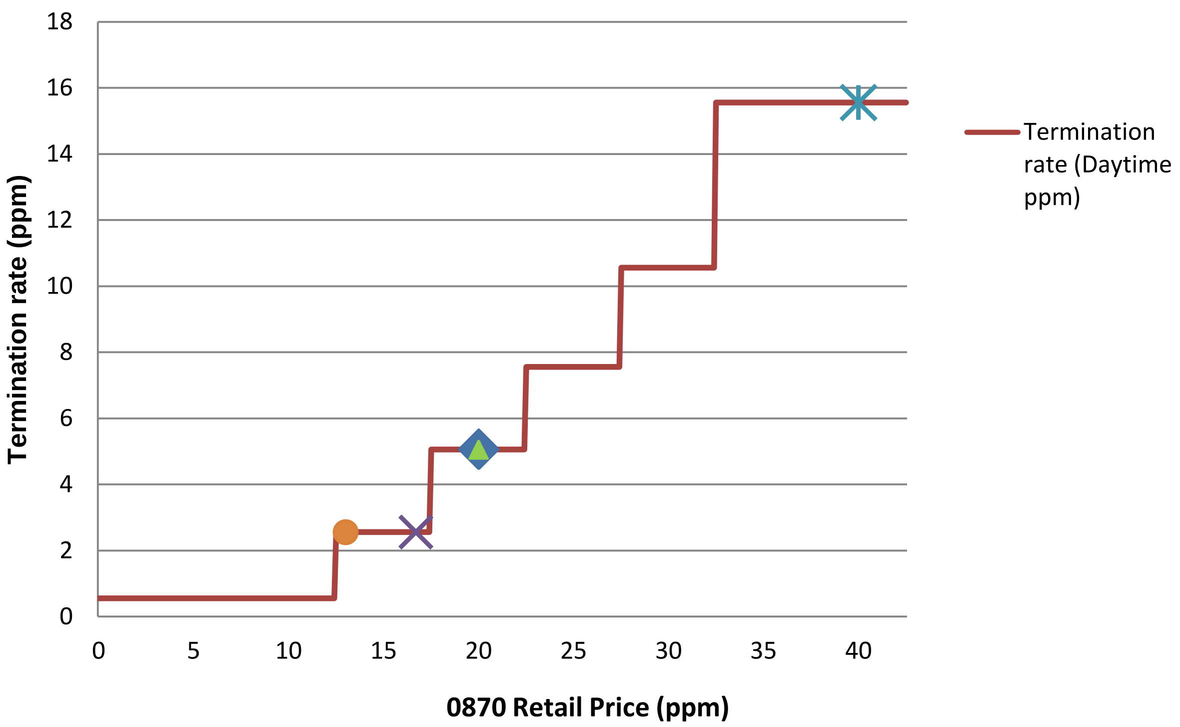
paragraphs 5.126, 5.287 and 5.289 of the Draft Determination), and the tier of BT's termination charges that applies to each MNO at these estimated ARPs for each of NCCN 985 and 986.[364] This shows that, based on the best available evidence, none of the MNOs is currently on the bottom tier of NCCN 985 or 986. Therefore, they will all face higher termination rates compared to before the introduction of the NCCNs, and therefore will see a reduction in profits (unless they reduce their retail price to the bottom tier, in which case their reduction in profit is solely due to the reduced 0845/0870 retail price) - see paragraph 5.168 of the Draft Determination. This increase in termination charges could negatively affect consumers through the Mobile tariff package effect, and it is this which explains why the direction of the Direct effect is not sufficient to reach a clear conclusion on the overall effect on consumers. Instead, the overall effect on consumers depends on the relative sizes of these effects (and the Indirect effect).

Figure 8.1: MNOs' 0845 ARP and NCCN 985



[364] For the avoidance of doubt we are not suggesting that the estimated ARPs set out below are necessarily accurate. For example, the highest estimated ARP for [✂] may overstate its true figure as its ARP calculation only includes pre-pay and standard post-pay charges. We also note that all of the MNOs have expressed concerns about the accuracy of the available information on ARPs. However, these estimates provide the best information available to us to illustrate the scale of the potential increases in termination charges.

Figure 8.2: MNOs' 0870 ARP and NCCN 986



8.152 In order to illustrate the scale of the potential increase in termination charges, Table 8.1 below sets out the additional termination payments payable by the MNOs under different starting ARPs and different retail price responses (using the call volumes presented in the BT Internal Authority paper[365] and for simplicity assuming no call volume response to the retail price change). This shows that even using the best available estimates of current ARPs (which are lower than BT's estimates) there is likely to be a significant increase in termination payments if 0845/0870 retail prices remain unchanged - the illustrative figure in Table 8.1 below is £43.4m per annum. For illustration, if, as a result of NCCNs 985 and 986, MNOs reduce their ARP to one tier lower than the current best estimate, many will still experience an increase in termination payments to BT compared to before the introduction of NCCNs 985 and 986 - the illustrative figure in Table 8.1 is £21.4m per annum.

8.153 This increase in termination payments could be avoided if, for example, there were direct regulation requiring the MNOs to set lower 0845/0870 prices or if there were a voluntary reduction in 0845/0870 prices. If so, the Mobile tariff package effect would be correspondingly smaller, compared to the same retail price reductions induced by BT's tiered termination charges in NCCNs 985 and 986.

8.154 The only way for MNOs to avoid the increase in termination charges under NCCNs 985 and 986 is to reduce their ARPs for 0845 and 0870 calls to the bottom tier (as set out in Table 8.1). We note that a price decrease of this magnitude is an estimated result of the Dobbs model under some circumstances. However, it is not the case under all assumptions, for example see the results for linear demand in Tables A5.3 and A5.7 in Annex 5 of the Draft Determination. More fundamentally, we do not accept that BT's models are sufficiently comprehensive or reflective of real-world

[365] BT Internal Authority Paper, 2 October 2009, page 5

pricing decisions or that their predictions on the magnitude of price changes are robust (e.g. see paragraph 2.142 b) of the Supplementary Consultation).

Table 8.1: Total additional termination charges payable for NCCNs 985 and 986 under illustrative 0845/0870 retail prices (£m per annum)

	At BT's estimate of current ARP	At best available estimate of ARP	At ARPs at one tier lower than best available estimate	At ARPs in bottom tier for all MNOs
H3G	[✂]	[✂]	[✂]	0
O2	[✂]	[✂]	[✂]	0
Orange	[✂]	[✂]	[✂]	0
T-Mobile	[✂]	[✂]	[✂]	0
Vodafone	[✂]	[✂]	[✂]	0
Total	[✂]	**43.4**	**21.4**	**0**

8.155 Therefore the potential increase in BT's termination charges has an impact on the overall effect on consumers, and this is why our overall conclusion on this depends on the relative sizes of the Direct, Mobile tariff package and Indirect effects, all of which are uncertain.

Principle 2 – competition related issues

Submissions

8.156 Vodafone argues that, in its response to the Draft Determination, it elaborated on the ways in which BT's charges present a clear risk of distortions to competition and consumer harm.[366] As such, Ofcom should, taking into account its obligations under the Framework Directive to further the interests of competition and consumers, determine this Dispute by issuing a direction that BT's charges should not be allowed to stand.

Our view

8.157 We have considered the issue of distortion to competition and consumer harm in paragraphs 7.75-7.77 above, and in the application of Principle 2 (paragraphs 5.237 to 5.282 of the Draft Determination). Our final conclusion is the same as our provisional conclusion in the Draft Determination. The risk of competitive distortions between TCPs is relatively low and there may be no significant distortion to competition in MNOs' wholesale sales to MVNOs. However, there are possible concerns about the potential distortion of OCPs' choice of transit provider, and about competition between MNOs/MVNOs in retail services (relating to disincentives to pricing innovations and potential for the range of retail packages to be reduced, although the nature of these effects depends on the method to derive the MNOs' average retail price). As set out in the Supplementary Consultation, we consider that it is more likely that NCCNs 985 and 986 will lead to price decreases for 0845/0870 calls rather than prices increases. This represents a change from our provisional conclusion in the Draft Determination. However, we are still uncertain about the magnitude of the Direct effect and still consider that there will be a negative Mobile tariff package effect, which leads us to consider there is a risk of an overall adverse effect on consumers. We consider it reasonable, in light of our overriding statutory duties to further the interests of consumers, to place greater weight on this potential

[366] Vodafone Response to the Supplementary Consultation, paragraph 1.2.

risk than on the potential benefits of allowing the charges in NCCNs 985 and 986 to stand.

Principle 3 – practicalities of implementing NCCNs 985 and 986

General comments on Principle 3

Submissions

8.158 BT argues that Ofcom has expanded its interpretation of Principle 3 in a way which it does not think is justified and now applies Principle 3 in a manner that differs from how it was applied in the 080 Determination (in the sense that it now encompasses new concerns which were not raised in the 080 Determination).[367] It finds this surprising because, if such concerns were self-evident, they would be common to both the 080 Determination and Ofcom's consideration of this Dispute.[368]

8.159 BT considers that while ostensibly Ofcom has not fundamentally changed the definition of Principle 3 from that set out in the 080 Determination, in practice its interpretation has materially altered.[369] BT does not understand how Ofcom has introduced new issues (i.e. unintended consequences etc) to its consideration of this Principle, given the scheme of the 2003 Act.[370]

8.160 BT says that it has considerable difficulty in accepting Ofcom's justification of the forthcoming NGCS Review as a basis for being 'cautious' and favouring the status quo in light of 'unintended consequences'. It suggests that it cannot be correct to take current policy as a 'given' and the relevant benchmark for assessment, while simultaneously relying on 'unintended, unforeseen or wider implications' to judge BT's wholesale tariff schedules as inappropriate. BT argues that Ofcom's approach effectively enshrines the status quo as optimal and requires BT to prove the benefits of any change. It considers that this is hard to justify when the status quo involves MNOs charging retail prices that far exceed those indicated by Ofcom's own policy objectives.[371]

8.161 BT notes Ofcom's concern regarding MNOs' innovation but considers there is no evidence that innovation will be affected as Ofcom suggests, particularly where BT and other TCPs are innovating with new pricing schedules (which Ofcom appears to discount as evidence).[372]

8.162 BT says that it has great difficulty comprehending how the "unintended, unforeseen or wider implications" referred to by Ofcom can be coherently addressed as a part of a 'Principle' with any degree of objectivity.[373]

8.163 IVR agrees that, given the likelihood of the requirements of Principle 2 being met as a result of this second consultation, less emphasis should be placed on Principle 3.[374] It notes that unforeseen implications may arise from any regulatory decision and, for

[367] BT Response to the Supplementary Consultation, paragraphs 87 to 90.
[368] BT Response to the Supplementary Consultation, paragraphs 12 and 17.
[369] BT Response to the Supplementary Consultation, paragraph 87.
[370] BT Response to the Supplementary Consultation, paragraph 90.
[371] BT Response to the Supplementary Consultation, paragraph 14.
[372] BT Response to the Supplementary Consultation, paragraph 15.
[373] BT Response to the Supplementary Consultation, paragraph 74.
[374] IVR Response to the Supplementary Consultation, paragraph 4, page 4.

this reason and the purpose of being consistent, it would not expect Ofcom to place weight on this concern.[375]

8.164 C&W maintains the arguments in its submissions on the Draft Determination, that i) Principle 3 can be met through negotiation between parties; and ii) if Principle 2 is met then Principle 3 will carry less weight.[376]

8.165 The MNO's broadly welcome our revised assessment of Principle 3, as set out in the Supplementary Consultation, and have commented further on specific aspects of Principle 3 at paragraph 8.179 *et seq.* below.

Our view

8.166 We note BT's comment that Ofcom now interprets Principle 3 in a way that is different from its interpretation in the 080 Determination. Although the analytical framework in the 080 Determination is highly relevant to our consideration of this Dispute, and we have adopted substantially similar approaches in considering both disputes, we are not prevented from developing our thinking in this Dispute beyond that set out in the 080 Determination where this is appropriate in light of further evidence that we have received and our consideration of this evidence. As regards the risk of unintended, unforeseen and wider implications, we specifically flagged in paragraph 5.339 of the Draft Determination that these would require further consideration in terms of Principle 3, and the revised reasoning in the Supplementary Consultation to which BT refers is entirely consistent with this.

8.167 We note BT's comment that it does not understand how Ofcom has introduced new issues in considering Principle 3 given the scheme of the 2003 Act. BT has made similar arguments in respect of Principle 1 (see paragraph 7.24 above) and our response is the same: we disagree that Principle 3 has no legal basis. Again, BT appears to be suggesting that the application, by Ofcom, of a principle that does not appear explicitly and in terms in the 2003 Act has no legal basis and therefore is fundamentally flawed. We disagree. The 2003 Act provides us with a degree of flexibility as to how we resolve disputes, provided that we do so in accordance with our statutory duties. We do not consider that that Principle 3 is inconsistent with our statutory duties, and we therefore consider that including it within our framework for assessment of the Dispute is a wholly appropriate exercise of Ofcom's discretion.

8.168 As regards BT's stated difficulty in accepting Ofcom's justification of the forthcoming NGCS Review as one basis for our conclusions, our view remains that the NGCS Review provides the best process for considering the substantial change of a move to termination charges linked to retail prices with wide-ranging implications that may arise from NCCNs 985 and 986, although we recognise the need to resolve this Dispute now. While it is correct that our analysis in this Dispute takes existing regulatory policy as a given, BT is not correct in suggesting that Ofcom enshrines the status quo as the optimal position. To be clear, we acknowledge that the status quo is not optimal. However, in considering whether Ofcom should agree to a substantial departure from the status quo, we are concerned about major and potentially disruptive changes in existing arrangements that would be required to implement NCCNs 985 and 986 where we have significant reservation as to their likely impact and, where these changes may be rolled back or substantially affected following the NGCS Review (see paragraph 2.163 of the Supplementary Consultation). It is proper for Ofcom to have regard to these considerations when assessing this Dispute.

[375] IVR Response to the Supplementary Consultation, paragraph 6, page 4.
[376] C&W Reponse to the Supplementary Consultation, paragraph 1, page 5.

8.169 In relation to BT's suggestion that MNOs' innovation will not be affected, we do not consider that BT has provided any compelling evidence to cause us to revise our analysis at paragraphs 5.271 to 5.274 of the Draft Determination. We also note BT's comments regarding innovation particularly by BT and other TCPs in relation to new pricing schedules. We have considered issues relating to innovation on pricing schedules in our assessment of Principle 3, and in particular the wider unintended and unforeseen consequences (see paragraphs 8.185 below), which includes concerns that do not apply to MNOs' tariff innovation.

8.170 We note IVR's and C&W's comments in relation to the weight we should place on Principle 3. We consider that an appropriate level of emphasis is given to Principle 3 in our consideration of the Dispute. If available evidence were to lead us to conclude that Principle 2 is clearly met, and particularly if we concluded that NCCNs 985 and 986 delivered clear and unequivocal consumer benefits, then it might be appropriate for us to place less weight on Principle 3. However, available evidence does not support this conclusion and, therefore, it is unnecessary for us to consider this point further.

8.171 We note C&W's argument in relation to negotiation between parties. As regards the derivation of ARPs, we remain of the view that there would be an important role for negotiations between the Parties, as set out in paragraph 5.335 of the Draft Determination. But we consider that there is limited scope for such negotiations to address our concerns in relation to unintended, unforeseen or wider implications.

Practical difficulties of implementation

Submissions

8.172 H3G welcomes Ofcom's greater recognition of the practical difficulties involved in implementing the NCCNs.[377] However, it repeated its earlier response that there are significant insurmountable issues in determining an accurate ARP and that the complexity of the retail and wholesale billing processes make implementation impracticable. H3G notes that it would have significant difficulties in accurately billing under the NCCNs because its retail and wholesale billing systems are unable to distinguish between:

- calls to BT and non-BT terminated 0845 and 0870 numbers;
- calls to ported and non-ported 0845 and 0870 numbers (regardless of whether they are BT or non-BT terminated calls); and
- calls to 0845 and 0870 numbers (regardless of whether they are BT or non-BT terminated calls) originating on H3G's network; and those originating on H3G's national and international roaming partner networks.

8.173 BT argues that there are no material technical or implementation issues that cannot be easily resolved through negotiation between parties. It notes that in the 080 Determination Ofcom did not consider that there were practical issues of materiality. BT suggests that the only basis for the difficulties in implementation that Ofcom cites is the refusal of the MNOs to engage with BT and, instead, choosing to raise a dispute.

[377] H3G's Response to the Supplementary Consultation, page 2.

8.174 As regards transit issues, BT refers to its public commitment to ensuring that no transit operators are unfairly disadvantaged and notes that all early concerns expressed by transit operators have been dealt with through bilateral meetings.

8.175 It considers that the issue of porting at the OCP end is not material, and says that this issue has, anyway, already been resolved by agreeing a blended rate with transit providers based on the proportions of traffic they receive from OCPs. BT considers there is no reason why the wholesale tariff schedules should affect the nature of competition for transit or distort the decisions of the OCP. It argues that all that is required is sufficient information on pricing (with an appropriate billing system) and, as noted in the 080 Determination, BT set bands of prices for termination to ensure that full pricing transparency would not damage competition.

8.176 BT argues that, in considering implementation overall, Ofcom has given undue weight to potential problems that have no real basis in reality or, if they do, which can be resolved easily. It considers that this approach rewards parties who have refused to engage in negotiation.[378]

8.177 Vodafone agrees with Ofcom's provisional conclusion that the implementation of charging arrangements under NCCNs 985 and 986 creates considerable complexity and is likely to lead to adverse consequences for consumers. It argues that the implementation of the BT charging arrangements for calls to 0845/0870 numbers imposes significant new burdens on Vodafone for no justifiable reason. It also argues that, even more importantly, the proposed use of averaging creates a level of additional complexity that will lead to uncertainty and ultimately may distort the pricing incentives and decisions of MNO OCPs in a way that adversely affects consumers. Accordingly, Vodafone considers that consideration of Principle 3 is inextricably linked to assessment of Principle 2.[379]

8.178 T-Mobile/Orange considers that the theoretical models put forward by BT fail to account for the real world consequences of implementing NCCNs 985 and 986 (i.e. where MNOs would struggle to calculate their ARPs or predict these in advance).[380] It considers that the extent to which Ofcom has accepted its argument that the practical difficulties of implementation have been underestimated (in particular, given the need to avoid sharing commercially sensitive price information between MNOs and their MVNOs) is unclear. It asks Ofcom to clarify whether it accepts this point.[381]

Our view

8.179 We note H3G's and T-Mobile/Orange's comments on the difficulties of deriving an ARP. We discussed the difficulties of deriving an ARP in paragraphs 5.314-5.321 of the Draft Determination. We have also considered further the issue of practical difficulties of calculating an ARP at paragraphs 7.202-7.208, and 7.210-7.211 above. We remain of the view that in principle it should be possible for an MNO to estimate its own ARP for calls to 0845 and 0870 numbers, and to negotiate an ARP with BT (but we are unable reach a firm conclusion, as set out in paragraph 5.335 of the Draft Determination). It is not clear to us that such agreement between the Parties regarding ARPs would require the exchange of commercially sensitive information in a manner that would inevitably give rise to competition concerns.

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[378] BT Response to the Supplementary Consultation, paragraphs 13 and 77-81.
[379] BT Response to the Supplementary Consultation, paragraph 4.1.
[380] BT Response to the Supplementary Consultation, paragraph 29.
[381] BT Response to the Supplementary Consultation, paragraph 30.

8.180 We do not consider that traffic originating on H3G's national roaming partner's network and ported numbers are serious concerns for the calculation of an ARP, although we have identified issues relating to the different issue of billing accuracy (see paragraph 7.221 above). However, we do recognise that there may be issues to be addressed through commercial negotiations and that this would entail some cost and depend on a range of factors, such as the calculation method, the frequency with which it is updated, the nature of any verification procedures, the possible involvement of third parties etc (see paragraph 5.321 of the Draft Determination).

8.181 We note BT's comment that there are no material technical or implementation issues that cannot be easily resolved through negotiation between parties. We do not agree with BT's argument that we have given undue weight to potential for practical difficulties in implementation, which BT argues have no real basis in reality. Our assessment of the practical difficulties of implementation associated with NCCNs 985 and 986 are as set out at paragraphs 7.202 *et seq.* above. We consider that the arguments that BT makes in its submission on the Supplementary Consultation do not materially go beyond arguments addressed in these paragraphs.

8.182 We note Vodafone's argument regarding the additional complexity arising from setting ARPs, and the consequences of this. We accept that these considerations in relation to pricing incentives mean that Principle 3 cannot be considered in isolation and is inextricably linked to assessment of Principle 2.

Complexity and unintended consequences

Submissions

8.183 BT notes Ofcom's concern that OCPs will be charged different rates by TCPs, but says that this is the current position and that NCCNs 985 and 986 make no difference to arrangements already in place. BT further notes that i) all OCPs are well used to paying a variety of rates for transit and terminating operators (including multiple rates for one TCP); and ii) the issues which Ofcom cites are essentially billing matters, which have been resolved by industry. In BT's view, the unintended consequences that flow from other TCPs' actions are not problems but signs of a healthy competitive marketplace. It argues that the additional unintended consequences that Ofcom refers to, such as the Mobile tariff package effect should not be considered under Principle 3 but rather, if they are relevant at all, under Principle 2. BT notes that all changes in the marketplace may have unintended consequences, which it consider is in "*the nature of commercial life*". It notes, by way of illustration, that Ofcom has previously mandated very low mobile termination rates, which might have 'unintended consequences' and, potentially, good ones.[382]

8.184 T-Mobile/Orange argues that BT's proposed charging framework is a radical departure from previous market practice regarding termination charges and is highly likely to lead to unforeseen consequences.

Our view

8.185 BT's arguments in its submissions do not address our concerns, as our view remains that the new charging structures will introduce additional complexity and lead to unforeseen consequences, as set out in the Draft Determination and Supplementary Consultation. Prior to NCCNs 985 and 986 OCPs would be expected to pay a range of termination charges based on BT's NTS calculator, although there were multiple

[382] BT Response to the Supplementary Consultation, paragraphs 13 and 77 to 81.

charges dependent on how networks interconnected i.e. DLE, single or double tandem. So BT is therefore correct in saying differential rates are not new, but OCPs only faced paying one rate for each TCP up to a maximum of three overall. The effect of NCCNs 985 and 986, added to how other TCPs set their charges, mean MNOs face having to pay a different ladder of rates for each TCP. In our view this is likely to increase the complexity of charges facing OCPs.

8.186 We agree with T-Mobile/Orange's arguments that NCCNs 985 and 986 represent a radical departure from current practice, and have acknowledged in the Supplementary Consultation the risk of unintended, unforeseen and wider implications. BT also recognised that NCCNs 985 and 986 represent a "*radical departure from existing pricing practice*".[383]

8.187 We agree with BT's comments that some unintended consequences may be desirable, however, the specific examples we have identified are all undesirable (see paragraph 2.160 of the Supplementary Consultation.

Wider implications

Submissions

8.188 BT says that it cannot discern from Ofcom's text, specifically paragraphs 2.161-2.162 of the Supplementary Consultation any substantive argument one way or the other regarding wider implications. It also argues that it is important to resolve the Dispute and not wait for a policy review that has been very long in gestation.

Our view

8.189 We consider that BT's arguments in respect of wider implications do not address our concerns. Our comments on the interaction of our consideration of this Dispute and the NGCS Review are set out at paragraphs 8.20 to 8.25 above, and remain consistent with the views we set out in the Draft Determination and the Supplementary Consultation.

Regulatory policy

Submissions

8.190 BT argues that it is unreasonable for Ofcom to take current industry practice as "given" regulatory policy and, simultaneously, to use the potential of changes arising from the NGCS Review as a reason for caution regarding any change. It acknowledges that both industry practice and regulatory policy have evolved over time and can be expected to evolve further. It considers that "*[t]here is no reason why this process should now be paralyzed pending Ofcom's NTS Review.*" It argues that this is especially so where current practice is not aligned with the regulator's view as regards revenue flow for NTS.

8.191 BT also notes that Oftel originally introduced the concept of tiered charges in any case,[384] referring to Oftel's 'Statement on the Relationship between Interconnection Charges and Retail Prices for Number Translation Services'.[385] It notes that, originally, the NTS formula applied to all ONOs' NTS revenue and that "*[t]his set the*

[383] BT Response to the Draft Determination, paragraph 110.
[384] BT Response to the Supplementary Consultation, paragraph 84.
[385] http://www.ofcom.org.uk/static/archive/oftel/publications/1999/consumer/nts1299.htm

link between the terminator's charge and the call originator's retail charge and origination costs. Later the regulator introduced the pricing ladder arrangement as an alternative for 0845 and 0870 number ranges, which reinforced this view." BT argues that this shows that Ofcom and Oftel have previously supported a link between termination charges and retail call charges, and notes that Ofcom continues to do so in relation to 0844 and 0871 charges.

8.192 BT reiterates that it rejects Ofcom's stance on Principle 3, arguing that there is no substantive reason why Ofcom's approach to 0845/0870 number in this Dispute should be treated any differently from its approach 080 numbers in the 080 Determination. It states that Ofcom should be consistent between the disputes.[386]

Our view

8.193 We note BT's argument that Ofcom should not take current industry practice as "given" regulatory policy and that Ofcom should not use potential changes as a reason for finding NCCNs 985 and 986 not to be fair and reasonable. There is a distinction between current industry practice and regulatory policy. In our analysis in this Dispute we consider it appropriate to accept existing regulatory policy as a given, and an appropriate background against which to assess new charges for calls to 0845/0870 numbers. We do not take current industry practice as given in the same way. However, we consider it relevant to take account of the consequences of substantial changes to current practice due to NCCNs 985 and 986.

8.194 We have not used the NGCS Review as sufficient reason in itself for not finding NCCNs 985 and 986 to be not fair and reasonable. However, we do consider that various aspects of the policy review should be taken into account. For example, as we pointed out in paragraph 2.163 of the Supplementary Consultation, NCCNs 985 and 986 could impose material disruption to the industry in advance of a possible further set of changes introduced following the conclusion of the NGCS Review. There are likely to be other policy options available in the NGCS Review, including some that could be more effective and less disruptive in achieving lower 0845/0870 prices (for example, direct regulation of OCPs' prices which would avoid the use of higher termination rates that are part of BT's NCCNs).

8.195 To the extent that we have previously supported a link between termination charges and retail call charges, and continue to do so for 0844 and 0871 calls, this reflects a specific regulatory policy where BT is the OCP.[387] Under the current regulatory regime for 0844 and 0871 the TCP will advise BT (as the OCP) of the retail price to be charged for calls from BT's customers i.e. up to 5ppm for 0844 numbers and up to 10ppm for 0871 numbers. Termination payments are then determined using the NTS Formula. But the existing regulatory policy is different in relation to OCPs other than BT, who are still free to set their own retail prices. Where OCPs and TCPs interconnect directly with each other, termination payments will be agreed by commercial negotiations between the OCP and the TCP and may not be specifically linked to the retail price that the OCP chooses.[388] This is a material difference when comparing BT's proposed termination charges for 0845 and 0870 to current

[386] BT Response to the Supplementary Consultation, paragraph 91.

[387] The NTS call origination condition imposed on BT (SMP condition AA11) means that for all BT-originated NTS calls, the termination charge is automatically linked to the retail price as it is the difference between the retail price and the cost of origination. This is not the case for non-BT OCPs.

[388] For example, see paragraphs S.4 and 2.7 in Oftel's Statement on the Relationship between Interconnection Charges and Retail Prices for Number Translation Services, December 1999. http://www.ofcom.org.uk/static/archive/oftel/publications/1999/consumer/nts1299.htm

termination charges for 0844 and 0871 numbers and for this reason we do not consider that this should have any bearing on whether NCCNs 985 and 986 are found to be fair and reasonable.

Section 9

Ofcom's final conclusions on whether NCCNs 985 and 986 are fair and reasonable

9.1 This section summarises the analysis set out in sections 7 and 8 above and, based on this analysis, states our final conclusions on whether NCCNs 985 and 986 are fair and reasonable.

9.2 In section 10 below, we consider the question of repayments, in light of our final conclusions and also assess these conclusions to ensure consistency with Ofcom's statutory duties and Community requirements, in particular the Community requirements under section 4 of the 2003 Act, the duties set out in Article 8 of the Framework Directive (Directive 2002/21/EC) and our general obligations under administrative law.

Summary of analytical framework

9.3 BT's new termination charges for 0845 and 0870 calls to numbers hosted on BT's network took effect from 1 November 2009. These charges were notified on 2 October 2009 in NCCN 985 (for calls to 0845 numbers) and NCCN 986 (for calls to 0870 numbers). These NCCNs introduced additional (or variable) termination charges at progressively higher levels in tiers related to the OCP's retail price for such calls. The variable charges apply only if the OCP's retail price is 12.5ppm or higher.[389]

9.4 In analysing the matters in dispute we have taken due account of our statutory duties, in particular the effects on competition and consumers of the charging arrangements. We have adopted an analytical framework for assessing the matter in dispute based on three cumulative principles (as set out below). These principles substantively incorporate the six principles of pricing and cost recovery[390] which we have often previously used as a basis for an analytical framework. The three Principles are:

Principle 1: the MNOs should not be denied the opportunity to recover their efficient costs of originating calls to 0845/0870 numbers hosted on BT's network. In the context of this Dispute, we consider that this means:

- it may be fair and reasonable for BT to impose variable termination charges provided the average retention by each of the MNOs (which is the ARP minus the termination charge) is sufficiently large relative to their on geographic calls.

Principle 2: The charges in NCCN 985 and 986 should:

[389] NCCN985 and NCCN986 do not alter the termination charges for calls to 0845 or 0870 numbers where from those previously in place where the OCP's retail price for a call is below 12.5ppm.
[390] Cost causation; cost minimisation; effective competition; reciprocity; distribution of benefits; practicability.

- provide benefits to consumers, taking into account (i) Direct, (ii) Indirect and (iii) Mobile tariff package effects; and

- avoid a material distortion of competition among: (i) TCPs; (ii) transit operators; (iii) OCPs in retail services; and (iv) MNOs in wholesale sales to MVNOs.

Principle 3: The charges in NCCN 985 and 986 should be reasonably practicable to implement.

9.5 We have developed and applied these Principles in the context of Ofcom's existing policy preference for 0845 and 0870 calls. In summary, this policy preference is that all networks should set prices for 0845 and 0870 calls in the same way as local and national calls to geographic numbers.[391]

9.6 In relation to MNOs, this means that i) where geographic calls (i.e. mobile-originated calls to fixed geographic numbers, anywhere in the UK) are included in a bundle, then 0845 and 0870 calls should also be included; and ii) where geographic calls are not included in a bundle, and instead charged for on a ppm basis, 0845 and 0870 calls should be charged at the same rate as would apply to geographic calls. Although MNOs are not prevented from setting different prices for calls to 0845/0870 numbers and geographic calls, if they do so, they are departing from our policy preference.

9.7 Our analysis and the conclusions as to whether each of the three cumulative Principles is met are set out below. Our detailed analysis and reasons for reaching these conclusions are set out in the preceding sections of this determination, as well as in parts of the Draft Determination and the Supplementary Consultation to which we have referred in those sections.

Our conclusions

Assessment of Principle 1

9.8 Principle 1 relates to the ability of OCPs to recover the efficient costs of call origination. We have assessed this by comparing how much money remains with the MNOs for calls to BT's 0845 and 0870 numbers after any termination payments to BT (which we refer to as the retention) compared with the retention on geographic calls. We consider that the cost recovery obtained by the MNOs on geographic calls forms the appropriate reference point for cost recovery on 0845/0870 calls, given our current regulatory policies (described above).

9.9 In practice, the MNOs do not align their retail prices for calls to 0845 and 0870 numbers with geographic rates, and are therefore not adhering to Ofcom's policy preference. Calls to these numbers are generally significantly more expensive on average than calls to geographic numbers. At the current prices we therefore conclude that the MNOs' average retention on 0845 and 0870 prices will be at least as high as their average retention on geographic calls.

9.10 It is clear that no MNO has adopted pricing for calls to 0845 and 0870 numbers as contemplated in Ofcom's existing policy preference. As noted at paragraph 9.7 above, this is an issue that may be covered in the separate, on-going policy project, the NGCS Review.

[391] The basis for this policy preference is set out at paragraphs 2.39 *et seq.* above.

9.11 We have also considered how changes to prices for calls to 0845 and 0870 numbers might affect MNOs' retention. In particular, we have considered how the retention might be affected if MNOs aligned prices for these calls with geographic call rates (i.e. consistent with our policy preference). We have found that average geographic rates, taking into account call packages and bundles, are likely to be less than 12.5ppm. Therefore, if the MNOs were to set prices for 0845/0870 calls in line with our policy preference, the relevant retention would be that earned by the MNOs on the *bottom tier* of charges in NCCN 985 and NCCN 986. This should be compared against the retention for calls to geographic numbers, which is the appropriate reference point (as explained in paragraph 9.8 above).

9.12 For 0870 calls, MNOs' retention in respect of bottom tier charges under NCCN 986, if there were alignment with charges for calls to geographic numbers, would be similar to MNOs' retention on geographic calls. Principle 1 will be met, therefore, because the bottom tier charges for 0870 calls are cost-based, like termination rates for geographic calls.

9.13 For 0845 calls MNOs' retention in respect of bottom tier charges under NCCN 985, if there were alignment with geographic call prices, would be sufficiently large relative to MNOs' retention on geographic calls that Principle 1 would be met. The bottom tier charges for 0845 calls are higher than for 0870 calls and geographic calls.[392] The difference in bottom tier charges for 0845 and 0870 calls is between 0.4ppm and 2.1ppm depending on the time of day and/or day of week. This inevitably means that MNOs would have lower retention on 0845 calls than on geographic calls if they were to treat these two call types the same in their retail pricing.[393] Lower retention on 0845 calls may therefore be a necessary consequence of revenue-sharing and Ofcom's policy preference that all networks should set prices for 0845 and 0870 calls in the same way as local and national calls to geographic numbers. Our view is that there is nothing inherently problematic with MNOs' (or other OCPs') retention on 0845 calls being lower than on geographic calls, since MNOs (and other OCPs) are nevertheless able to recover their efficient costs of origination through combined pricing of 0845, 0870 and geographic calls. Therefore, Principle 1 is satisfied *if* the retention on 0845 calls is no more than 0.4ppm to 2.1ppm lower than the retention on geographic calls. This is what we mean by "sufficiently large" in the wording of Principle 1.

9.14 In any case, it is open to the MNOs to choose not to align their prices for 0845 calls with geographic rates if they wish to achieve at least as large a retention. Despite it being inconsistent with our policy preference, there is no regulatory obligation that prevents MNOs from doing so.

Our conclusion on Principle 1

9.15 We conclude that MNOs have the opportunity to earn a retention on calls to 0845 and 0870 numbers that is sufficiently large relative to their retention on geographic calls such that Principle 1 is met in respect of charges under NCCN 985 for calls to 0845 numbers and NCCN 986 for calls to 0870 numbers.

[392] This is because charges for calls to 0845 numbers are set at a level that enables a degree of revenue sharing by the TCP with SPs or content providers who offer services associated with those numbers.

[393] Other OCPs, including fixed line operators such as BT, will also be in the same position where they set the same prices for 0845 calls and geographic calls.

Assessment of Principle 2

9.16 Principle 2 relates to consumer and competition effects. In our analysis of consumer effects we have assessed:

a) the Direct, Indirect and Mobile tariff package effects on retail consumers of mobile-originated 0845/0870 calls (i.e. the customers of the MNOs); and

b) the Indirect effect on NTS service providers.

9.17 In our analysis of competition effects we have analysed the impact across four sets of services:

a) NTS hosting among TCPs;

b) transit;

c) OCPs' retail services; and

d) MNO hosting of MVNOs.

9.18 Our consideration of submissions received in response to the Draft Determination caused us to revise certain elements of our provisional conclusions in respect of Principle 2. We set out our revised provisional conclusions in the Supplementary Consultation. Our final conclusions in respect of Principle 2 take account of further submissions received in response to the Supplementary Consultation.

Consumer effects

<u>Direct effect</u>

9.19 We consider that the balance of the available evidence suggests that the direction of the Direct effect is more likely to be positive for consumers (i.e. reductions in 0845/0870 prices) than negative (i.e. price increases). However, the magnitude of the Direct effect is uncertain. Our conclusions therefore vary as between i) the direction and ii) the magnitude of the Direct effect.

9.20 We consider that BT's economic analysis relies on theoretical models that are based on a number of specific assumptions about the considerations that are (and are not) included in the MNOs' price-setting decisions, which have not been empirically verified as accurately reflecting such real-world decisions.

9.21 As regards the other considerations that we identified in the Draft Determination might not be adequately reflected in BT's analysis:

a) We consider BT has partially addressed our concern with regard to the fact that MNOs generally have *multiple price points* for 0845/0870 calls (see paragraphs 2.60 *et seq.* of the Supplementary Consultation, paragraph 8.72 and Annex 5), and in relation to *competitive interactions* and *other mobile prices* (see paragraphs 2.67 *et seq.* of the Supplementary Consultation and paragraphs 8.84 to 8.95 above).

b) We do not consider that BT's response has directly addressed our potential concern regarding *substitution* between 0845/0870 calls and other mobile services. However, the available evidence does not suggest that this is likely to be a large effect (see paragraphs 2.65 *et seq.* of the Supplementary Consultation).

c) We do not consider that BT has addressed our concerns regarding the consistency of its analysis of the Direct effect with *profit maximising behaviour by BT* (see paragraphs 2.90 *et seq.* of the Supplementary Consultation and paragraphs 8.107 to 8.110 above).

9.22 We therefore consider that BT has gone some way to addressing the concerns we identified in the Draft Determination, although some material concerns remain. Similarly, whilst we agree with some of the submissions made by the other Parties, the MNOs, we do not accept others.

9.23 As noted above, our conclusions now vary as between the direction and magnitude of the Direct effect, i.e. we consider that the Direct effect is more likely to be positive than negative for consumers, but the magnitude remains uncertain. In essence, the reason for this variation is that we partially accept BT's arguments:

a) We agree that BT has identified a relevant effect and that it would require strong opposing effect(s) to reverse the incentive on MNOs to reduce their 0845/0870 prices. Whilst we cannot exclude the possibility that the proposed tariffs could result in an increase in 0845/0870 call prices, we consider that the balance of the available evidence suggests that it is more likely that the MNOs have an incentive to reduce these prices than to increase them. These considerations underpin our conclusion on the direction of the Direct effect.

b) However, we do not accept that BT's models are sufficiently comprehensive or reflective of real-world pricing decisions or that their predictions on the magnitude of the Direct effect are robust. The various possibilities we have identified about both opposing effects and considerations missing from BT's analysis are likely to influence the magnitude of the pricing responses to NCCNs 985 and 986. These considerations underpin our conclusion that the magnitude of the Direct effect is uncertain.

<u>Mobile tariff package effect</u>

9.24 The Mobile tariff package effect is a foreseeable and predictable consequence of NCCNs 985 and 986. This effect adversely affects consumers through higher prices for mobile services (other than 0845/0870 calls). We consider that it is appropriate to take this effect into account. Consideration of this effect is in our view also consistent with our previous regulatory practice in the 080 Determination, and with previous decisions of the CC, the CAT and Ofcom in the regulation of mobile termination charges.

9.25 Additional variable termination charges applicable to 0845 and 0870 calls under NCCNs 985 and 986 (above the bottom tier) would have the effect of reducing MNOs' profits. Therefore, as a result of these additional variable termination charges, we consider it is likely that the prices for other mobile services would go up through the Mobile tariff package effect (in addition to any effect through pure rebalancing of MNOs' prices).

9.26 We have concluded that an adverse impact on mobile customers is likely through higher prices for other mobile services and we expect this effect to be significant, although its precise speed and scale is uncertain (and it depends on the magnitude of the Direct effect, as the smaller the reduction in 0845/0870 prices, the larger the increase in termination charges levied by BT on the MNOs).

Indirect effect

9.27 Charges applicable under NCCNs 985 and 986 may have positive Indirect benefits for consumers, in that the additional revenues generated by BT will be available to improve BT's hosting services or passed through over time to 0845/0870 service providers to improve their service to callers. We consider that there may be sufficient competitive pressure on BT to ensure that some benefits are passed on over time to SPs. There is likely to be a delay before such competitive pressure may be realised while TCPs make changes to their billing systems and processes, and while contracts with SPs are re-negotiated.

9.28 However, for consumers of 0845/0870 calls to benefit from the Indirect effect, it is also necessary that SPs improve the availability or quality of the services that they offer. It is not clear that this will necessarily occur because many SPs are likely to have chosen these number ranges in large part due to the call price they expect OCPs to offer, not because of revenue share. Our conclusion in respect of the Indirect effect is, therefore, that while there may be sufficient competitive pressure on BT to ensure that some benefits are passed on over time to SPs, it is not clear that callers to 0845/0870 numbers will necessarily benefit.

Conclusion on consumer effects

9.29 Table 9.1 below summarises our analysis of the direction of the effects on consumers, taking into account both the effects at the originating end (Direct and Mobile tariff package effects) and the terminating end (Indirect effect). As noted above, we expect the Mobile tariff package effect to be negative for consumers; there may be a positive Indirect effect for SPs, but it is not clear that callers to 0845/0870 numbers will necessarily benefit; and the Direct effect is more likely to be positive for consumers than negative. We therefore place greater weight on the left hand column in Table 9.1 below: "0845/0870 prices fall".

Table 9.1: Summary of direction of effects on consumers

		0845/0870 prices fall	0845/0870 prices unchanged	0845/0870 prices rise
(i)	Direct effect	Positive for consumers	No effect	Negative for consumers
(ii)	Mobile tariff package effect	Negative	Negative	Negative
(i) & (ii)	Overall effect at originating end	Positive, if the Direct effect is sufficiently large relative to the Mobile tariff package effect; but negative, if this is not the case	Negative	Negative
(iii)	Indirect effect	Positive for SPs, but uncertain for callers	Positive for SPs, but uncertain for callers	Positive for SPs, but uncertain for callers

(i), (ii) & (iii)	Overall across both originating and terminating ends	Positive, if the Direct effect is sufficiently large relative to the Mobile tariff package effect (given the Indirect effect); but negative, if this is not the case	Negative	Negative

9.30 As set out above, there is uncertainty about the sizes of each of the Direct, Indirect and Mobile tariff package effects. However, as shown in Table 9.1, the overall effect on consumers depends on the relative sizes of these offsetting effects (even though we place more weight on the Direct effect than the Mobile tariff package effect, because of our policy preference for 0845/0870 prices to be aligned with geographic call prices).

9.31 Our judgement in respect of Principle 2 is therefore finely balanced. We recognise the possibility that consumers could benefit from NCCNs 985 and 986. However, we also recognise the risk of harm to consumers from NCCNs 985 and 986, particularly in light of our conclusions on the Mobile tariff package effect.

9.32 Given the uncertainty which we have identified as to whether BT's NCCNs would result in a net benefit or net harm to consumers, and in light of our overriding statutory duties to further the interests of consumers, we consider it is appropriate for us to place greater weight on this potential risk to consumers from NCCNs 985 and 986.

Competitive distortion

<u>TCPs</u>

9.33 We have previously found that there were material barriers to other TCPs broadly replicating BT's tiered termination charges (e.g. in the NCCN 500 Decision and the 080 Determination). However, BT has now made available a cascade billing solution which allows other TCPs to introduce charging structures based on the retail prices of the OCP, if BT carries the traffic as a transit operator. BT has also indicated to us that it intends to publish information on the charging tier that it applies to each of the MNOs, to assist other TCPs to bill and charge correctly.

9.34 Based on all available evidence, we conclude that the ability of other TCPs broadly to replicate BT's termination rate schedules implies that the risk of a distortion of competition among TCPs in NTS hosting services is relatively low.

<u>Transit</u>

9.35 The issue of foreclosure in the transit market has been raised by both MNOs and a major transit operator. We consider that there are no insurmountable implementation barriers in implementing a ladder pricing methodology for transit operators.

9.36 However, we have concerns on transit providers' ability to identify the OCP of some calls to bill OCPs accurately (for example, when calls arrive via another transit provider who does not identify the OCP). In paragraph 5.248 of the Draft Determination and paragraph 7.181**Error! Reference source not found.** we noted that BT (as the TCP) may be unable to determine the identity of the OCP if the call is from a ported number and the TCP is unable to identify the OCP based on the ingress route, such as because the call arrives via another transit provider who does not provide the OCP identity. Neither BT nor any other party has so far identified a specific solution to this problem.

9.37 We are concerned that this may lead to competitive distortion in the transit market by encouraging OCPs to choose inefficient routing choices to avoid the payment of higher termination charges. Although the scale of our concern is uncertain, we maintain our concern about the risk of a distortion in the transit market in the absence of a mechanism to solve this problem regarding the ability to identify the OCP of the call.

OCP's retail services

9.38 We have considered whether the introduction of NCCNs 985 and 986 may affect the range of mobile packages available by making uneconomic certain packages that include lower prices for 0845/0870 calls (i.e. if the termination charges paid to BT for calls to 0845/0870 numbers exceed the MNO's average revenue per minute). We would be concerned if NCCNs 985 and 986 had this effect. However, we note that the argument put forward by the MNOs is incomplete, because it does not take into account that there could be an incentive to retain lower-priced packages to avoid an increase in the MNO's average retail price and potentially a higher termination charge paid to BT (although the nature of this effect depends on the method to derive MNOs' average retail price). Therefore, we do not currently place great weight on this potential concern.

9.39 Another possible concern relates to uncertainty over BT's termination charges and future variations affecting MNOs' willingness to offer new and innovative tariffs. We recognise that certainty is important for business planning. However, we note that this issue is not unique to BT's termination charges for calls to 0845/0870 numbers, as there is the potential for other OCPs to face uncertainty about termination charges, including the uncertainty faced by OCPs (such as BT) in relation to changes in mobile termination charges. In addition, the significance of this issue is likely to depend on the way in which the average retail price is derived and updated over time, and the frequency with which BT might change its termination charges.

MNO hosting of MVNOs

9.40 We have considered whether a linkage between MNO retail prices and MVNO wholesale/termination charges could cause a distortion in the wholesale access and origination market.

9.41 There may be ways in which MNOs can mitigate any such distortion, but more fundamentally the size of any distortion depends on the importance of 0845 and 0870 calls to MVNOs, which account for a small proportion of total mobile-originated voice minutes. 0845/0870 calls appear to constitute a small proportion of total mobile-originated calls, which may make any effects on competition in MNO hosting of MVNOs relatively small and/or short-lived (see paragraph 5.280 of the Draft Determination and paragraph 7.196). Therefore, we consider that any potential distorting effect may avoid material distortion to the incentives of MVNOs to switch between MNOs.

Conclusion on competition effects

9.42 Our conclusions on these four areas are as follows:

a) We consider the risk that NCCNs 985 and 986 would lead to a material distortion of competition among TCPs is relatively low.

b) Whilst we consider that there are no insurmountable implementation barriers for transit operators in implementing a ladder pricing methodology, there are concerns about the potential distortion of OCPs' choice of transit provider (when calls arrive via another transit provider who does not identify the OCP).

c) We recognise that there are possible concerns about distortion to competition between MNOs/MVNOs in retail services, in particular about disincentives to pricing innovations due to a lack of certainty about termination charges and potential for the range of packages to be reduced if lower-priced packages are made uneconomic. But the nature of these effects depends on the method to derive MNOs' average retail price (which is considered below under Principle 3).

d) We consider that NCCNs 985 and 986 may avoid a significant distortion of competition in the provision of wholesale access and origination by MNOs to MVNOs.

Our conclusion on Principle 2

9.43 Taking the issues raised by our analysis of consumer benefits and competitive distortion in the round, on the evidence currently before us, we conclude that Principle 2 is not met in respect of charges under NCCN 985 for calls to 0845 numbers and NCCN 986 for calls to 0870 numbers.

Assessment of Principle 3

9.44 Principle 3 states that the charges in NCCNs 985 and 986 should be reasonably practicable to implement. The following considerations are relevant to our assessment of practicability.

9.45 NCCNs 985 and 986 represent a substantial change in the approach to termination charges for NTS numbers or more generally, because the TCP's termination charge varies with the OCP's retail call price. BT itself recognises that it is a "*radical departure from the existing pricing practice*".[394]

9.46 Notwithstanding that the Parties in the Dispute have failed to have any meaningful dialogue on the issue of ARPs, we consider that each MNO should be in a position to estimate its own ARP for 0845/0870 calls to an acceptable degree of accuracy and subject to a reasonable verification procedure (although we are unable to reach a firm conclusion because further negotiation is required between the Parties, as set out in paragraph 5.335 in the Draft Determination). We also consider that the Parties should be able to ensure billing accuracy without distorting competition in incorporating ARPs for 0845/0870 calls into the overall average. The details of the methodology to derive each OCP's ARP would be matters for commercial negotiation and it would be premature for us to impose on the Parties a specific method.

9.47 A number of practical difficulties of implementation remain unresolved. For example, porting at the OCP end may affect billing accuracy (where CLI information would not identify the OCP of the call). This may arise either through the use of transit operators who do not capture or pass on the identity of the OCP or in the context of

[394] Paragraph 110, BT Response

national roaming traffic. We note that a suitable mechanism to overcome this has not been identified.

9.48 We acknowledge that NCCNs 985 and 986 would introduce significant additional complexity (in part reflecting the implementation issues). For example, different TCPs have already set different termination charge schedules linked to the OCPs' retail prices (i.e. BT, IVR, Gamma and C&W). OCPs are likely therefore to be charged different ladders of termination rates by different TCPs (see paragraph 8.185 above). OCPs will therefore have to consider their response, e.g. how to vary their prices, taking this variation in termination charge schedules into account. These termination charge schedules may also be changed by each TCP at different times. Further complexity arises because some calls to 0845/0870 numbers involve MVNOs and transit operators.

9.49 We consider that the complexity of real-world pricing decisions by the MNOs (and the limitations in any model of economic theory in capturing them adequately), coupled with the inherent difficulty in analysing operators' pricing responses and their implications, might lead to unintended and unforeseen consequences as noted in our Supplementary Consultation (see paragraph 2.160).

9.50 The potential for significant wider implications is also relevant to our consideration of this Dispute. BT has introduced NCCNs for tiered termination charges for 080 calls as well as for 0845 and 0870 calls. We note that another TCP, IVR, has introduced tiered termination charges in relation to other 08 numbers, such as 0844 and 0871. In addition, both O2 and T-Mobile/Orange have raised the question of tiered mobile termination charges being introduced in relation to fixed-to-mobile calls (see paragraph 4.102 of the Draft Determination and paragraphs 7.125 to 7.126). Some respondents have also questioned whether such a fundamental change of a move to termination charges linked to retail prices should be introduced through the process of dispute resolution rather than the process of regulatory policy development, taking a broad perspective of issues, involving a wider range of policy options, allowing more time for analysis and including full consultation with all affected stakeholders that is not feasible in the context of a dispute.

9.51 Given a free choice, a policy development process (for example our ongoing NGCS Review) would represent a more desirable approach to such a substantial and important change with wide-ranging implications. However, we must resolve this dispute now and do not consider that it would be appropriate for us instead to wait until the outcome of the NGCS Review, as this would entail a significant delay during which time the MNOs would continue to have to pay BT's new charges.

9.52 Nevertheless it is relevant that the NGCS Review, which includes policy options beyond the scope of this Dispute, may implement a set of changes to industry arrangements for 0845/0870 calls. We are therefore concerned about the potential for a major and potentially disruptive set of changes in industry arrangements to implement NCCNs 985 and 986, which may subsequently be rolled back or substantially affected following the conclusion of the NGCS Review next year.

9.53 If we were in a position to conclude that there were clear and unequivocal benefits to consumers from NCCNs 985 and 986, we might place less weight on the practicability concerns outlined above. However, given our conclusion that Principle 2 is not met, we consider that these concerns are relevant.

Our conclusion on Principle 3

9.54 In light of the above, we consider that there is insufficient evidence to conclude that the charges in NCCNs 985 and 986 would be reasonably practicable to implement. We therefore conclude that Principle 3 is not met.

Overall conclusion on Principles

9.55 Taking into consideration our assessment across the three Principles, we conclude that it is not fair and reasonable for BT to apply the new termination charges set out in NCCNs 985 and 986 to calls for 0845 and 0870 numbers.

Section 10

Repayments and assessment against Ofcom's statutory duties

Background to repayments

10.1 For the reasons set out above, we have concluded that NCCNs 985 and 986 are not fair and reasonable. We propose therefore that the Parties should revert to the terms on which they were trading prior to the imposition of NCCNs 985 and 986.

10.2 Section 190(2)(d) of the 2003 Act gives us the power, for the purpose of giving effect to a determination by Ofcom of the proper amount of charge in respect of which amounts have been paid by one of the Parties of the dispute to the other, to give a direction, enforceable by the party to whom the sums are to be paid, requiring the payment of sums by way of an adjustment of an underpayment or an overpayment.

10.3 Orange, O2 and T-Mobile have asked that BT be required to reimburse them fully for any payments made pursuant to NCCNs 985 and 986 should we determine that these arrangements are not fair and reasonable.

10.4 We now consider whether we should exercise our discretion to require BT to make a payment to the MNOs, by way of an adjustment of an overpayment, and if so, what the level of any such payment should be.

10.5 In deciding whether it is appropriate to make such a direction, we have been guided by our duties and Community obligations under Sections 3 and 4 of the 2003 Act.

10.6 We have considered carefully the incentives and regulatory signals to industry that flow from our approach to directing repayments. If we allow BT to keep any payments made under NCCNs 985 and 986, despite our conclusion that charges pursuant to NCCNs 985 and 986 are not fair and reasonable, this could incentivise BT to introduce charging arrangements in future that may not be fair and reasonable. In contrast, we consider that requiring BT to make repayments incentivises it to act fairly and reasonably in any future adjustment of its charging structures. A decision by Ofcom not to require repayments would in our view, distort these incentives by putting BT in a more favourable position through introducing charging arrangements that are not fair and reasonable than would exist if it had not done so.

10.7 We note that in its Notice of Appeal relating to the 080 Determination, BT maintains that we should consider the impact of requiring the Parties to revert to their prior trading arrangements in this way, and that requiring BT to revert to its previous contractual rearrangements is an onerous requirement.

10.8 We do not agree that we are required to assess the previous contractual arrangements between the Parties. Those previous contractual arrangements were not in dispute prior to this Dispute being brought. In this regard we note the comments of the CAT in the *TRD* core issues judgment in which it clearly set out its view that in a situation where Ofcom finds that a proposed change should be rejected, Ofcom may order the parties to continue doing business on the terms and conditions that have so far applied.[395]

10.9 To the extent that BT might suggest that any requirement in this case to revert to its previous contractual position is onerous, we would also disagree. Such a requirement can be effected simply by means of a payment of any sums which have been overpaid, and continued trading on those pervious terms. We do not consider this to be an onerous requirement. We also consider such a requirement to be a proportionate means of achieving our aim, which is to ensure that BT is not in a more favourable position than it would have been had it not introduced charges which we have found not to be fair and reasonable.

10.10 Accordingly, we will exercise our discretion to require BT to make payments to the MNOs by way of an adjustment of an overpayment.

Level of repayments and interest

10.11 In light of our assessment above, we conclude that it is appropriate and proportionate for Ofcom to exercise its powers under Section 190(2)(d) of the 2003 Act to require BT to repay any additional amounts paid to it by the MNOs under NCCNs 985 and 986, over and above those charges applicable immediately prior to NCCNs 985 and 986, together with interest on these amounts at the Oftel Interest Rate. This will return BT to the position that would have prevailed prior to the introduction of NCCNs 985 and 986.

10.12 We consider that the Parties should resolve the amounts of repayment repaid (plus any interest) between themselves, and we have made a Determination in respect of this Dispute in these terms. In deciding that BT should be required to pay interest on the overpayments that it has received pursuant to NCCNs 985 and 986, we have considered the terms and conditions on which the MNOs purchase 0845 and 0870 call termination from BT as set out in SIA. Paragraph 13.13 of the SIA states that:

> "*If any charge (or the means of calculating that charge) for an Operator service or facility has retrospective effect (for whatever reason) then the Operator shall, as soon as reasonably practicable following publication in the Carrier Price List, adjust and recalculate the charges in respect of such service or facility using the new charge and calculate the interest for any sum overpaid or underpaid at the Oftel Interest Rate.*"

10.13 The Oftel Interest Rate is defined in Annex D to the SIA as:

> "*three eighths of one per cent (3/8%) above the London Inter Bank Offered Rate being the rate per annum of the offered quotation for sterling deposits for delivery on the due date for payment for a period of three months as displayed on page 3750 on the Telerate Service (or any other page that may replace page 3750 on that service) at or about 11 am London time on the due date of payment provided that if such a rate is not so displayed London Inter Bank Offered Rate shall mean the rate quoted by National Westminster Bank PLC to leading banks in the London interbank market at or about 11 am London time on the due date of payment for the offering of sterling deposits of a comparable amount for a period of three months. Such interest shall be calculated on a daily basis.*"

[395] See paragraph 179 of the *TRD* judgment, referred to above at footnote 77.

10.14 Accordingly, we consider that the SIA clearly envisages a situation such as that arising in the current Dispute and provides that, where this occurs, interest will be payable on any sums overpaid or underpaid at the Oftel Interest Rate.

10.15 We conclude that it is appropriate for BT to pay interest on any repayments made pursuant to our Determination at the Oftel interest Rate, as defined in the SIA. This is the interest rate that governs the SIA which was in place over the entire period of the Dispute.

Assessment of our Determination against Ofcom's statutory duties and Community requirements

10.16 We have carefully considered our powers, obligations and duties in deciding on the appropriate means of resolving the Dispute. For the reasons set out below, we consider that our Determination of this Dispute is consistent with both Ofcom's general duties in Section 3 of the 2003 Act, and (pursuant to Section 4(1)(c) of the 2003 Act) the six Community requirements set out in Section 4 of the 2003 Act, which give effect, amongst other things, to the requirements of Article 8 of the Framework Directive.

10.17 We consider that the following duties have particular relevance to the Dispute:

(i) the duty to further the interests of citizens (i.e. all members of the public in the United Kingdom) in relation to communication matters (Section 3(1)(a));

(ii) the duty to further the interests of consumers in the relevant markets, where appropriate by promoting competition (Section 3(1)(b));

(iii) the duty to secure the availability throughout the United Kingdom of a wide range of electronic communications services (Section 3(2)(b));

(iv) the duty to have regard to the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed; as well as any other principles appearing to Ofcom to represent the best regulatory practice (Section 3(3));

(v) the duty to have regard to the desirability of promoting competition in relevant markets (Section 3(4)(b));

(vi) the duty to have regard to the desirability of encouraging investment and innovation in the relevant markets (Section 3(4)(d));

(vii) the duty to have regard to the vulnerability of children and others whose circumstances appear to Ofcom to put them in need of special protection (Section 3(4)(h));

(viii) the duty to have regard to the needs of persons with disabilities, of the elderly and of those on low incomes (Section 3(4)(i));

(ix) the duty to have regard to the opinions of consumers in relevant markets and of members of the public generally (Section 3(4)(k));

(x) the duty to have regard to the extent to which, the furthering or securing of our functions is reasonably practicable (Section 3(4)(m));

(xi) the duty to have regard, in particular, to the interests of consumers in respect of choice, price, quality of service and value for money (Section 3(5));

(xii) the duty to promote competition (Section 4(3));

(xiii) the duty to secure that Ofcom's activities contribute to the development of the European internal market (Section 4(4));

(xiv) the duty to promote the interests of all persons who are citizens of the European Union (Section 4(5));

(xv) the duty to take account of the desirability of Ofcom's carrying out their functions in a manner which, so far as practicable, does not favour one form of electronic communications network, electronic communications service or associated facility; or one means of providing or making available such a network, service or facility, over another; and

(xvi) the duty to encourage, to the extent Ofcom considers it appropriate, the provision of network access and service interoperability for the purposes of securing efficiency and sustainable competition in communications markets and the maximum benefit for the customers of communications network and services providers (Sections 4(7) and 4(8)).

10.18 We consider the duties set out at (i), (ii), (xi) and (xiv) are of particular relevance to resolving the Dispute, i.e. the interests of citizens and consumers. This is because as set out in Section 2 above we consider that it is in the interests of citizens and consumers if calls to 0845 and 0870 numbers are linked to the rates for geographic calls to ensure that the prices are not misleading to the public. We consider that it is important that such services are available at reasonable prices for all 0845 and 0870 calls.

10.19 We consider that the duties set out at (ii), (iii), (xi), (xiv) are of particular relevance to resolving the Dispute, because of the potential for the charging arrangements to affect the attractiveness to service providers of using 0845 and 0870 numbers. This could be to the ultimate benefit of consumers in terms of availability, choice and quality of services available on calls to 0845 and 0870 numbers.

10.20 We consider that the duties set out at (ii), (v), (xii) and (xvi) are of particular relevance for resolving the Dispute since we consider that the issues raised could have an impact on competition as summarised in paragraph 5.36 and, therefore, on the offer of electronic communications services to consumers in terms of choice, price, quality of service and value for money.

10.21 Charges imposed should not undermine the pressure for effective competition (whether competition between those already in the market place or competition via entry by efficient operators). We consider that the risk of BT's termination charges as set out in NCCNs 985 and 986 materially distorting competition between TCPs is relatively low, but that there are as yet unresolved concerns about competition between transit operators and between MNOs in retail services.

10.22 We consider that the duties set out at (vii) and (viii) are relevant to the Dispute as children, the elderly and those with disabilities or on low incomes may have cause to call 0845 numbers. We note that some 'helplines' of charitable organisations that offer help to these social groups have contact numbers with an 0845 prefix, for example, the National Bullying Helpline. Therefore any change in the pricing of such calls may have a Direct effect on the accessibility of these services and therefore on these groups.

10.23 We consider that the duty set out at (xvi) is also relevant, namely the duty to encourage the provision of network access and service interoperability for the purposes of securing efficiency and sustainable competition in communications markets and the maximum benefit for the customers of communications network and services providers. We consider this duty to be of relevance for resolving the Dispute since the Dispute concerns the charges for the service of call termination, which is essential for encouraging interoperability between different networks, so that customers of one network can call, and receive calls from, the customers of other networks.

10.24 We consider that the duty set out at (vi) is of relevance for resolving the Dispute since we consider that the issues raised could have an impact on the desirability of encouraging investment and innovation in the relevant markets. We consider that BT's charges could encourage investment by other TCPs and transit operators to allow them to compete effectively and to offer innovative services. However, we also note that some concerns remain about the impact on innovation within the retail mobile market.

10.25 We consider that the duty set out at (ix) is of relevance for resolving the Dispute since we consider that the issues raised could have an impact on consumers in the relevant market and of members of the public more generally. We have sought the opinions of Service Providers, i.e. those who purchase NTS hosting from TCPs, to understand their reasons for selecting these number ranges.

10.26 We consider that the duty set out at (xv) is relevant for resolving this Dispute since we need to ensure that we are not favouring one form of electronic communications service or facility, or one means of providing or making available such a network, service or facility over another. Our policy preference for 0845 and 0870 calls to be priced at geographic rates does not differentiate between those calls originated on a fixed network and those call originated on a mobile network.

10.27 We have considered the need for any charging or payment arrangements to be reasonably practicable to implement given our duty set out at (x) above and following the submissions made by the Parties. This was of particular relevance to our consideration of Principle 3 in our analysis.

10.28 Further, given that the service of call termination facilitates the development of communications between customers of different networks, we consider the duty set out at (xiii) is relevant, the development of the European internal market.

10.29 Finally, we consider our duties set out at (iv) and in Section 3(3) of the 2003 Act to be relevant, namely to have regard to the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed, as well as any other principles appearing to us to represent the best regulatory practice. In particular:

(i) Transparency and Accountability: we consider that this document clearly sets out the Parties' and interested parties' arguments and our reasoning that underpins our provisional conclusions, and we note that the Parties and interested parties have also been invited to make representations on our provisional conclusions in our Draft Determination, have made submissions and responded to requests for information. We have considered all of this information and submissions in deciding how to resolve the Dispute. The details of the Dispute have also been published on the CCEB.

(ii) Proportionate: We consider that our proposal is proportionate because it is limited to the issues identified in the scope of the Dispute and to the greatest extent possible, it furthers the desirable effects we have identified and avoids the undesirable effects, making the appropriate trade-offs where necessary. The Determination also seeks to place the Parties in the same position that they would have been in if NCCNs 985 and 986 had not been introduced. Having had regard to the likely consequences of requiring the Parties to return to this position, we do not think that this imposes an unduly onerous requirement on any of them. We consider that requiring a repayment by BT of any additional amounts paid to it by the MNOs under NCCNs 985 and 986, over and above those charges applicable immediately prior to NCCNs 985 and 986, and reverting to their previous trading arrangements is likely to be the simplest and least onerous means of ensuring that the Parties are in the same position that they would have been in if NCCNs 985 and 986 had not been introduced. As such, we consider it is a proportionate requirement to impose.

(iii) Consistency: in developing our approach, we have considered relevant NTS policy and previous Oftel / Ofcom decisions and applied a consistent analysis.

(iv) Targeted: Our resolution is targeted in that it resolves the Dispute as between the Parties to the Dispute.

Annex 1

The Determination

Dispute between BT and each of Vodafone, T-Mobile, O2, Orange, H3G and Everything Everywhere

Determination under Sections 188 and 190 of the Communications Act 2003 ("2003 Act") for resolving a dispute between British Telecommunications plc ("BT") and each of Vodafone Limited ("Vodafone"), T-Mobile (UK) Limited ("T-Mobile"), Telefonica O2 UK Limited ("O2"), Orange Personal Communications Services Ltd ("Orange"), Hutchison 3G ("H3G") and Everything Everywhere Limited ("Everything Everywhere") (together "the parties") about BT's termination charges for 0845 and 0870 calls introduced through NCCN 985 and NCCN 986.

WHEREAS—

(A) Section 188(2) of the 2003 Act provides that, where Ofcom has decided pursuant to Section 186(2) of the 2003 Act that it is appropriate for it to handle the dispute, Ofcom must consider the dispute and make a determination for resolving it. The determination that Ofcom makes for resolving the dispute must be notified to the parties in accordance with section 188(7) of the 2003 Act, together with a full statement of the reasons on which the determination is based, and publish so much of its determination as (having regard, in particular, to the need to preserve commercial confidentiality) they consider appropriate to publish for bringing it to the attention of the members of the public, including to the extent that Ofcom considers pursuant to section 393(2)(a) of the 2003 Act that any such disclosure is made for the purpose of facilitating the carrying out by Ofcom of any of its functions;

(B) Section 190 of the 2003 Act sets out the scope of Ofcom's powers in resolving a dispute which may, in accordance with Section 190(2) of the 2003 Act, include—

- **(i)** making a declaration setting out the rights and obligations of the parties to the dispute;
- **(ii)** giving a direction fixing the terms or conditions of transactions between the parties to the dispute;
- **(iii)** giving a direction imposing an obligation, enforceable by the parties to the dispute, to enter into a transaction between themselves on the terms and conditions fixed by Ofcom; and
- **(iv)** for the purpose of giving effect to a determination by Ofcom of the proper amount of a charge in respect of which amounts have been paid by one of the parties to the dispute to the other, giving a direction, enforceable by the party to whom sums are to be paid, requiring the payment of sums by way of adjustment of an underpayment or overpayment.

(C) On 2 October 2009, BT notified the industry of NCCN 985 and NCCN 986 which proposed termination charges by BT for calls to 0845 and 0870 numbers hosted on its network with effect from 1 November 2009. The termination charges payable under NCCN 985 and NCCN 986 vary in relation to the retail charge applied by the originating communications provider.

(D) On 23 December 2009, Vodafone submitted a dispute with BT to Ofcom for resolution.

(E) On 4 March 2010, Ofcom i) decided that it was appropriate for it to handle the dispute, and informed BT and Vodafone of this decision; and ii) published details of the dispute on its website and invited comments from stakeholders on the scope of the dispute.

(F) On 5 March, 11 March, 9 April, 14 April, Ofcom received further dispute submissions from T-Mobile, O2, Orange and H3G, respectively, all of which related to BT's termination charges in NCCN 985 and NCCN 986.

(G) We considered that the principal issues raised by T-Mobile, O2, Orange and H3G were essentially the same as the issues raised by Vodafone and therefore we considered it appropriate to join T-Mobile, O2, Orange and H3G to the existing dispute between Vodafone and BT. Ofcom published details of this decision on its website.

(H) Ofcom set the finalised scope of the dispute to be resolved as to determine whether:

(i) it is fair and reasonable for BT to apply new termination charges for calls to 0845 numbers hosted on its network, which are based on the level of the retail charge made by OCPs for calls to these numbers, as specifically set out in BT's NCCN 985 dated 2 October 2009; and

(ii) it is fair and reasonable for BT to apply new termination charges for calls to 0870 numbers hosted on its network, which are based on the level of the retail charge made by OCPs for calls to these numbers, as specifically set out in BT's NCCN 986 dated 2 October 2009.

(I) From July 2010, the Orange and T-Mobile brands have operated under a single company, Everything Everywhere Limited. We understand that on 1 July 2010 the company formerly registered as T-Mobile (UK) was re-registered as Everything Everywhere Ltd and both T-Mobile and Orange brands operate under that company. We consider that Orange is a subsidiary of Everything Everywhere and that Everything Everywhere is responsible for any contractual agreements entered by both T-Mobile and Orange prior to the creation of the joint venture. We have therefore included, for the purposes of this determination, T-Mobile, Orange and Everything Everywhere as parties to this dispute.

(J) In order to resolve this dispute, Ofcom has considered (among other things) the information provided by the Parties and interested parties and Ofcom has further acted in accordance with its general duties set out in Section 3 and the six Community requirements set out in Section 4 of the 2003 Act.

(K) A fuller explanation of the background to the dispute and Ofcom's reasons for making this Determination is set out in the explanatory statement accompanying this Determination.

NOW, therefore, Ofcom makes, for the reasons set out in the accompanying explanatory statement, this Determination for resolving this dispute—

I Declaration of rights and obligations, etc.

1 It is hereby declared that:

a) The parties should revert to the trading conditions that applied before NCCN 985 and NCCN 986 came into effect;

b) BT should make payments to the MNOs by way of an adjustment for overpayments together with interest (determined in accordance with paragraph 13.13 of the Agreement) made following the introduction of NCCN 985 and NCCN 986 until the date of this Determination; and

c) The level of repayment plus interest is to be agreed between BT and the MNOs.

II Binding nature and effective date

2 This Determination is binding on the parties.

3 This Determination shall take effect on the day it is published.

III Interpretation

4 For the purpose of interpreting this Determination—

a) headings and titles shall be disregarded; and

b) the Interpretation Act 1978 shall apply as if this Determination were an Act of Parliament.

5 In this Determination—

a) **"2003 Act"** means the Communications Act 2003 (c.21);

b) **"Agreement"** means the BT Standard Interconnect Agreement that each of the MNOs has entered into with BT;

c) **"BT"** means British Telecommunications plc whose registered company number is whose registered company number is 1800000, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by Section 1159 of the Companies Act 2006;

d) **"Everything Everywhere"** means Everything Everywhere Limited whose registered company number is 02382161, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by section 1159 of the Companies Act 2006.

e) **"H3G"** means Hutchison 3G UK Limited whose registered company number is 03885486, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by Section 1159 of the Companies Act 2006;

f) **"Interest"** means the Oftel Interest Rate as defined in Annex D to the SIA;

g) **"MNOs"** means each of Everything Everywhere, H3G, O2, Orange, T-Mobile and Vodafone;

h) **"NCCN 985"** means Network Charge Control Notice 985 issued by BT on 2 October and applicable from 1 November 2009;

i) **"NCCN 986"** means Network Charge Control Notice 986 issued by BT on 2 October and applicable from 1 November;

j) **"O2"** means Telefónica O2 UK Limited whose registered company number is 1743099, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by Section 1159 of the Companies Act 2006;

k) **"Ofcom"** means the Office of Communications;

l) **"Orange"** means Orange Personal Communications Services Limited whose registered company number is whose registered company number is 2178917, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by Section 1159 of the Companies Act 2006;

m) **"the parties"** means all of BT, Everything Everywhere, H3G, O2, Orange, T-Mobile and Vodafone.

n) **"Repayment"** means a payment from BT to the MNOs of any amounts paid by the MNOs over and above the termination rates application immediately prior to NCCNs 985 and 986;

o) **"T-Mobile"** means T-Mobile (UK) Limited whose registered company number is whose registered company number is 02382161, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by Section 1159 of the Companies Act 2006;

p) **"Vodafone"** means Vodafone Group Services Limited whose registered company number is whose registered company number is 3802001, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by Section 1159 of the Companies Act 2006.

Neil Buckley
Director of Investigations

A person duly authorised in accordance with paragraph 18 of the Schedule to the Office of Communications Act 2003

10 August 2010

Annex 2

Summary of relevant Ofcom documents

A2.1 This annex sets out the key documents relating to 0845 and 0870 number ranges.

Previous consideration of charging arrangements for calls to NTS numbers

Determination of Interim Charges for BT's Initial Standard Services for the Year Ending 31 March 1996 ("the January 1996 determination")[396]

A2.2 In Annex 6 of the January 1996 determination Oftel set out how the newly created NTS regime would operate and the charging arrangements that should apply to calls where BT was the OCP and the calls were terminated on a TCP's network. Oftel's overall objective was to "*ensure that the ONO* [OCP] *retains a small sum sufficient to cover its costs of conveying the call to the BT network."* At that time there were only three NTS price points and four PRS prices. In the case of NTS these were referred to as Freefone, Lo-call and National call which later became 080, 0845 and 0870. Oftel established a means of calculating how the retail prices for calls should be distributed between OCPs and TCPs through the "NTS Formula" which read:

ONO (as TCP) keeps P-D+C

BT (as OCP) keeps D-C

where

P is the actual price charged by the ONO (as OCP) to the customer;

C is the pence per minute charge for conveyance over BT's network plus an uplift to recover retail costs incurred by the ONO (OCP) in handling t*hese calls (the "NTS* Retail *Uplift");*

D is the Deemed Retail Price for the call as defined at the time, now defined as BT's headline retail price in the NTNP less average discounts.

Statement on the Relationship between Interconnection Charges and Retail Prices for Number Translation Services (December 1999) ("the December 1999 determination")[397]

A2.3 Oftel considered complaints from TCPs about revenue uncertainty and recognised that the existing NTS charging regime "…*gave little incentive for terminating operators to develop new services for consumers*…*"* and that "…*since*

[396] This document is published as a 'related item' on our CCEB: http://www.ofcom.org.uk/bulletins/comp_bull_index/comp_bull_ocases/open_all/cw_01036/
[397] http://www.ofcom.org.uk/static/archive/oftel/publications/1999/consumer/nts1299.htm

development of the market would be driven by investment in new services at the terminating end, it was appropriate that the originating operator just covered the cost of providing the originating leg".[398]

A2.4 Accordingly, two new numbering ranges were introduced (0844 and 0871) and charging arrangements for these ranges were designed to allow a TCP to decide how much revenue it required from calls with retail prices ranging from 0ppm to 5ppm for 0844 and up to 10ppm for 0871. OCPs could then set retail prices at levels sufficient to cover the TCPs payment plus their origination costs, any transit charge and any retail profit they wished to retain. In the event this proposal proved too complex for most networks to manage. This led to BT establish a ladder of retail prices within each number range so that TCPs could choose the price that would deliver sufficient revenue for their SPs. Further, in order that TCP revenues could be protected from any subsequent retail discounting by BT, Oftel later set aside some sub-ranges in 0844 that were excluded from discounts.

Number Translation Services - Call Termination Market Review (22 October 2004) ("the NTS call termination market review *consultation")*[399]

A2.5 In the NTS call termination market review consultation, in October 2004, Ofcom proposed finding that BT had SMP in the market for NTS call termination in the UK having considered information received following responses to formal information requests sent in July 2004 relating to the period 2002-2003 prior to the market review consultation and taking into account the likely competitive and technical developments within the relevant markets for the next 18-24 month period following the review. In light of this proposed finding, Ofcom considered imposing two new SMP conditions on BT in the NTS call termination market:

(i) a requirement to provide network access; and

(ii) a requirement not to exercise undue discrimination in relation to the provision of network access.[400]

A2.6 Following Ofcom's decision to investigate a complaint from Cable and Wireless plc ("C&W") about BT's charges for NTS call termination (see NCCN 500 Competition Act Decision below), Ofcom decided not to proceed with the NTS call termination market review so as to avoid duplication of analysis. The market review was not completed and we note that the analysis carried out at the time specifically considered the period 2002-2007.

NTS: A Way Forward Statement (19 April 2006) ("the 2006 NTS Review")[401]

A2.7 Ofcom was concerned about the transparency of calls to 0845 and 0870 numbers and proposed several changes to the 0870 number range. The changes were to improve the transparency of these calls (by amending General Condition 14), to restore the geographic link for calls to 0870 numbers and to remove the regulatory support for revenue share by removing 0870 from the NTS Condition.

A2.8 Consumers have an expectation that 0845 and 0870 numbers will be charged at 'local rates' and 'national rates'. Responses to the consultation showed that 10%

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[398] Paragraph 1.3.
[399] http://www.ofcom.org.uk/consult/condocs/ntsctmr/.
[400] NTS call termination market review consultation, section 5.
[401] http://www.ofcom.org.uk/consult/condocs/nts_forward/statement/statement.pdf

of respondents were concerned about the price of NTS calls and 28% that NTS calls are excluded from inclusive call packages.[402] A quarter of respondents commented on the lack of visibility of NTS call charges and some were concerned that the local rate and national rate terms were misleading and some felt the inclusive calls packages offered by OCPs were misleading since they do not in fact include all call types.[403]

A2.9 22% of consumers were also concerned about long call centre waiting times and excessive use of automated menu options.[404] Many consumers were concerned about revenue sharing and equated it with higher call charges and a form of deception.[405]

NCCN 500 Competition Act Decision (22 July 2008)[406]

A2.10 In the NCCN 500 Competition Act Decision, Ofcom concluded that BT had not infringed section 18 ("the Chapter II prohibition") of the Competition Act 1998 or Article 82 of the EC Treaty ("Article 82")[407] in relation to its prices for NTS call termination between 1 May 2004 and 1 January 2006, as notified in Network Charge Change Notice 500 ("NCCN 500") issued on 1 April 2004.[408]

A2.11 Ofcom found that BT was dominant in the market for NTS call termination/hosting in the UK during the time that NCCN 500 was in force namely, May 2004 – January 2006. However, it concluded that BT's conduct did not constitute an abuse of its dominant position and there were no grounds for action in that case.

Changes to 0870, Confirmation of changes to 0870 calls and modifications to the supporting regulations (23 April 2009) ("the 0870 statement")[409]

A2.12 After consulting on the proposed changes to 0870 numbers, Ofcom published this statement confirming the implementation of the proposals put forward in the NTS Review. The key changes to 0870 numbers were:

(i) improve price transparency by amending General Condition 14;

(ii) remove 0870 numbers from the NTS Condition. This meant that BT's retention was no longer restricted to cost enabling BT to include 0870 calls in its Calling Plans. In this way Ofcom's objective of restoring the link between 0870 and geographic calls could be achieved.

A2.13 Removing 0870 numbers from the NTS Condition also addressed:

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[402] Paragraph 3.8

[403] Paragraph 3.12

[404] Paragraph 3.9

[405] Paragraph 3.10

[406] http://www.ofcom.org.uk/bulletins/comp_bull_index/comp_bull_ccases/closed_all/cw_823/NCCN_500.pdf

[407] Following the Lisbon Treaty, Article 82 has been renumbered Article 102.

[408] The prices notified by NCCN500 were withdrawn from 1 January 2006 via NCCN 908.

[409] http://www.ofcom.org.uk/consult/condocs/0870calls/0870statement/0870statement.pdf

(i) consumer concerns about revenue sharing as this was the mechanism that underpinned regulatory support for revenue sharing; and

(ii) "arbitrage" opportunities – the potential for scammers to target the 0870 number range to take advantage of any revenue share that was not reflected in retail call prices. See footnote 35 for more detail.

Determination to resolve 0870 termination rates between BT and various operators (17 July 2009) ("the 0870 dispute")[410]

A2.14 On 4 May 2007, anticipating the policy changes to the 0870 numbering range proposed by Ofcom (i.e. ending revenue sharing arrangements), BT advised its wholesale customers through an OCCN ("the 4 May 2007 OCCN") that it was planning to alter the termination charges it paid to TCPs for calls to 0870 numbers, with effect from 1 February 2008.[411]

A2.15 This OCCN was disputed by a number of TCPs, and on 31 August 2007 Ofcom accepted the matter for resolution under section 135 of the Act. On 18 December 2007 Ofcom suspended consideration of this dispute as the methodology being used to resolve this dispute was going to be considered by the CAT.

A2.16 Following the publication of the CAT's judgments of 20 May 2008 and 15 August 2008, we reopened our consideration of this dispute.

A2.17 In its judgment dated 20 May 2008,[412] the CAT provided guidance about how Ofcom should conduct dispute resolution. The CAT's comments were reflected in the methodology that we used to resolve this dispute, as was our principal duty to further the interests of citizens and the interests of consumers in relevant markets, where appropriate by promoting competition. In particular, we sought to balance the interests of TCPs and their customers and BT and its customers, as well as considering the extent to which the various options for resolving this dispute were reasonable in the light of Ofcom's statutory duties and obligations.

A2.18 Ofcom accepted BT's view that the changes Ofcom made to the 0870 numbering range justified alterations to the termination charges that it should pay to TCPs. However, we did not consider that the proposed changes, both BT's OCCN and counter-proposals by TCPs, were fair and reasonable.

A2.19 Ofcom considered two options[413] when deciding what termination rates would be fair and reasonable between the parties in dispute and concluded that option 2

[410] http://www.ofcom.org.uk/consult/condocs/resolve0870calls/statement/determination.pdf

[411] Paragraph 1.5

[412] CAT's judgment dated 20 May 2008 in relation to Ofcom's determination of disputes between T-Mobile and BT, O2 and BT, Hutchison 3G and BT and BT and each of Hutchison 3G, Orange Personal Communications Services and Vodafone relating to fixed to mobile and mobile to mobile termination (the "TRD core issues judgment"), [2008] CAT 12 at http://www.catribunal.org.uk/files/Judgment_TRDs_200508.pdf .

[413] Option 1 and Option 2 are both available at Paragraph 1.22. Option 1 was *"A charge based on the costs of termination of geographic calls plus the relevant additional costs of termination of 0870 calls on an incremental cost basis. This approach would allow a TCP to recover through the rate paid by BT (and consumers calling those numbers) the extra cost required to provide 0870 termination. Under this option, the TCP will only be able to recover incremental costs of inter-tandem conveyance arising from near-end handover and interconnection circuits through the termination rate. This represents the lowest charge that we consider would be reasonable. We consider that any termination charge below this rate is unlikely to be reasonable or to strike a fair balance between the parties, since a lower*

was the most appropriate. The methodology followed is explained in section 6 of the 0870 dispute.

Wholesale narrowband market review (15 September 2009)[414]

A2.20 Under the 2009 Wholesale narrowband market review*,* Ofcom re-imposed the NTS Condition on BT as a result of our conclusion that BT retains SMP in the call origination market. The NTS Condition requires BT to originate and to retail NTS calls on behalf of the terminating operator. It allows BT to retain charges that relate to call origination and conveyance, a retail uplift designed to recover BT's reasonable costs for retailing NTS calls and an additional PRS bad debt surcharge to reflect the higher incidence of bad debt on these calls.

Determination to resolve a Dispute between BT and each of T-Mobile, Vodafone, O2 and Orange about BT's termination charges for 080 calls (5 February 2010) ("the 080 Determination")[415]

A2.21 On 6 October 2009 Ofcom accepted a dispute between T-Mobile and BT relating to termination charges for calls to 080 numbers. Vodafone, O2 and Orange were subsequently added as parties to the dispute. The scope of the dispute was:

a) whether it is fair and reasonable for BT to impose any termination charge for calls to 080 numbers hosted on its network, which originate on the Parties' networks; and

b) whether the Parties, as originating mobile network operators, should receive a payment from BT sufficient to cover their costs of originating calls to 080 numbers hosted by BT.

A2.22 In the 080 Determination, Ofcom concluded that three cumulative principles would need to be satisfied in order for a payment in either direction (i.e. to BT in the form of a termination charge or to the MNOs in the form of an origination payment) to be considered fair and reasonable. The three cumulative principles were:

Principle 1: the MNOs should not be denied the opportunity to recover their efficient costs of originating calls to 080 numbers hosted on BT's network, this means either:

(i) it is not fair and reasonable for BT to impose termination charges unless the average retention by each of the MNOs (which is the average retail price minus any termination charge) is greater than the efficient cost of mobile call origination; or

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charge would not allow an efficient network TCP to cover the relevant incremental costs of terminating 0870 calls through the termination charge." Option 2 was *"A charge based on the costs of termination of geographic calls plus the relevant additional costs of termination of 0870 calls on a fully allocated cost basis (the "fully allocated cost approach"). This approach enables TCPs to recover the extra costs of providing 0870 termination but also a contribution to what are termed common costs (which can include things such as a contribution towards overhead costs). Under this option, we calculated a termination charge that allows recovery of costs related to near-end handover and interconnection circuits by using the relevant BT wholesale charges. This rate falls between the lower incremental rate and higher arbitrage ceiling rates noted below, and would allow a TCP to make a contribution towards other costs involved in terminating 0870 calls."*

[414] http://www.ofcom.org.uk/consult/condocs/wnmr_statement_consultation/main.pdf

[415] http://www.ofcom.org.uk/consult/condocs/draft_deter_bt_tmobile_vodafone/nonconf.pdf

(ii) it may be fair and reasonable for each of the MNOs to receive an origination payment if their average retention is less than the efficient cost of mobile origination.

Principle 2: the payment in either direction should, taking into consideration our statutory duties:

(i) provide benefits to consumers, taking into account Direct, Indirect and Mobile tariff package effects; and

(ii) avoid a material distortion of competition either among OCPs or among TCPs.

Principle 3: following the submissions of the MNOs, it is also important that the payment in either direction should be reasonably practicable to implement.[416]

A2.23 Ofcom concluded that it could be fair and reasonable for BT to impose a termination charge for 080 calls, and it could also be fair and reasonable for the 2G/3G MNOs to receive an origination payment. However, in the applicable circumstances at the time of the Determination the three cumulative principles were not satisfied in either case. Therefore, Ofcom determined that the Parties should revert to the trading conditions in place before NCCN 956 (i.e. that there is no payment in either direction), and that BT should make repayments for the period following the introduction of NCCN956 up to the date of the Determination (together with interest).

Determination to resolve a Dispute between Cable & Wireless and BT about the application of NCCN 500 to calls to ported numbers (2 June 2010) ("the NCCN 500 ported numbers dispute")[417]

A2.24 This dispute related to the application to C&W by BT of price increases for NTS call termination on certain number ranges in respect of calls to ported numbers. These price increases were notified by BT through NCCN500 on 1 April 2004 and were in effect between 1 May 2004 and 31 December 2005. From 1 January 2006, charges were reduced back to a level in line with those charged by other terminating parties, by means of NCCN 651.

A2.25 Ofcom has found that C&W made a loss on calls where C&W is the Donor Network Operator ("DNO") and BT is the Recipient Network Operator ("RNO") (so-called Type A calls). This arose as a result of the prevailing regime regarding termination charges for calls to ported numbers and in circumstances in which C&W was obliged to be a DNO and there was asymmetry in market power between BT and C&W. Ofcom's view is that there were no reasonable actions available to C&W to avoid its inability to recover its costs in relation to Type A ported calls during the relevant period.

A2.26 Ofcom concluded on balance that, in the specific circumstances which applied during the relevant period, the application of NCCN500 to calls to ported NTS numbers was not fair as between the Parties or reasonable in light of the objectives of the porting regulatory regime as regards C&W's loss on Type A

[416] *The 080 Determination,* 5 February 2010 S119-121. Further guidance on these principles can be found in the footnotes at the bottom of Page 3 of the 080 Determination.
[417] http://www.ofcom.org.uk/consult/condocs/draft_deter_cw_bt_nccn500/final_determination/Final_determination.pdf

ported calls (with the exception of calls originated on C&W's network). Ofcom accordingly required BT to repay to C&W sums overpaid by C&W.

Annex 3

Section 5 of the Draft Determination. (Non-confidential version)

A3.1 Annex 3 repeats Section 5 of the Draft Determination where we set out our provisional analysis of NCCNs 985 and 986. The original paragraph numbers and references have been retained.

Ofcom's provisional analysis of NCCN 985 and NCCN 986

Introduction

5.1 Using the analytical framework in the previous section, we set out below our provisional analysis of whether is it fair and reasonable for BT to impose new termination charges for calls to 0845 and 0870 numbers hosted on its network, which are based on the level of the retail charge made by OCPs for calls to these numbers, as specifically set out in BT's NCCNs 985 and 986..

5.2 Our analysis of the issues required to resolve this dispute involves detailed and complex technical arguments, including much economic theory. This section covers these complex issues in detail; a summary of the key elements of our analysis is contained in **Section 6**, along with our conclusions.

5.3 We have set out below a table of contents to aid the reader. First, we set out estimates from the Parties of the financial impact of NCCNs 985 and 986. Then we apply each of the three Principles in our analytical framework in turn to the facts and circumstances relevant to the Dispute, taking account of the views of the Parties, before drawing our overall provisional conclusion.

Table of contents for Section 5

Estimated Financial Impact of NCCNs 985 and 986

5.4 To inform an understanding of the potential scale of the impact of BT's price changes in NCCNs 985 and 986, we asked the Parties to provide their estimates of the financial impact of the NCCNs. We also refer back to these estimates at various points in our later analysis of the issues (although the weight we place on any of the estimates takes into account that in the time available we have not attempted to replicate or verify the Parties' estimates).

5.5 In an Internal Authority Paper submitted by BT in response to a Section 191 information request, BT estimated the average retail charges for MNOs/MVNOs and the expected revenue impact as shown in Table 5.1. This paper states that the charging mechanism proposed will improve BT's margin and revenue for 0845 and 0870 by up to [✂] per annum[418]. This appears to be based on the assumptions that BT's estimate of the MNOs' average retail prices is accurate, that these prices are maintained by MNOs following the introduction of NCCNs 985 and 986, and that there is no change in the volume of call minutes.

Table 5.1: BT's estimates of expected revenue impact per annum

0845				
	Retail Charge*	Mins (M)	Charge (ppm)	**Margin (£m)**
✂	✂	✂	✂	✂
✂	✂	✂	✂	✂
✂	✂	✂	✂	✂
✂	✂	✂	✂	✂
✂	✂	✂	✂	✂
✂	✂	✂	✂	✂
TOTAL		✂		✂

0870				
	Retail Charge*	Mins (M)	Charge (ppm)	**Margin (£m)**
✂	✂	✂	✂	✂
✂	✂	✂	✂	✂
✂	✂	✂	✂	✂
✂	✂	✂	✂	✂

[418] Paragraph 1, BT Internal Authority Paper, 2nd October 2009

✄	✄	✄	✄	✄
✄	✄	✄	✄	✄
TOTAL		✄		✄

* Average ppm charge is based on an average call duration time for 0845 and 0870 of 3.88 minutes and 3.11 minutes respectively.

5.6 Although these tables suggest the maximum variable termination charge is 13ppm for call prices above 32.5ppm (i.e. the top tier) for both 0845 and 0870, it is clear from NCCNs 985 and 986 that this is only the case for 0845. The variable termination charge for 0870 calls with an average retail price in excess of 32.5ppm is 15ppm. Therefore based on BT's estimates of the MNOs' retail prices and the call volumes, for 0870 calls the margin generated from T-Mobile would be [✄], increasing the total margin from 0870 calls to [✄] and the overall financial impact of both NCCNs to more than [✄].

5.7 We asked the MNOs to estimate the increase to their costs (i.e. termination payments) they would expect from the introduction of NCCNs 985 and 986. Table 5.2 provides the MNOs' estimates of their additional costs per annum if they do not change their 0845/0870 call prices and continue to face the same tier of the termination charges (based on BT's estimate of their retail prices). These estimates from the MNOs are generally slightly below BT's estimates shown in Table 5.1, but they are broadly consistent with a total across the MNOs in excess of [✄].

Table 5.2: MNO estimates of additional costs (termination payments) per annum following introduction of NCCNs 985 and 986

MNO	Additional cost for 0845 and 0870 calls following introduction of NCCNs 985 and 986 (£m per annum)	Comments/Assumptions
✄	✄	✄
✄	✄	✄
✄	✄	✄
✄	✄	✄
✄	✄	✄

5.8 The estimates provided in Table 5.2 are based on BT's current estimate of the average retail price of each MNO and existing invoices from BT, and so assumes each MNO is currently being charged the correct termination charge. However, we also note the concerns raised by the MNOs (detailed below in paragraphs 5.306 to 5.307) about the methodology used by BT to determine the appropriate termination charge, and the risk that BT has overestimated this figure for some of the MNOs. Therefore we acknowledge that the figures presented in Tables 5.1 and 5.2 may be overstated as the actual average retail price (and therefore applicable termination charge) may actually be lower than BT has estimated.

5.9 We also asked the MNOs to provide us with their estimates of the financial impact if they were to respond to NCCNs 985 and 986 by reducing their retail prices to below

12.5ppm, so that they would be on the bottom tier of BT's termination charges and accordingly avoid an increase in the level of their termination payments.

5.10 Vodafone estimated the financial impact if it were to reduce its retail charges for some of its customers to below 12.5ppm. Vodafone's pricing team generated an estimate by reducing the retail tariff for certain categories of consumer to below 12.5 pence per minute to create a very crude average that fell into the lowest band for the purposes of BT's NCCNs. Using existing traffic volumes for those customers, Vodafone was able to ascertain the approximate revenues that would be lost resulting from a lower retail rate. The revenues lost were approximately [✂] per month, giving an annual estimate of approximately [✂].[419] This is based on the assumption that call volumes stay constant, and Vodafone states "any such adjustment would be purely speculative in nature and impossible to quantify with any degree of precision"[420]. However, Vodafone also states that in its experience, there is a low level of elasticity[421] on changes to out of bundle tariffs, and so any caller demand response would only provide scope for negligible adjustment to the estimate. Vodafone also notes that the retail adjustment it would need to implement would be necessary for calls to all 0845/0870 number ranges (not simply those of BT) since Vodafone would not be able to have differentiated 0845/0870 tariffs according to the rangeholder. The estimate also does not take into account MVNO/ISP traffic[422].

5.11 Orange also estimated the financial impact if it were to reduce its retail prices for 0845 and 0870 calls to below 12.5ppm. This was estimated to be nearly [✂] per annum for the consumer and SME segments combined (excluding corporate customers) based on the assumption that it reduced the price for all 0845/0870 numbers and not just those hosted by BT[423]. Orange has not assumed any change in usage.

5.12 H3G has made a similar hypothetical estimation using the total call volumes (including those from its wholesale partners and those which are to 0845/0870 numbers not hosted by BT). It estimates the revenue loss per month to be just over [✂] per annum, assuming no change to current traffic volumes.[424] This is based on an actual retail price as of 22nd April 2010 of 20ppm including VAT (17ppm excluding VAT), changing to 12.49ppm including VAT (10.6ppm excluding VAT)[425]. H3G has also modelled the impact of a hypothetical volume increase of 5 per cent from the decrease in retail price, and this estimates the revenue loss per month to be almost [✂]. However, H3G notes that its recent price change (see paragraph 5.113 below) was the first to be implemented for 0845/0870 numbers, and so it has no empirical data to assess the true extent of any elasticity of demand for these types of calls. [426]

5.13 The equivalent estimate for T-Mobile suggests revenue would decrease by [✂] for 2010 and by [✂] for 2011. This assumes a reduction from 1st May 2010 from 40ppm (although this is the maximum current retail charge rather than the average) to

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419 Email from Raj Roy, Vodafone, 20th May 2010
420 Q10 S191 Vodafone
421 The elasticity is the sensitivity of demand to changes in price. Specifically, the elasticity of demand is the ratio of the percentage change in volume to the percentage change in price which causes that volume response.
422 Email from Raj Roy, Vodafone, 20th May 2010
423 Q13 S191 Orange
424 Q13 S191 H3G
425 Email from James Westby, H3G, 20th May 2010
426 Email from James Westby, H3G, 20th May 2010

12ppm[427] and that the price reduction applies to all 0845/0870 numbers and not just those hosted by BT. It is also based on its model forecast for traffic from 1st May 2010 to 31st December 2010, and the full year for 2011. In addition, T-Mobile has assumed no uplift in usage since it considers that without a cross-industry reduction and significant levels of promotional activity, it forecasts no uplift.[428]

5.14 O2 states that it has not calculated this to any degree of accuracy, in part because it faces constraints in its retail pricing flexibility (there are only a limited number of retail price points)[429]. However, it has considered the volume of call minutes and calculated the retail revenues assuming that the retail rate is somewhere between the post pay rate (of 20ppm) and the prepay rate (of 25ppm). O2 states that it does not have the capability to calculate the average price exactly, and so have estimated it to be approximately [✂]ppm[430]. O2 argue that assessing the retail price it would need to charge to avoid the additional interconnect charges is also potentially problematic because it has a limited number of price points, and it must also make an assessment of the impact of minimum call charges. Therefore, O2 simply assumes that it would have to halve the current rates (i.e. forgo half the current retail revenue), and so expects the impact to be a loss of revenue in the order of [✂] per annum[431]. Again, O2 does not include any adjustment for a change in demand for such calls.

5.15 Table 5.3 provides a summary of these estimates from the MNOs.

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[427] 12ppm has been assumed since retail prices with increments of less than a whole penny cannot be implemented – Q13 S191 T-Mobile.
[428] Q12 S191 T- Mobile
[429] Q13 S191 O2
[430] Email from Lawrence Wardle, O2, 20th May 2010. [✂]
[431] Q13 S191 O2

Table 5.3: MNO estimates of revenue loss from reducing 0845/0870 call prices to below 12.5ppm

MNO	Estimated revenue loss (£m per annum)
✂	✂
✂	✂
✂	✂
✂	✂
✂	✂

Application of Principle 1

5.16 Principle 1 is that the 2G/3G MNOs should not be denied the opportunity to recover their efficient costs of originating calls to 0845 and 0870 numbers hosted on BT's network. In the context of this Dispute, we consider that this means it is not fair and reasonable for BT to impose variable termination charges unless the average retention by each of the MNOs (which is the average retail price minus the termination charge) is sufficiently large relative to the retention obtained on geographic calls.

Views of the Parties

5.17 The views of the Parties on cost recovery and benchmarks for the costs of origination were set out in Section 2 and Section 4 (see especially the sections on benchmarking and retail price regulation "through the back door").

Our Views

5.18 The purpose of the assessment of NCCNs 985 and 986 against Principle 1 is not to limit the MNOs to cost recovery only, but to ensure the NCCNs *at least* permit reasonable cost recovery. The analysis that follows is considered within this context.

5.19 As discussed in Section 4, given our policy preference for the retail pricing of 0845 and 0870 calls is for them to be treated in the same way as calls to geographic numbers, the cost recovery obtained by the MNOs on geographic calls forms the appropriate reference point for cost recovery on 0845/0870 calls (see paragraphs 4.15 and 4.60), and in the case of mobile originated calls, this means a call to a fixed geographic number. Specifically, we consider that the MNOs should have the opportunity to obtain a sufficiently large contribution to cost recovery.

5.20 We consider in particular how the cost recovery on 0845 and 0870 calls compares to the cost recovery on geographic calls for the MNOs both at their current prices and if they align their 0845/0870 prices with their geographic rates (using the evidence currently available to us). With this in mind, it is useful to consider the average geographic call price for MNOs to determine where in NCCNs 985 and 986 this is likely to fit, and the implications this has for cost recovery.

Average geographic call prices

5.21 Using information collected for Ofcom's Communications Market Report ("CMR"), we have estimated an average geographic retail price across all mobile operators at an industry level to provide an indicative figure by taking total revenues and dividing by total mobile-to-fixed call volumes. We have used pre-pay revenues and call volumes to estimate the pence per minute price of geographic calls because (with this calculation method) the bundling of voice, SMS, and data into monthly contracts, as well as recouping handset subsidies, means price per minute analysis may be distorted, overstating the true average price per minute for contract customers.

5.22 The estimated average retail price for prepay customers across the industry is approximately [✂]ppm, which is within the bottom tier of NCCNs 985 and 986. We consider it a reasonable assumption that the MNOs' average geographic call price is unlikely to exceed 12.5ppm for the following reasons:

a. The [✂]ppm figure is likely to be an overstatement of the true average price per minute on prepay tariffs as bundles are also becoming more evident in prepay tariffs. Prepay prices and revenues may include other things besides the cost of a call – for example Vodafone's "Freedom Pack" turns a £10 TopUp into £50 of talk and texts[432], and "Orange Wednesdays" offers two for one cinema tickets for Orange customers[433]. This is noted in the 2009 CMR which states that "…more 'bonus minutes and credit are available on pre-pay. This has led to significantly reduced costs per minute…"[434], and that "voice use per pre-pay connection increased by 14 per cent in 2008 as users took advantage of the increasing value of top-up rewards, such as free credit or calls (for example free on-net and anytime calls on T-Mobile *Mates Rates* when users credit their account with £15 or more per month)".[435]

b. The average price of geographic calls for contract customers (which account for a much more significant proportion of the geographic call minutes – approximately [✂] in 2009[436]) is likely to be lower than the prepay estimate. This is because firstly, from a review of the MNOs' tariffs, it appears that the out-of-bundle ("headline") contract price for geographic calls is at least no higher than the prepay price, and indeed in many cases is lower[437]. Secondly, most geographic calls for contract customers are included in their monthly subscription/bundle (and Figure 5.7 in the 2008 CMR shows that only 14% of pay-monthly mobile consumers claim to usually exceed their inclusive minutes).

c. We also note that the average cost of a mobile minute across all customers (pre-pay and contract) was 10.4ppm in 2008[438], which, as above, is over-stated as it includes the value of handset subsidies. Additionally this figure

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[432] http://shop.vodafone.co.uk/pay-as-you-go/freedom-packs/
[433] http://web.orange.co.uk/p/film/cinema_tickets
[434] P244, Communications Market Review 2009, http://www.ofcom.org.uk/research/cm/cmr09/CMRMain_4.pdf
[435] P253 Communications Market Review 2009 http://www.ofcom.org.uk/research/cm/cmr09/CMRMain_4.pdf
[436] Internal information
[437] For example, O2 and Vodafone have informed us that their post-pay price for 0845/0870 calls is 20ppm compared to 25ppm for pre-pay customers, and it does not seem unreasonable to assume the balance between pre- and post-pay prices would be similar for geographic calls.
[438] Figure 4.58, Communications Market Review 2009 http://www.ofcom.org.uk/research/cm/cmr09/CMRMain_4.pdf

covers all call types including international and premium rate calls, and so it does not seem unreasonable to assume that geographic calls are likely to be lower than this average, and therefore within the bottom tier of NCCNs 985 and 986.

5.23 In addition, we note that BT claims that "the pricing ladder approach used in relation to 0845 and 0870 calls does not take effect until retail prices are significantly above the relevant geographic rates for these number ranges..."[439].

5.24 We have also estimated the average geographic price for prepay customers on an individual MNO basis to determine any variations between MNOs, and these estimates are provided in Table 5.4.

Table 5.4: Estimated average revenue per geographic (mobile to fixed) minute for prepay customers – 2009

	Vodafone	O2	T-Mobile	Orange	3UK
Pence per minute	✂	✂	✂	✂	✂

Source: Internal data

5.25 This suggests that for three MNOs ([✂]), the average geographic price for prepay customers is above the 12.5ppm threshold in NCCN 985. However, for the same reasons as outlined above, we consider that these estimates of average prepay price per minute for geographic calls are likely to be overestimates of the true average geographic call price across all customers due to the inclusion of bundle revenue on pre-pay (e.g. [✂]), and do not take account of the lower retail geographic call prices faced by contract customers which account for a larger proportion of call volumes.

5.26 Therefore, based on the evidence available to us, it seems reasonable to take the view that the average price for geographic (mobile to fixed) calls is unlikely to exceed 12.5ppm. We take this into account in comparing the cost recovery on geographic calls with the cost recovery available on 0845/0870 calls under NCCNs 985 and 986.

5.27 NCCN 985 and NCCN 986 will be assessed separately against Principle 1 given the difference in the level of the termination charges. First we consider NCCN 986 for 0870 calls and then we consider NCCN 985 for 0845 calls.

Application of Principle 1 to NCCN 986

5.28 As stated by BT, "where other 0870 originators replicate BT's retail rate for 0870 calls they are charged the same 0870 termination charge by BT as that paid by BT [✂]"[440], and so the bottom tier of NCCN 986 reflects this termination charge. The previous 0870 Determination[441] set cost-based termination rates to be paid by BT to other TCPs.

5.29 In particular, under the option selected in the 0870 Determination, "charges payable by BT to other providers for the termination of calls to 0870 numbers are set at a rate that provides for the recovery of geographic termination costs related to far-end handover at FAC, an adjustment for near-end handover based on FAC, and recovery

[439] P2 BT 29th March
[440] P5 BT 29th March 2010
[441] *The 0870 Dispute Determination*. http://www.ofcom.org.uk/consult/condocs/resolve0870calls/statement/determination.pdf

of interconnection circuit costs at FAC"[442]. The two additions to geographic termination costs (near-end handover and interconnection circuits) relate to elements of cost that the OCP incurs on geographic calls but avoids on 0870 calls (and are instead incurred by the TCP). Therefore, we consider that, if the OCP sets 0870 call prices at the same level as geographic call prices, both below 12.5ppm (i.e. on the bottom tier of NCCN 986), it obtains a similar cost recovery on each call type.

5.30 The available evidence suggests that MNOs' prices for 0870 calls are on average significantly higher than geographic calls. If so, the retention available to the MNOs on NCCN 986 is larger. This is because on higher tiers of NCCN 986, the retention available to MNOs is generally larger than on the bottom tier. The only exception is the range of retail prices between 12.5ppm and 14.4ppm, i.e. at or near the bottom of the second tier. However, we do not have clear evidence that the MNOs' current average prices for 0870 calls fall within this range and, in any case, they have the opportunity to avoid this range by setting lower (or higher) prices for 0870 calls.

Our view on Principle 1 and NCCN 986

5.31 Based on the above analysis, we provisionally conclude that NCCN 986 satisfies Principle 1 and allows the opportunity for appropriate cost recovery on 0870 calls by MNOs.

Application of Principle 1 to NCCN 985

5.32 The termination charges for geographic calls are cost-based. However, the charges applicable in the bottom tier of NCCN 985 are not strictly cost based as revenue share is permitted. Therefore, even if MNOs price 0845 calls at the same level as geographic calls, they will not receive a similar retention to what they receive on geographic calls due to the existence of revenue share on this number range.

5.33 OCPs following Ofcom's policy preference to align 0845 prices with geographic rates still have the opportunity to recover all of their efficiently incurred costs of origination. The prices for geographic calls, which would also be the prices for 0845 calls, can be set at a level which enables the OCP to recover its efficiently incurred costs on the combination of geographic and 0845 calls.

5.34 This is reflected in the wording of Principle 1, that the average retention on 0845 calls should be sufficiently large relative to the retention on geographic calls. We have specified below more precisely what we mean by "sufficiently large" in current circumstances. An estimate of the difference in margin between 0845 calls and geographic calls for an OCP that is following Ofcom's policy preference to align the retail prices of these calls is provided by the difference in BT's termination rates between 0845 calls (which include an element for revenue share) and 0870 calls (which are cost-based) on the bottom tier.[443] This difference is 2.1054ppm in the Daytime, 0.5830ppm in the Evening and 0.4422ppm at the Weekend. In current circumstances, we consider that Principle 1 is satisfied if the retention on 0845 calls is either at least as large as the retention on geographic calls or smaller by no more than these amounts.

[442] Para 6.165, *The 0870 Dispute Determination*.
[443] The 0870 termination rate on the bottom tier provides a better comparator than geographic termination rates, because the arrangements for near-end handover and interconnection circuits are similar for 0845 calls as for 0870 calls (see paragraph 2.23).

5.35 Our analysis of NCCN 985 is that it is likely to satisfy Principle 1. On the bottom tier the retention available to the MNOs is sufficiently large relative to the retention on geographic calls, if they choose to align 0845 call prices with geographic rates. The retention available is generally larger if they set 0845 call prices above geographic rates, because the retention available to MNOs on higher tiers of NCCN 985 is generally larger than on the bottom tier. The only exception is the range of retail prices between 12.5ppm and 14.4ppm, i.e. at or near the bottom of the second tier. However, we do not have clear evidence that the MNOs current average prices for 0845 calls fall within this range and, in any case, they have the opportunity to avoid this range by setting lower (or higher) prices for 0845 calls.

Our view on Principle 1 and NCCN 985

5.36 Based on the above analysis, we provisionally conclude that NCCN 985 satisfies Principle 1 and allows the opportunity for appropriate cost recovery on 0845 calls by MNOs.

Application of Principle 2

5.37 Principle 2 is that the charges in NCCN 985 and 986 should:

- provide benefits to consumers, taking into account (i) the impact on retail 0845/0870 call prices (the Direct effect) (ii) the impact on service providers and, through improved services, callers, i.e. consumers of 0845/0870 calls (the Indirect effect) and (iii) the impact on the overall MNO offering to its customers (the Mobile tariff package effect); and

- avoid a material distortion of competition among: (i) Terminating Communications Providers (TCPs); (ii) transit operators; (iii) OCPs in retail services; and (iv) MNOs in wholesale sales to MVNOs.

5.38 Given the similarities in our policy preferences for 0845 and 0870 numbers and in the issues relevant in considering the consumer and competition effects, we assess NCCNs 985 and 986 concurrently.

Effect on consumers

5.39 Consumer benefits may be Direct (lower prices for 0845/0870 calls) or Indirect (increased revenues for SPs, which might lead them to expand the provision or increase the quality of 0845/0870 services by making them more financially attractive). There could also be negative effects through the Mobile tariff package effect (increased costs for 0845/0870 calls could result in higher prices for other elements of the mobile subscription such as handsets, geographic calls).

5.40 We now consider each of the three potential effects of NCCNs 985 and 986 on consumers: the Direct effect, Mobile Tariff Package effect, and finally the Indirect effect, before providing our overall assessment of the consumer effects under Principle 2.

Direct effect

5.41 We have received a large volume of evidence from BT and the MNOs about the Direct effect, some involving detailed economic analysis. To structure the discussion of this material, initially we outline our view of the key factors in the context of NCCNs 985 and 986 (without attempting to cover all of the detailed points at this stage). Then we present the views of the Parties (in some detail, given the importance of this issue). Finally, we set out our views on the Direct effect of NCCNs 985 and 986.

5.42 The Direct effect depends on whether it is more profitable for an MNO to increase, decrease or maintain the retail price of 0845 and 0870 calls following the introduction of NCCNs 985 and 986. In essence, this will depend on the balance between the following two opposing effects:

a. The increase in the level of the termination charges in NCCNs 985 and 986 compared to the previous charges. On its own, this provides an incentive on the MNOs to raise their 0845/0870 call prices.

b. The structure of the termination charges in NCCNs 985 and 986, i.e. the rate at which the termination charge increases with the MNO's retail price. On its own, this may provide an incentive on the MNOs to reduce their 0845/0870 call prices in order to reduce the termination charge, and a disincentive to raise call prices if this would result in an increased termination charge.

5.43 There are a range of considerations that affect the size of each of these two effects and hence which effect is larger. We discuss these considerations below in the context of each of the following:

a. The impact of a change in the retail prices for 0845/0870 calls on the profits earned by an MNO from these calls following the introduction of NCCNs 985 and 986;

b. The impact of a change in the retail prices for 0845/0870 calls on the profits earned by an MNO from its other services.

Impact on 0845/0870 profits

5.44 We now discuss, in the specific context of NCCNs 985 and 986, each of the two effects set out above. Then we discuss the sensitivity of 0845/0870 call volumes to changes in the prices of these calls, i.e. the elasticity of demand, which is one of the important influences on whether the first effect of the increase in the level of termination charges is likely to be larger or smaller than the second effect of the structure of termination charges.

Level of termination charge

5.45 The introduction of a higher termination charge represents an additional marginal cost for MNOs when their retail price for 0845 and 0870 calls is above 12.5ppm. This would suggest, all other things being equal, there would be an incentive for MNOs to increase their 0845 and 0870 retail prices in order to reflect this higher cost on each minute of 0845/0870 calls.

5.46 According to BT's estimate of the average 0845 and 0870 call prices charged by each MNO, the increase in the level of BT's termination charges in NCCNs 985 and 986 ranges from 4.5ppm to 15ppm (see Table 5.1).

Structure of termination charge

5.47 We consider that the structure of NCCNs 985 and 986 is also relevant to the size and direction of the Direct effect on 0845 and 0870 retail prices.

5.48 In this regard, we note that under both NCCNs 985 and 986 the termination charge payable by the MNO increases with the MNO's retail price for 0845 and 0870 calls in a series of tariff steps. As a result, any changes to the retail price for 0845 and 0870 calls may affect the termination charge payable, and therefore ultimately the retention (price minus termination charge) of the MNO for 0845/0870 calls.

5.49 As shown in Figures 5.5 and 5.6, the termination charges in NCCN 985 and NCCN 986 increase less quickly than the MNO's retail call prices, i.e. the MNO's retention increases as its retail call price rises.[444] Ignoring the impact of the retail price on the volume of 0845 and 0870 calls (which is discussed below), this could provide the MNO with an incentive to increase its 0845 and 0870 call price to the top end of each band or tier. This is a view echoed by T-Mobile and Vodafone at [paragraph 5.98].

5.50 Following the introduction of NCCNs 985 and 986, each MNO will find itself on a particular tariff step that is determined by its initial average retail price. The size and direction of the Direct effect will depend on the following considerations:

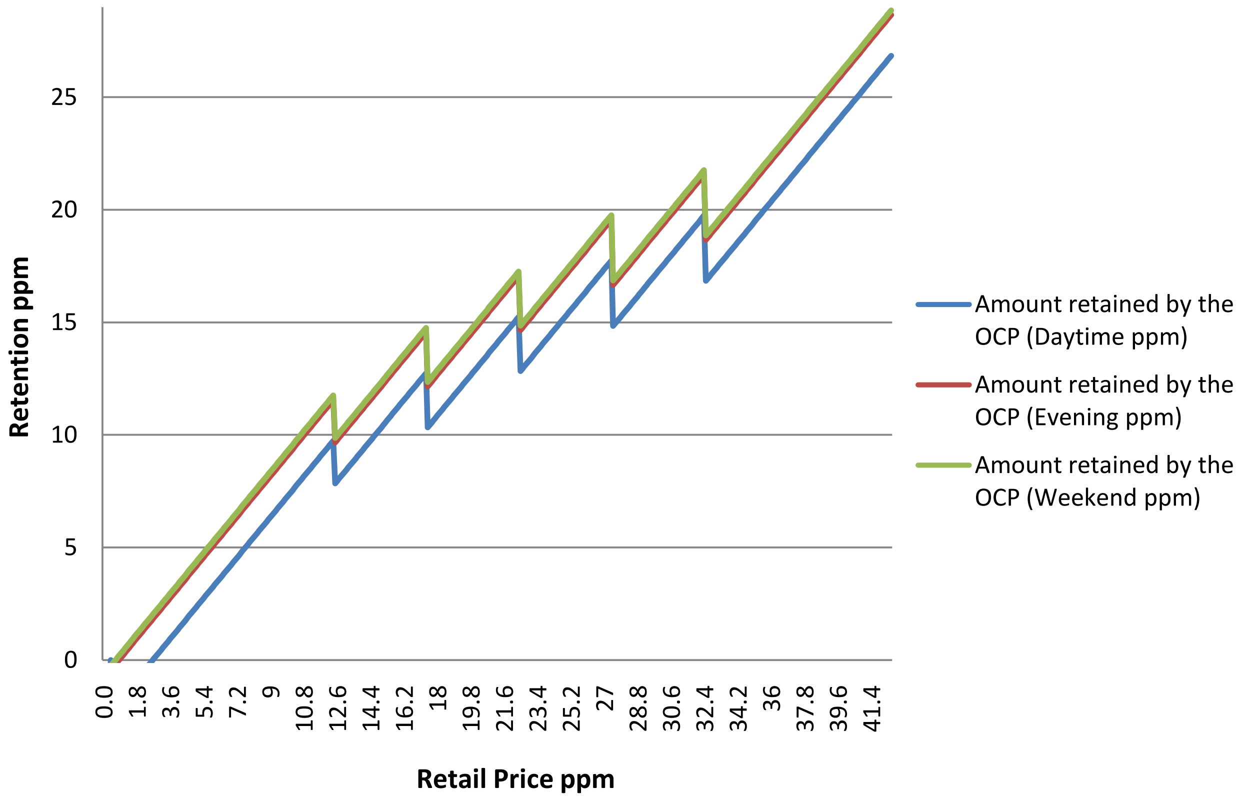
a. If the level of the termination charge under NCCN 985 or 986 is higher (given the MNO's existing retail price) than the previous termination charge, then the MNO may seek to increase its retail price in order to pass on the increase in the termination charge. As noted above, an increase in the retail price within a tariff step would result in an increase in retention since the termination charge is constant within a step. In addition, the increase in price may result in a reduction in call volumes that depends on the elasticity of demand.[445] An MNO could also consider increasing its price by a larger amount to move up to a higher tariff step (e.g. to the top of the next step up, or potentially to higher steps). The MNO would need to balance the increased retention potentially available on that higher step against the increase in termination charge and any reduction in call volume at higher retail prices.

b. Alternatively, the MNO may seek to reduce its retail price in order to move to a lower tariff step. As shown in Figures 5.5 and 5.6, this would result in a decrease in retention (compared to the top of the step corresponding to the existing retail price). In addition, the reduction in price may result in an increase in call volumes that depends on the demand elasticity. We also note that if demand is sufficiently elastic an MNO could also consider reducing price by a larger amount to move down by two or more tariff steps.

[444] We note that these figures do not include other costs incurred by MNOs apart from the termination charge.

[445] We note that the impact of a change in call volume on other MNO costs (e.g. call origination) are also relevant to the MNO's decision to change price. For ease of presentation we abstract from this consideration in this discussion to focus on the impact of the NCCNs.

Figure 5.5: Retention (retail price minus termination charge) of OCP for 0845 calls under NCCN 985



Note: Excludes call set up charge

Figure 5.6: Retention (retail price minus termination charge) of OCP for 0870 calls under NCCN 986

Elasticity of demand for 0845 and 0870 calls

5.51 The discussion above highlighted the importance of the elasticity of demand for 0845/0870 calls in assessing the Direct effect. In general, the less price sensitive the demand for 0845/0870 calls at the existing retail price, the more likely NCCNs 985 and 986 will give rise to an incentive to increase the retail price (and vice versa) since:

a. an increase in price to pass on an increase in the level of the termination charge will be more profitable as it will result in a smaller reduction in call volume if demand is less price sensitive (and vice versa); and

b. a reduction in price in order to move onto a lower tariff step and reduce the termination charge will be less profitable as it will result in a smaller increase in call volume if demand is less price sensitive (and vice versa).

5.52 As noted in Annex 5, when analysing a stepped tariff, it is necessary to consider a range of potential price changes. The reason is because a stepped tariff results in a stepped profit function (i.e. the profit earned by the OCP at each retail price). The impact of this is that there is a need to consider the possibility of large changes in price otherwise the overall profit maximising retail price for the OCP may not be identified.

5.53 It is also relevant to consider the impact of NCCN 985/986 on the price and availability of different pricing options for 0845 and 0870 calls offered by MNOs. MNOs offer a range of mobile packages for their customers, which generally contain different price points for 0845 and 0870 calls. In much of the discussion below we abstract from this issue and make the simplifying assumption that each OCP sets a single price for each of 0845 and 0870 calls. But we discuss this issue further later in paragraphs 5.138 to 5.140.

<u>Impact on wider MNO profits</u>

5.54 We also consider that it is relevant to consider the impact of changes in the retail prices of 0845 and 0870 calls on the profits earned by MNOs from other services in order to assess the Direct effect of NCCNs 985 and 986. In principle, there are three relevant considerations as follows:

a. The impact of changes in 0845/0870 prices on the demand for other mobile services;

b. The impact on changes in the prices of the MNO's other mobile services; and

c. The impact of changes in 0845/0870 prices on competition with other MNOs.

5.55 A change in the retail price of 0845/0870 calls may have some impact on the demand for other calls if the demands are interdependent in some way. There are two possibilities to consider:

a. 0845/0870 and other calls are substitutes: in this case, an increase in the retail price of 0845/0870 calls would result in increased demand for other services supplied by the MNO (this might be the case, for example, if subscribers have a choice of reaching a service provider by an 0845/0870 number or a geographic number). Holding the price of other calls constant, this would:

- increase the incentive on the OCP to raise the retail price of 0845/0870 calls in response to an increase in the level of the termination charge, since this would increase demand for other calls; and
- reduce the incentive to lower the retail price of 0845/0870 calls in response to the structure of the termination charge (i.e. in order to lower the applicable termination charge), since this would decrease demand for other services.

b. 0845/0870 and other calls are complements: in this case, an increase in the retail price of 0845/0870 calls would result in reduced demand for other services supplied by the MNO (this might be the case, for example, if calls to 0845/0870 numbers lead to follow-on calls to other numbers). Holding the price of other calls constant, this would:

- reduce the incentive on the OCP to raise the retail price of 0845/0870 calls in response to an increase in the level of the termination charge, since this would decrease demand for other calls; and
- increase the incentive to lower the retail price of 0845/0870 calls in response to the structure of the termination charge, since this would increase demand for other services.

5.56 In addition, it is possible that a change in the termination charge or retail price of 0845/0870 calls may give rise to an incentive for MNOs to alter the prices of other mobile services. This might be the case, for example, if the demand for other types of calls depends on the price of 0845/0870 calls as discussed above. We discuss the impact on consumers of a change in the prices of other calls below at paragraph 5.167 onwards (we refer to this as the Mobile tariff package effect). The MNO's choice to change the prices of other mobile services may also affect the size or even the direction of the Direct effect on 0845/0870 prices (although this depends on the precise nature of the interdependencies between the demands for the various services and so the precise nature of the implication is unclear).

5.57 Finally, we consider that it is also relevant to consider the impact of competitive interactions between MNOs on the Direct effect. In this regard, we note that it is relevant to consider how a change in retail prices of 0845/0870 calls affects competition for subscribers. This will depend on the importance of 0845/0870 retail prices and other aspects of MNOs' commercial propositions (such as handset subsidies, free minute allowances, and retail prices for other calls) in consumer subscription decisions, and also on the nature and strength of competition between MNOs.

Views of Parties on the Direct Effect

5.58 In the following paragraphs we set out the views of the Parties on a number of issues. In particular, we set out the following:

a. The views of Parties on how 0845/0870 call prices are set;

b. The views of BT on the direction of the Direct effect;

c. The views of MNOs on the BT 080 Papers;

d. The views of MNOs on the likely impact of NCCNs 985 and 986;

e. The views of MNOs on their response to NCCNs 985/986; and

f. The views of Parties on the elasticity of demand.

Views of Parties: How 0845/0870 call prices are set

5.59 Before specifically considering the impact NCCNs 985 and 986 could have on 0845 and 0870 retail prices, it is important to understand how these prices are set.

5.60 [✂] states that it supplies calls to 0845 and 0870 number ranges to its customers as part of a wider basket of voice and data services and therefore, it does not consider the pricing of calls to these number ranges in an isolated way. In general, retail pricing decisions by [✂] take into account a number of factors including its understanding of consumer perceptions of value, clarity and ease of communication as well as "publicly available information relating to its competitors' tariffs, the likely reaction of consumers to pricing across the bundle, the impact on revenues, and, critically, the need for a simple and easily comprehensible tariff structure"[446].

5.61 None of the MNOs treats 0845 and 0870 calls like calls to geographic numbers in basic bundles[447], although we note that some do offer 'add-on' options to customers for lower priced calls to these numbers, and some do include these calls in inclusive minutes for some customers (but they tend to use up the allowance at a higher rate than geographic calls) – see discussion below. [✂] states that one of the reasons for this is based on its analysis of consumer preferences, which indicates its customers value lower prices for certain elements of the basket of services (such as unlimited data usage included in the bundle, unlimited landline calls) over other elements of the basket (such as calls to 0845 and 0870 numbers). [✂] has provided some recent consumer research which supports this view that the inclusion of non-geographic numbers (0845/0870) in bundles is less important to consumers compared to other [✂][448]. It concludes that "all [✂] have some positive influence on purchasing decisions but focus should be on offering inclusive unlimited data usage, unlimited landline calls and no additional charges for using abroad"[449]. In particular, in considering the influence [✂] have on propensity to buy, it found that [✂] of respondents were much or a little more likely to buy when bundles include unlimited data usage, [✂] for unlimited landline calls in bundles and [✂] for no additional charges for using abroad. However, this figure was [✂] for non-geographic numbers (e.g. 0845/0870) in bundles.

5.62 [✂] raises a similar point and states that in its own research, the monthly subscription cost, the number of inclusive call minutes and the range of handsets available are consistently the most important factors chosen by its customers when selecting a proposition[450].

5.63 [✂] prices 0845 and 0870 calls collectively together with the majority of other 08 calls to create simplicity and transparency for the customer. It takes into account the cost of calls, but as for other MNOs, its aim is to give most value to customers where they tell [✂] they want it, for example inclusive minutes and low monthly subscription charges. Therefore, it argues that there are some parts of the overall proposition which are more high-value to consumers, and others that are less so, and by

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446 Q2 S191 [✂]
447 Q3 S191
448 Q2 (c) S191 [✂]
449 [✂]
450 Q2 S191 [✂]

increasing prices for the latter (i.e. where consumers place a lower value), operators are able to decrease the price of the former where consumers place a higher value e.g. more inclusive minutes.

5.64 [✂] also researches which tariff points are the most important pricing components to customers and reviews the pricing of its competitors to ensure it is delivering value to customers where they value it most. It states that 0845/0870 pricing has not been a tariff pricing component that has received customer attention[451], and because [✂] does not believe that customers regard inclusion of these calls within bundles as important, they are not included within bundles[452].

5.65 [✂] also does not believe customers base their purchasing decisions on 0845/0870 call charges alone[453], and indeed considers that consumers are more interested in packages that include calls to mobile and geographic numbers[454]. [✂] has always excluded 0845 and 0870 from inclusion in bundles, and states that this is in part because of the high termination rate charges which "tend to be higher than for other ranges and are much more variable and volatile (rate changes can happen frequently and our retail pricing is less elastic)"[455].

5.66 [✂], when considering the level of 0845 and 0870 call prices considers the following to be the main considerations: wholesale costs, current market price for these calls, overall profitability of the calling plan, retail rates to other NTS numbers, landline call pricing (e.g. post pay pricing has historically largely aligned 0870, 0845 and landline (out of bundle) call pricing), and consumer demand for calls to these numbers[456].

5.67 [✂] also provides information on the distinction between consumer and business customers. It claims that to some degree, there is more pressure from business customers than consumer customers for calls to 08 numbers to be included in bundles, although 0845/0870 numbers are not considered to be key decision making criteria for business customers who often recommend their staff avoid calling these numbers where possible. Depending on the tariff selected, business tariff customers are currently charged [✂], but large corporate customers are able to negotiate bespoke arrangements.[457]

5.68 [✂] also provided an example of how it tailors its tariffs to meet the requirements of its larger corporate customers, whereby it offers pricing propositions to some large business customers where a high subscription fee enables 0845/0870 pence per minutes rates to be very low or zero-rated, whilst another customer may prefer a lower subscription fee but potentially higher pence per minute rates for calls to particular number ranges. Therefore it notes that the preference of a large business customer will be influenced by its expectation of the types of calls and call volumes generated by its employees and the associated costs.[458]

[451] Q2 S191 [✂]
[452] Q3 S191 [✂]
[453] Q2 S191 [✂]
[454] Q3 S191 [✂]
[455] Q3 S191 [✂]
[456] Q2 S191 [✂]
[457] Q2 S191 [✂]
[458] Q2 S191 [✂]

5.69 BT, on the other hand, argues that "call originators are able to use the dependency of their consumer base to call 0845 and 0870 numbers as a means to make significant profit from these calls"[459].

5.70 Maldoom 3, one of BT's 080 papers, states that the websites of the 2G/3G MNOs show that the pricing for 080 calls is not given any prominence within details of tariff offers. Maldoom 3 concludes that pricing for 080 calls (and NTS calls more generally) does not appear to be a strong focus of competition between the MNOs for subscribers. It also states that there are numerous websites providing geographical numbers for accessing services that can be used instead of NTS numbers, as the former are typically significantly cheaper when rung from mobile phones. As a result of this evidence, Maldoom 3 argues that a reasonable expectation is for mobile-originated 080 calls to be fairly price insensitive at low prices given the types of services offered on this number range (namely helplines and customer services), but increasingly price sensitive at the levels currently set by the MNOs, particularly given the availability of fixed line alternatives for many consumers. BT has submitted this evidence as part of this Dispute, but it has not told us whether it considers that 0845 and 0870 calls have similar demand properties (and if so, why).

5.71 Maldoom 3 also argues that MNOs can treat 080 calls as a "soft revenue source". It states that, given strong competition to attract and retain mobile customers, MNOs need to make the greatest possible use of such soft-revenue sources as a competitive imperative and states this is somewhat analogous to mobile call termination. This is the logic of a "competitive bottleneck", where competitive pressures leaves no option but to exploit the bottleneck, giving rise to a need to regulate prices even though MNOs may not be making any excessive profits viewed across the entirety of their services.[460]

5.72 Another of BT's 080 papers, Dobbs 3, assumes that the MNO sets prices for 080 calls independently of other prices. It also generally assumes that the MNO is a niche monopolist, although in this paper demand for 080 calls is assumed to become increasingly elastic above a price of around 30ppm.[461] One rationale for this may be that such high prices may make the MNO relatively less attractive to subscribers in competition with other MNOs.[462] Again, BT has not told us whether it considers that similar assumptions are appropriate for 0845 and 0870 calls (and if so, why).

5.73 The paper by Reid considers several models of how the MNO sets 080 prices. It considers a model of the MNO setting the price of 080 calls independently of other prices. It considers a model in which the MNO also offers other services which are complements for 080 calls (and assumes that prices of these other services are held constant). Reid argues that allowing for the complementarity of demand between 080 calls and the MNO's other services captures the effect of losing subscribers to rivals.[463]

Views of BT: Direction of Direct effect

5.74 Table 5.1 above which sets out BT's estimate of the MNOs' retail prices shows that BT has determined that all the MNOs are charging higher than the 12.5ppm threshold of NCCNs 985 and 986, and so they will all be subject to the additional termination

[459] P6 BT 29th March 2010
[460] Paragraphs 109-110, Maldoom 3
[461] Paragraph 33, Dobbs 3.
[462] This reputational effect is referred to in Maldoom 3, paragraph 107.
[463] Paragraph 69, Reid 3.

charges. As a result, NCCNs 985 and 986 may cause MNOs to reconsider their existing pricing for 0845 and 0870 calls in response to the increased termination costs.

5.75 BT argues that the introduction of a termination charge that is related to the OCP's retail price will incentivise OCPs for 0845 and 0870 calls to lower their retail prices[464]:

> "BT's charges for termination of 0845 and 0870 have been designed…as far as it is possible for a wholesaler, to encourage high-charging 0845 and 0870 call originators to lower their retail prices. This is because any rational MNO who has already profit maximised and subsequently acts rationally, will in the situation of these termination charges, raise its net profitability from lowering its retail prices. Under the assumption that the MNO wishes to profit maximise, the increase in profit from raising the retail price will be less than the loss of revenue from the quantity reduction as both sources of profit variation will be modulated by the wholesale tariff schedule. It is shown that a sufficient condition for a reduction in retail prices relates to the gradient of the wholesale tariff schedule, retail prices and origination costs and BT considers that this condition is satisfied for these calls for retail prices to fall in the presence of the termination schedule."

5.76 In support of BT's view that the Direct effect of NCCN 985 and NCCN 986 is likely to be positive for consumers it has referred us to BT's 080 papers (this includes nine papers as described in Section 3 at paragraph 3.42). We now summarise this evidence below. A more detailed discussion is provided in Annexes 3 and 4.

5.77 BT's 080 papers set out a framework for the analysis of two types of termination charge schedule in which the level of termination charge varies with the level of the OCP's call price as follows:

a. Continuous schedule: the termination charge paid by an MNO for a particular call type increases with the MNO's average retail price for this call type in a smooth fashion.

b. Stepped schedule: the termination charge paid by an MNO for a particular call type increases with the MNO's average retail price for this call type in a series of steps which depend on the retail price.

Figure 5.7 – Continuous schedule

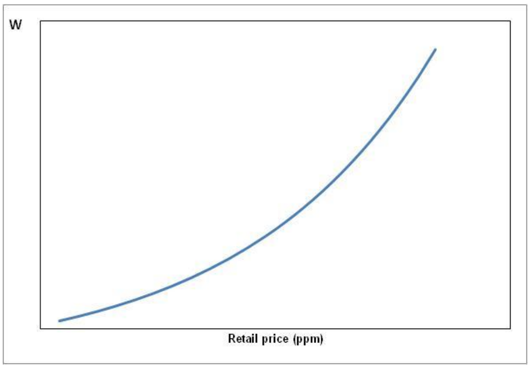
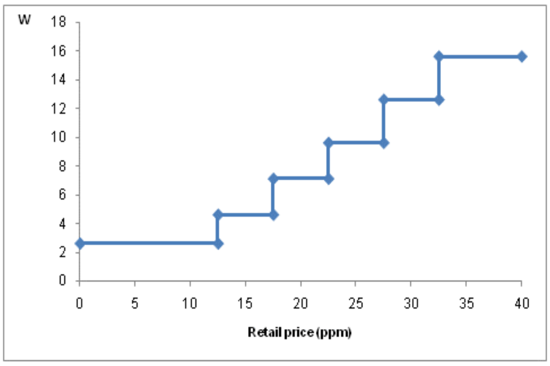


Figure 5.8 – Stepped schedule (NCCN 985)



Note: Figure 1 is a generic continuous function. Figure 2 represents BT's daytime NCCN 985 charges

[464] P7 BT 29th March 2010

5.78 We discuss BT's analysis in relation to each of these types of schedule in Annexes 3 to 4. In essence, BT argues that a continuous schedule will either have no impact on the MNO's pricing decision, or give rise to an incentive to lower the retail price, provided that the termination charge increases sufficiently rapidly with the retail price.

5.79 BT also suggests that the same logic can in principle be applied to a stepped tariff, although in this case it is necessary to consider the precise design of the tariff in terms of the width of the tariff steps, and the rate of increase of the termination charge between tariff steps. BT's 080 evidence sets out two frameworks that it suggests can be used to assess the Direct effect of a specific stepped schedule as follows:

Dobbs approach: this approach is based on a theoretical model that estimates the profits earned by an MNO at different levels of retail prices following the introduction of a stepped schedule.

Reid approach: this approach is based on a theoretical model that focuses on the incentive of an MNO either to increase price within the tariff step that corresponds to the existing price, or to reduce price to the top of the next step down.

5.80 These frameworks and the assumptions they rely on are discussed in Annex 4.

MNO views on BT 080 papers

5.81 As explained in Section 3, we sent some of BT's 080 papers to the MNOs (i.e. Dobbs 1 and 2, and Maldoom 1 and 2). Their initial relevant comments on these papers are set out below.

5.82 At a high level, Vodafone, H3G, T-Mobile, Orange and O2 all note that these papers were prepared for the 080 Determination and much of their content does not read across directly to the 0845/0870 dispute. For example, this Dispute is not starting from a base of no wholesale charges but is about an increase to the level of the charge, the policy position is different to 080, and the payment flows between SPs and TCPs are different to 080.

5.83 T-Mobile and Orange note that neither paper addresses the point that under the charging structure BT has proposed, the MNOs' retention increases the more they charge at the retail level. They argue that this produces a powerful incentive to *increase* retail charges, not to decrease them. In addition, they argue that the step function of BT's charges induces operators to move to the top of one rung on BT's ladder of charges rather than to the bottom of the following ladder, thus producing a potential distortion in retail charging at the margins.

5.84 Vodafone also states that much of the consideration in the papers is broad brush and glosses over specific characteristics of the proposed BT regime. For example, Vodafone argues the fact that the stepped bands may dampen price competition and encourage convergence at the upper bound of any band is conveniently played down by the suggestion that 'in the limit' price steps tend towards a smooth curve. Vodafone notes that while this may be true, it does not negate the adverse incentive properties of the stepped bands actually proposed.

5.85 H3G also states that the reports appear to gloss over the fact that the BT proposed pricing model only imperfectly follows the economic models posited in Maldoom 1 and 2 and any correlation breaks down after 27.5ppm (see in particular, p.11 of Professor Dobb's report). Indeed, H3G argues that theoretically MNOs would be free to charge a retail price well above the top retail price mentioned in BT's tiered charging structure, even though BT's highest termination charging structure would remain static. Accordingly, there would be a significant risk that the pricing methodology will result in a price rise.

5.86 [✂], T-Mobile and Orange have also raised concerns about the price-setting assumptions for 0845/0870 calls the papers have used:

a. T-Mobile and Orange state that both reports seem to be based on the premise that mobile operators "choose" and apply a single retail price for 0845 and 0870 calls respectively, but that this is incorrect. They argue that mobile operators do not treat their customer base as a single, homogenous group, and the retail offering is tailored to different customer groups so that, for example, calls to 0845/0870 numbers are included in some contract tariff monthly bundles but not in others.

b. Additionally, they argue that it is precisely because of customer price sensitivities that different customers need to be offered different rates and tariffs.

c. [✂] notes that both papers appear to proceed on the basis that wholesale cost alone directly determines retail pricing to the exclusion of all other considerations, which Vodafone argues is not the case since pricing decisions are not taken in isolation but as part of a wider basket of services in a highly competitive market.

d. [✂] also argues that neither report considers the likelihood of dampening pricing innovation by MNOs and the consequent negative effect on consumer welfare that may result.

5.87 [✂] and O2 both note that the papers appear to be predicated on the premise that retail pricing by MNOs is not disciplined by competition, which both argue is false. O2 notes that Maldoom 2 says that "MNOs can set such charges [for 080 calls] largely undisciplined by competition", and so appears to be suggesting that the relevant market is not effectively competitive. O2 argues that this is incorrect as the relevant market is the one for mobile access and call origination (including calls to NTS numbers) and Oftel's market review in 2003 made this very clear[465]. Further, the market was found to be effectively competitive, a finding that has been confirmed in every subsequent analysis (see, for instance, Ofcom's mobile strategic review). O2 states that neither BT nor its advisers offer any evidence to the contrary.

5.88 O2 states that neither paper recognises that it cannot price discriminate in respect of different terminating operators' NTS traffic. It notes that BT terminates just a proportion of calls to 080, 0845 and 0870 numbers that O2 originates, but O2 cannot set different prices for specific NTS number ranges, depending on which operator terminates the calls. Therefore, for example, if BT increases its termination charges for 080 calls, O2 states that it is faced with the choice of whether or not to increase the retail price of *all* 080 calls, not just those that BT terminates.

5.89 Some concerns have also been raised by T-Mobile, Orange and Vodafone about the exclusion of the Mobile tariff package effect and the importance of the mobile offering as a whole. They note that MNOs compete with one another to offer consumers the

[465] See http://www.ofcom.org.uk/static/archive/oftel/publications/eu_directives/2003/mobileaco1003.pdf

best overall tariff package that suits consumers' individual needs, and because of the complexity of mobile packages (necessary because of the complexity of customer demand), they argue that no single aspect of the mobile offering can be singled out and isolated. T-Mobile and Orange note that Dobbs and Maldoom both assume that the retail price of calls to each number range is set in isolation, and so argue that BT's charging structure will have a direct effect on the retail price of 080 calls (or, in this case, 0845 and 0870 calls, respectively). They argue however that this is incorrect, and that BT's higher charges will have an effect on the overall mobile tariff, and the effect of significantly higher wholesale costs is likely to be higher retail charges overall (or, alternatively, lower subsidies of handsets).

5.90 O2 also raises this point and notes that if interconnect costs in respect of originating calls to 0845 and 0870 numbers increase, O2 will seek to recoup these through increasing its own charges (whether or not the retail price of calls for 0845 and 0870 numbers rise), and so notes that neither of the papers seeks to quantify the effect of this. We discuss the Mobile tariff package effect later in Section 5 (see paragraph 5.167 onwards).

5.91 T-Mobile and Orange state that both reports also ignore the effects of, and on, MVNOs. Each of the MNOs has a number of MVNOs hosted on its network; though naturally some MNOs host more MVNOs than others (and so the complicating effects of MVNOs impact more severely on some MNOs than others). The views of MNOs on the difficulty of calculating an average retail price and the implications for MVNOs are discussed further below under Principle 3 (see paragraphs 5.286 to 5.313).

5.92 T-Mobile, Vodafone, O2 and Orange state that another important factor that is not addressed in either paper is that there appears to be no incentive for, or competitive pressure on, BT to feed any additional revenues it receives along the supply chain to the NTS service providers at the other end. BT claims that it is seeking to achieve a 'fairer balance' across the 'NTS platform' as a whole. However, in fact, these MNOs argue NTS SPs would not benefit and these wholesale charges are clearly designed to increase BT's revenues at the expense of MNOs. They argue that BT has no intention of passing those additional revenues on, and O2 notes that no evidence is presented of any pass through to service providers, but that BT appears to be a dominant provider extracting monopoly rents which could have implications for economic efficiency. Our consideration of the competitive pressure for BT to pass increased termination revenue on to SPs is considered under the Indirect effect below.

5.93 Vodafone suggests that one aspect that may merit attention is the lack of any analysis of whether allowing BT to insert additional elements into MNOs' marginal cost structure (potentially unrelated to the underlying resource costs) produces an overall improvement in economic welfare given that MNOs already operate in a competitive retail market. Vodafone argues that it seems BT's proposals would result in a re-alignment of prices for these and all services away from a normal competitive equilibrium of prices which is unlikely to be socially optimal.

5.94 Vodafone also states that the reports attempt to draw general conclusions about the claimed incentive properties of wholesale pricing structures linked to retail pricing at an abstract theoretical level based on assumptions which are highly questionable and simply cannot be relied upon in the present case. As a result, Vodafone argues that the conclusions drawn are based on pure speculation in an artificial context and neither paper attempts to provide an empirical analysis of price setting behaviour or competitive conditions in the real world.

Views of the MNOs on the likely impact of NCCNs 985 and 986 – general views

5.95 In contrast to the view presented by BT (discussed above in paragraphs 5.74 to 5.80), the MNOs suggest NCCNs 985 and 986 may lead to an increase in 0845 and 0870 retail prices (and in any event the effect is likely to be complex). They provided information in response to the formal information requests and within their Dispute submissions to support this view.

5.96 H3G states that neither NCCN 985 nor 986 would be likely to result in lower retail prices for 0845/0870 calls, and so are unlikely to benefit consumers[466]. In particular, H3G argues that "BT's new charges may actually have a negative direct effect for both competition and consumers by providing an incentive for OCPs to increase 0845 and 0870 retail charges (so as to cover the additional costs of BT's increased termination charges)"[467], a view echoed by T-Mobile[468].

5.97 Orange is also of the view that NCCNs 985 and 986 provide all OCPs with an incentive to increase their retail prices. This is because the termination charges do not increase as quickly as the OCP's retail price charges. Therefore OCPs can increase the level of their retained revenue by increasing their retail prices (a point also noted by T-Mobile[469]), and indeed once the retail price reaches the top of BT's tiered band, the OCP retains all of the retail price increases beyond the top of the BT bands[470]. As a result of this, T-Mobile argues that in order to maintain their margin on these calls, OCPs have an incentive to further increase the retail call prices[471].

5.98 Additionally, Vodafone[472] and T-Mobile[473] argue that the structure of NCCNs 985 and 986 will act as a focal point for OCPs' retail charges since they will have an incentive to align their retail charges towards the top of each of BT's charging bands.

5.99 This potential incentive for increased 0845/0870 retail prices may not be isolated to MNOs, as T-Mobile states that it has had clear feedback from some of its wholesale partners that they may be forced to increase their retail charges for calls to non-geographic numbers as a result of the BT charges which are passed through to them[474]. It states that a number of its wholesale customers have complained that it is unfair that they will incur a 13ppm price increase when this is primarily based upon T-Mobile's retail prices (due to the weighting of its subscriber bases), and so may be forced to increase their retail charges for calls to non-geographic numbers[475].

5.100 However, Orange states that a 0845/0870 price increase in light of changes to wholesale prices alone is not an option as it considers the profitability of a tariff plan as a whole rather than specific number ranges. Therefore it notes that rather than recovering the cost increase by changing 0845/0870 retail prices, it may be necessary to consider absorbing it elsewhere in the customer offering, e.g. a reduction in the number of inclusive minutes (i.e. the Mobile tariff package effect).[476]

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[466] Para 18 H3G 14th April
[467] Para 18 H3G 14th April
[468] Para 2.49 T-Mobile submission 5th March 2010
[469] Para 2.58 T-Mobile submission 5th March 2010
[470] P9 Orange 9th April
[471] Para 2.58 T-Mobile submission, 5th March 2010
[472] Para 4.5 Vodafone submission 23rd March 2010
[473] Para 2.76 T-Mobile 5th March 2010
[474] Para 2.59 T-Mobile submission 5th March 2010
[475] Para 2.59 T-Mobile submission 5th March 2010
[476] Q11 S191 Orange

5.101 T-Mobile has also raised a potential long term issue with NCCNs 985 and 986. It argues that allowing BT to increase its charges in this way would provide an incentive for it to increase termination charges for these calls again in the future, knowing that the additional cost would be pushed through to end-consumers. Taken to the extreme, T-Mobile has suggested that in the long term, BT will have the incentive to keep increasing these termination charges up to the level where they would be deemed "excessive and abusive", to the detriment of consumers.[477] It argues that in the absence of dispute referral to Ofcom, the only options open to MNOs are to pay the charges and absorb the additional costs, or to refuse to connect the calls. T-Mobile argues that refusal to connect is not a viable option given the impact it would have on its competitive position in the retail market and Ofcom's policy on end-to-end connectivity; and mobile operators cannot in the present economic climate be expected to absorb additional increased costs. Therefore T-Mobile argues that continually increasing charges from BT would ultimately result in extremely high retail prices for 0845 and 0870 calls.[478]

5.102 We also note that the estimates of the MNOs on the financial impact of NCCNs 985 and 986, set out at Tables 5.2 and 5.3 above, may have an implication for their views on the Direct effect. Table 5.2 summarises the MNOs' estimates of the negative financial impact on them if they leave their 0845/0870 call prices unchanged. Table 5.3 summarises their estimates of the negative financial impact on them if they reduce their 0845/0870 call prices to below 12.5ppm (i.e. the bottom tier of charges on NCCNs 985 and 986). Generally the MNOs estimate that the negative financial impact is larger if they reduce their prices to below 12.5ppm than if they leave them unchanged, apparently implying that the former is less profitable than the latter.

5.103 However, we do not place great weight on this implication for two main reasons. First, the estimates in Table 5.2 may not be derived on a comparable basis to the estimates in Table 5.3. For example, the estimates in Table 5.2 reflect the tier of termination charges which BT is currently charging each MNO, whereas some of the MNOs have told us that this overstates the 0845/0870 prices used in deriving the estimates in Table 5.3. Also, Vodafone's estimate in Table 5.3 reflects an assumed reduction in the retail prices for a sub-set of its customers, whereas its estimate in Table 5.2 relates to all of its call volumes. For both of these reasons Vodafone has told us that its estimates in Tables 5.2 and 5.3 are not comparable. Second, to the extent that the estimates in the two Tables can be compared, the underlying reasons why the negative financial impact is larger when retail prices are reduced are that all of the MNOs assume that there is no increase in call volumes and some assume that they would need to reduce the prices for calls to all TCPs not just BT (because of an inability to set different prices for calls to different TCPs). In our analysis below we already take account of these views.

Views of the MNOs on the likely impact of NCCNs 985 and 986 – response to date

5.104 In light of these concerns about the incentives of MNOs to change 0845/0870 retail prices in response to the introduction of NCCNs 985 and 986, it is useful to consider what, if any, changes have been made to date.

5.105 All the MNOs state that they have not considered making any adjustments to their retail prices in response to NCCNs 985 and 986. [✂] and [✂] are awaiting the outcome of this dispute before considering a retail price change since they consider it should be resolved in their favour. They also both note that any price change needs

[477] Para 2.49 T-Mobile submission 5th march 2010
[478] Para 2.47 – 2.49 T-Mobile submission 5th March 2010

to go through a rigorous process and be carefully evaluated, before providing the sufficient notice to its customers[479]. Depending on various factors such as the scale of the price increase and the calling patterns of individual customers, [✂] considers a price increase could also lead to consumer churn at a significant cost[480]. [✂] also states that if Ofcom finds in favour of BT in this Dispute, it is likely to review its approach to retail pricing then[481].

5.106 Although no 0845/0870 price changes have been implemented to date in response to NCCNs 985 and 986, some of the MNOs have suggested there may be an impact on the range of mobile packages available. T-Mobile notes that mobile operators do not treat all their customers identically but offer a variety of different packages, each of which is designed to attract a certain type of customer[482]. For example, for those customers who place a high value on calling 0845 and 0870 numbers and who call them often, T-Mobile offers the option of buying a booster] which gives an effective low rate for making these calls (equivalent to 8.33ppm). Additionally, for customers on 'Flext' price plans, calls to 08 numbers are included within the monthly allowances. Therefore a call that is nominally rated at 40 pence per minute could cost a Flext customer as little as 5.16 pence per minute in real terms if the call is paid for out of the customer's monthly Flext call allowance[483]. T-Mobile states that it adjusts the mix of value given to customers so that it can achieve a position what makes it viable to offer benefits which particular groups of customers value.

5.107 However, it argues that by using an average retail charge to calculate the termination charge payable, it would ignore the differentiation between customer groups (according to the factors those customers consider most important) and ignore the Mobile tariff package effect, and so would undermine the ability of MNOs to differentiate between customers in this way[484]. For example, although T-Mobile states that this booster has proven to be popular with its customers[[485]], it argues that if BT's termination charges are applied to calls made by its customers who are using the 08 numbers booster, T-Mobile would make a loss on these calls. This is because the termination charge would be higher than the effective price. T-Mobile suggests that it would have to consider withdrawing the booster.[486] As a result, T-Mobile argues that there would be significant harm to consumers through decreased choice, and for existing customers of these services, an increase in the effective 0845/0870 price.

5.108 T-Mobile also makes a similar argument for its business customers, for whom it says it would not be possible to include 08 numbers in bundles because the cost of BT's charges would make it uneconomical (again because the termination charge would reflect T-Mobile's higher overall average price, so that it would exceed the lower average price of 08 calls in the package for business customers)[487]. T-Mobile notes that it currently has approximately [✂] business customers (excluding those who have chosen a consumer plan) on a retail rate of [✂] (ex VAT) for calls to 0845

479 Q10 S191 [✂]
480 Q11 S191 [✂]
481 Q11 S191 [✂]
482 Q2 S191 [✂]
483 On the 'Flext 100' tariff, a customer receives £775 worth of credit for a monthly recurring charge of £100. A one-minute call to an 08 number with a nominal charge rate of 40 pence per minute would use up 40p worth of the monthly credit value of £775, which actually cost the customer only £100. Pro rata, this would account for only 5.16p out of the £100 monthly credit.
484 Q2 S191 T-Mobile
485 [✂].] Email from Robert Wells, T-Mobile, 24th May 2010.
486 Para 2.61 T-Mobile submission 5th March
487 Q2 S191 T-Mobile

numbers (i.e. a retail rate less than the termination charge BT is currently seeking to impose)[488].

5.109 Additionally, [✂] notes that it does not currently include calls to 0845 and 0870 numbers in bundles, in part because its analysis of consumer preferences indicates its customers value lower prices for certain elements of the basket of services over others (such as calls to 0845 and 0870 numbers). However, it also states that as consumer demand has changed (for example, demand for SMS and mobile data), it has had to develop propositions that meet these needs. In recent months, [✂] states that its pricing team has been giving consideration to the introduction of [✂] for the smaller element of its consumer customer base who may attach a value on lower charges for calls to 0845/0870 number ranges. It states that such a package might enable consumer customers to call these numbers within a fair usage limit or make calls to these numbers eligible for the existing bundle. [489]

5.110 However, similarly to T-Mobile, [✂] suggests that the application of BT's wholesale charge could act as a deterrent to the introduction of offers that make calls to 0845/0870 numbers eligible for bundle. In addition, Vodafone argues that BT's frequent changes to its existing NTS termination charging arrangements in recent months is undermining the business case for pricing propositions to be launched. It argues that these changes demonstrate that inputs may vary and could increase at very short notice. Therefore [✂] does not have certainty about the cost components which have a significant influence on any final commercial decision.[490] As a result, [✂] considers that BT's charges are likely to create more uncertainty for [✂] and undermine further the commercial rationale for any pricing innovation that was being considered.[491]

Views of the Parties: Elasticity of Demand

5.111 Both the MNOs and BT have provided us with some relevant information on the elasticity of demand for 0845 and 0870 calls from mobiles.

5.112 Some views of the MNOs relevant to the elasticity of demand are reported above at paragraphs 5.10-5.14 (in the context of the financial impact) and 5.60-5.68 (in the context of views on how 0845/0870 call prices are set).

5.113 In addition, [✂] has recently [✂] the price for 0845 and 0870 calls from [✂] (depending on the particular tariff) to a [✂] in a move unrelated to BT's NCCNs 985/986[492]. In an internal presentation reviewing out of bundle pricing for contract customers, the proposal for non-geographic numbers (including 0845 and 0870) was to [✂] the price from [✂] which was estimated to have a positive effect on revenue[493]. The estimated revenue [confidential: increase] as a result of this price change was [✂], with a cost [✂], based on the average of July to December usage, and the assumptions that contract customers represent [✂] of total volume and there would be a [✂] in usage. Similarly, with PAYG tariffs, the proposal was to [✂] non-geographic numbers from [✂], which assumed a resulting [✂] in usage[494].

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488 Email from Robert Wells, T-Mobile, 24th May 2010
489 Q2 (c) S191 [✂]
490 Q2 (c) S191 [✂]
491 Q2 (c) S191 [✂]
492 Q2 S191 [✂]
493 [✂]
494 [✂]

5.114 We note that this analysis by [✂] appears to suggest an expectation that demand for 0845 and 0870 calls is not very sensitive to the retail price . For the prepay tariffs, [✂], and for the out of bundle prices, a [✂]. This implies a demand elasticity of -0.2 for prepay non-geographic calls and -0.45 for out-of-bundle contract non-geographic calls.

5.115 BT has not provided any empirical evidence on the elasticity of demand for 0845 or 0870 calls.

5.116 In relation to 080 calls some of the views in BT's 080 papers relevant to the elasticity of demand are reported above at paragraphs 5.70-5.72 (in the context of views on how 0845/0870 call prices are set).

5.117 In addition, as discussed in Annexes 3 to 5, in its 080 papers BT relies on economic theory to infer the elasticity from its assumed model of price setting. BT's 080 papers assume that the demand for 080 calls is relatively elastic at the prices currently charged by the MNO, on the basis that this is the consequence of profit-maximising behaviour by the MNO (i.e. if the demand were inelastic, it would be profitable for the MNO to increase its price, because the higher profit margin resulting from the higher price would more than offset any reduction in volume; and demand is likely to be more elastic at higher prices). We note that the Dobbs 3 approach is slightly different but still assumes that demand is elastic at existing retail prices (i.e. a magnitude of the elasticity that exceeds 1).

<u>Our view on the Direct effect</u>

5.118 In this section, we set out our views on the Direct effect based on the available evidence. We first set out our views on the implications of BT's proposed framework for NCCN 985 and 986 based on our own analysis. Next, we set out our views on the robustness of BT's economic analysis based on the available evidence. Then we consider the evidence and views of BT and the MNOs on the key factors relevant to the analysis. Finally, we set out our provisional conclusion on the Direct effect.

Our views on the implications of BT's framework for NCCN 985 and 986

5.119 As noted above, BT's 080 papers set out frameworks for analysing the Direct effect of a hypothetical continuous termination charge schedule and a tiered or stepped schedule. We consider that the analysis of a continuous schedule is not directly relevant to this Dispute, since both NCCN 985 and NCCN 986 have a stepped structure in which the termination charge increases in a series of steps with the average retail price.

5.120 BT's 080 papers set out two approaches for analysing the Direct effect of a stepped schedule (which we refer to as the Dobbs approach and the Reid approach). Both of these approaches set out a theoretical framework that seeks to relate the retail price of 0845/0870 calls to the wholesale termination charge. In both cases, these frameworks are based on a number of important assumptions that relate to a range of issues, including the price setting behaviour of MNOs, the nature of the demand for 0845/0870 and other services, and the nature of competition between MNOs. These assumptions are set out in Annex [4].

5.121 BT's 080 papers apply these two approaches to NCCN 956 relevant to 080 calls, but they do not consider NCCNs 985 and 986 which are relevant to this Dispute. In order to investigate the implications of the framework proposed by BT for the current

Dispute, we have sought to apply the Dobbs and Reid approaches to NCCNs 985 and 986. This analysis is set out in Annex [5].

5.122 We discuss below our views on the robustness of BT's framework. Here we discuss the implications of BT's framework for the Direct effect in the Dispute, if BT's framework was considered robust.

5.123 In the case of NCCN 985, the Dobbs and Reid framework appear to broadly show that (see Annex 5 for details):

a. If the existing average retail price for 0845 calls is below around 30ppm, NCCN 985 will give rise to an incentive to reduce the average retail price.

b. If the existing average retail price for 0845 calls is above around 30ppm, NCCN 985 may give rise to an incentive either to reduce or increase price[495].

5.124 In the case of NCCN 986, the Dobbs and Reid framework appear to broadly show that (see Annex 5 for details):

a. If the existing average retail price for 0870 calls is below around 36ppm, NCCN 986 will give rise to an incentive to reduce the average retail price.

b. If the existing average retail price for 0870 calls is above around 36ppm, NCCN 986 may give rise to an incentive either to reduce or increase price.

5.125 In each case, the magnitude and, where indicated, the direction of the Direct effect depends on the level of the existing retail price, the precise nature of the relationship between call volumes and price for 0845 and 0870 calls, and the level of marginal costs.

5.126 As set out later in Section 5 (when discussing Principle 3), one MNO ([✂]) provided us with its average retail prices for 0845 and 0870 calls. Two others ([✂] and [✂]) provided us with estimates relating to a sub-set of their customers. As noted above, another MNO ([✂]) generally charges a uniform rate of [✂] (see paragraph 5.113). BT's view of the average retail price for the remaining MNO ([✂) is [✂] (see Table 5.1 above). On the basis of these estimates, the Dobbs and Reid frameworks, if correct, would suggest that both NCCN 985 and 986 would give rise to an incentive to reduce the prices of 0845 and 0870 calls[496].

Our views on BT's framework

5.127 We consider that the Dobbs approach and the Reid approach are both potentially relevant to the current Dispute. The analysis in these papers takes account of both of the two opposing effects outlined in paragraph 5.42 above, i.e. the incentive for the

495 We note H3G's statement that theoretically MNOs would be free to charge a retail price well above the top retail price mentioned in BT's tiered charging structure. This is borne out by some of our analysis, see Annex 5.

496 We note that one MNO has estimated its average retail price for 0845 and 0870 calls to be 34.04ppm (excluding VAT, or 40ppm including VAT) which is above the threshold for a price reduction (see Annex 5). This would imply, on the basis of our application of BT's framework, that it may have an incentive to increase or decrease prices in response to the NCCNs. However, it is very close to the required threshold for a price reduction, and in any event is likely to be an overestimate of the MNO's true average retail price given that it excludes [✂], who are likely to face lower 0845/0870 average retail prices than pre-pay and standard post-pay customers which were used for this estimate.

MNO to increase price due to the higher level of BT's termination charge and the incentive to reduce price due to the structure of BT's termination charge schedule.

5.128 To the extent that the MNOs suggest that this is not the case, we disagree with them. We also note that some of the views provided by the MNOs do not take into account both of these effects. They focus on the first effect of the increased level of the termination charge, but not the second effect in the opposite direction of the structure of BT's termination charges.

5.129 However, our current view is that BT's analysis may not be robust or comprehensive.

5.130 We have two principal concerns with regard to BT's analysis of the Direct effect. First, both the Dobbs and Reid approaches rely on a theoretical model of pricing and competition that is based on a number of specific assumptions relating to issues such as the pricing policies of the MNOs, the nature of demand for services supplied by MNOs, and the nature of competition between MNOs (see Annexes 4 and 5 for details). BT has not advanced any empirical evidence in relation to 0845/0870 calls to support its theoretical models and the key assumptions, such as the elasticity of demand[497]. In addition, as discussed below, the MNOs have advanced a number of criticisms of the key assumptions that are relied upon in BT's 080 papers.[498]

5.131 Second, and relatedly, we consider that there are a number of potentially important considerations that are not adequately reflected in BT's analysis. In particular, we note the following:

a. BT's analysis does not take into account the fact that MNOs generally have multiple price points for 0845/0870 calls.

b. BT's analysis ignores the impact of competitive responses of MNOs.

c. BT's analysis does not allow for the possibility of substitution between 0845/0870 calls and other services supplied by MNOs.

d. BT's analysis fails to consider the profitability of the termination rate schedules for BT itself.

e. BT's analysis assumes that MNOs do not adjust the prices of their other services (i.e. assumes that there is no Mobile tariff package effect).

5.132 We discuss these concerns below, taking into account the views of the MNOs as well as BT.

Elasticity of demand

5.133 The elasticity of demand for 0845/0870 calls is an important consideration in assessing the Direct effect. This is because it influences the relative sizes of the two effects, the increase in the level of the termination charge and its structure.

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[497] Even in relation to 080 calls there is little empirical basis for the assumptions in BT's 080 papers. One exception is the justification for the range of assumptions used for the marginal cost to MNOs of such calls, which is based on the empirical analysis in our 080 Determination.

[498] We note that we have not yet received any submissions from the MNOs on the Dobbs and Reid approaches.

5.134 It plays a critical role for the implications of both the Dobbs and Reid approaches in BT's framework. BT's 080 papers assume that demand is relatively elastic. This implies that the first effect is smaller, i.e. the incentive to raise price because of the increase in the termination charge; and that the second effect is larger, i.e. the incentive to reduce price because of the structure of the schedule (since a lower price can lead to a lower termination charge). Therefore it is a key reason for BT's claim that the overall effect is an incentive for MNOs to reduce prices.

5.135 However, BT has not provided any direct empirical evidence on the elasticity of demand for 0845 or 0870 calls. BT instead seeks to infer the elasticity of demand from existing retail prices and marginal costs on the basis of its proposed theoretical model of the MNO's pricing conduct.

5.136 As set out at paragraphs 5.111-5.114 above, the MNOs have provided some views and evidence relating to the elasticity of demand. The MNOs generally appear to suggest that, based on their experience, the demand for 0845/0870 calls is relatively inelastic (in contrast to BT's assumptions).

5.137 The economic theory relied on by BT would suggest that relatively inelastic demand for 0845/0870 calls implies that the MNOs are not maximising their profits[499], which it suggests would be an inappropriate basis for the analysis. On the evidence before us, we have not been able satisfactorily to reconcile the apparently conflicting evidence. In their submissions to us so far, the MNOs have not explicitly addressed this question, i.e. the reconciliation between (or other explanation of) their views on the elasticity of demand for 0845/0870 calls and profit maximisation.

Multiple price points

5.138 The MNOs have pointed out that they generally offer a range of price points for 0845/0870 calls, not just a single price.

5.139 We note that BT's 080 evidence recognises the relevance of multiple price points and seeks to analyse their impact on the Direct effect in the context of a hypothetical continuous termination charge schedule.

5.140 We agree with BT that it is relevant to consider the implications of multiple price points given the variety of pricing packages that are available. However, the Dobbs and Reid approaches do not, as far as we understand, address the issue of multiple price points in the context of a stepped tariff, which would be relevant to NCCNs 985 and 986, since both focus on a single average price for 0845 and 0870 calls. In our view, therefore, in this respect BT's analysis is incomplete.[500]

Lack of competitive interactions

5.141 The MNOs suggest that BT's analysis ignores any competitive interaction between MNOs. This is something that is raised by T-Mobile, Orange and Vodafone in paragraph 5.87.

[499] Either they are not maximising profits (see Richards 1) or there are strong demand complementarities (see Reid 1 and Dobbs 3).

[500] We also note in Annex 3 that there are some parts of the analysis in Reid 1 of multiple price points (in relation to a continuous termination charge schedule) that provided insufficient explanation to enable us to undetrstand them.

5.142 We note that BT appears to suggest that its analysis of "reputational" or "spillover" effects on wider revenues could reflect some form of competitive constraint on the relevant service, for example if higher prices on the relevant service induced subscribers to switch to a rival MNO[501]. However, we consider that this is an ad-hoc approach to the effects of competition and does not take into account the possibility of strategic responses by rival MNOs (i.e. rival MNOs' prices are assumed to be unchanged).

5.143 BT's analysis in effect treats MNOs as monopolists and does not take into account the possibility that a change in an MNO's retail prices could result in a strategic competitive response from rivals. Competition is however generally an important feature of the retail mobile market. In our view, for us to consider it a robust approach to ignore competitive interactions between MNOs, we would need clear evidence that this was an appropriate assumption in relation to 0845/0870 calls.

5.144 Alternatively, if the relevance of competitive interactions is not robustly ruled out, BT's analysis of the Direct effect is incomplete. It is unclear how correcting for this would affect BT's conclusions. This is because the analysis of the implications for 0845/0870 prices of multi-product competition between MNOs may be complex.

Substitution between 0845/0870 calls and other services

5.145 As noted above, if 0845/0870 calls are substitutes for the MNOs' other services, this is likely to affect the analysis of the Direct effect. It will tend to increase the incentive to raise price due to the increase in the level of BT's termination charge and reduce the incentive to lower prices due to the structure of BT's termination charge schedule.

5.146 In fact, Maldoom 3 states that there are "numerous websites providing geographical numbers for accessing services that can be used instead of NTS numbers, as the former are typically significantly cheaper when rung from mobile phones"[502]. He provides an example of www.0800buster.co.uk where geographic substitutes are provided for 080 numbers, but there are also websites which offer a similar service for 0845 and 0870 numbers such as www.saynoto0870.co.uk.

5.147 BT's analysis in its 080 papers does not consider the implications of substitution between 0845/0870 calls and other services. Nor has BT provided empirical evidence that substitution is irrelevant (or sufficiently unimportant not to affect the results).

5.148 In our view, therefore, in this respect BT's analysis is incomplete.

Profit maximisation by BT

5.149 BT's 080 papers focus on seeking to model profit-maximising behaviour by the MNOs in responding to a termination rate schedule. However, there is no analysis of the profitability of the termination rate schedules for BT itself.

5.150 As a consequence, BT's analysis may inconsistently be relying on the absence of profit maximising behaviour by BT, whilst at the same time relying on the presence of profit maximisation by MNOs to derive its results. For example, a number of results obtained by applying the Dobbs approach to NCCNs 985 and 986 suggest that it

[501] See Paragraph 33, Dobbs 3. This reputational effect is also referred to in Maldoom 3, paragraph 107. Reid 1 argues that allowing for demand complementarity captures the effect of losing subscribers to rivals.
[502] Paragraph 102, Maldoom 3.

would be profit maximising for the MNO to reduce 0845/0870 call prices to below 12.5ppm to be on the bottom tier of BT's schedule. But, on this tier, BT's termination charges are the same as those in place before NCCNs 985 and 986 and so there would be no increase in BT's profit per minute. In contrast, a termination charge schedule that did not induce the MNOs to reduce their call prices would likely result in higher termination charges and higher profits for BT.

Prices of other services

5.151 None of BT's 080 papers take into account the potential for MNOs to respond to NCCNs 985 and 986 by changing the prices of their other mobile services, i.e. the Mobile tariff package effect, and the impact that this might have on the Direct effect.

5.152 Dobbs 1 states that "it might reasonably be argued" that cross-price effects between 080 services (or in the context of this Dispute, presumably also 0845/0870 calls) and other services are likely to be limited. In other words, this paper assumes limited demand interdependencies between 080 calls and other mobile services, and so views prices for 080 calls as being set independently of other prices. The paper by Reid makes the assumption that only the price of 080 calls (or in the context of this Dispute, presumably also 0845/0870 calls) changes and that the prices of all other services offered by the MNOs are held constant. That is, it takes no account of the Mobile tariff package effect by assumption.

5.153 As set out above in paragraphs 5.59 to 5.68 and paragraph 5.89, the MNOs generally consider that it is relevant to consider the potential for the prices of other mobile services to change. In particular, the MNOs state that 0845/0870 calls are supplied to their customers as part of a wider range of services for which there is strong competition, and that the pricing of these number ranges is not considered in isolation. In general, retail pricing takes into account a number of factors that consumers consider when choosing between mobile networks.

5.154 In general, multi-product firms, like the MNOs, can be expected to reassess a wider range of their prices following the introduction of a different termination charge for 0845/0870 calls (if the other services are substitutes or complements). This may affect the size or even the direction of the Direct effect on 0845/0870 call prices. In our view, therefore, in this respect BT's analysis is incomplete.

5.155 We discuss the Mobile tariff package effect in further detail below.

Other Issues

5.156 As set out in paragraph 5.88, O2 claims that the BT analysis does not recognise that MNOs cannot price discriminate in respect of different terminating operators' NTS traffic. BT terminates just a proportion of calls to 0845 and 0870 numbers that MNOs originate. Therefore, MNOs with the inability to set different retail prices for 0845/0870 calls to different TCPs are faced with the choice of whether or not to change the retail price of *all* 0845/0870 calls, not just those that BT terminates.

5.157 Our understanding is that BT's analysis does not take account of this feature of the MNOs choices and effectively assumes that MNOs can set different prices for calls to different TCPs.

5.158 To understand the implication, initially we consider the situation in which only BT changes its termination charge schedule and no other TCP changes its charges. In that case, we expect the MNOs' inability to set different prices to different TCPs to increase the likelihood that the MNO will leave its 0845/0870 prices unchanged (i.e. neither increase nor reduce them). This is because it will tend to dilute both of the effects of the level and the structure of BT's termination charges.

5.159 In our analysis below of the Indirect effect and competition between TCPs we recognise that other TCPs may have the incentive to introduce similar termination rate schedules to BT's NCCNs 985 and 986 (and some TCPs have already done so). If all other TCPs introduced identical termination rate schedules, this would not imply any changes to BT's analysis. However, other TCPs are unlikely to adopt identical schedules to NCCNs 985 and 986 (and the schedules introduced so far by other TCPs have material differences of detail). The implication in this more realistic case is not entirely straightforward.

5.160 [✂] has stated that "retail prices of increments of less than a whole penny cannot be implemented"[503]. [✂] makes a similar point, suggesting it has a limited number of price points. This limitation may have implications for their profit-maximising choice of price, which is not considered in BT's analysis. For example, if the profit maximising price were to be 12.49ppm, [✂] would not be able to price at this level. It is possible, therefore, that this limitation may have implications for the scale of the Direct effect.

5.161 We consider elsewhere in Section 5 (in analysing the effects on competition) the MNOs' views on the potential for BT's termination charge schedules to act as a focal point for MNOs' retail prices, the effects on MVNOs and the effects on the MNOs' range of tariff packages and tariff innovation.

Conclusion on Direct effect

5.162 In light of the available evidence we consider that the direction and magnitude of the Direct effect of NCCNs 985 and 986 is uncertain.

5.163 The MNOs have not yet decided their pricing responses to NCCNs 985 and 986. Generally they suggest that their prices will have to go up because of the increased level of BT's termination charges, although they suggest that it could be the prices of other mobile services that may rise (we discuss the implication for the prices of other mobile services below under the Mobile tariff package effect).

5.164 As discussed above, BT's economic evidence appears to indicate that NCCNs 985 and 986 will both provide an incentive for MNOs to reduce average retail prices from current levels. We recognise that BT has identified a mechanism that, under certain assumptions, may result in a reduction in retail prices for 0845 and 0870 calls as BT claims. In essence, this requires (amongst other things) that the termination rate increases sufficiently rapidly with the retail price so that the impact of the *structure* of the termination charge schedule to reduce retail prices outweighs the impact of the increase in the *level* of the termination charge to raise retail prices. We also note that the views of the MNOs generally focus on the impact of the increased level of BT's termination charge but do not seem to take into account the impact of the structure of the schedule in NCCNs 985 and 986.

5.165 In our view, BT's analysis relies heavily on a number of key assumptions, such as the elasticity of demand. As discussed above, BT does not provide any relevant evidence to support these assumptions in the context of 0845 and 0870 calls. Furthermore, BT's assumptions on the elasticity of mobile-originated 0845/0870 calls

[503] Q13 S191 [✂]

appears to be contradicted by the evidence from the MNOs based on their experience in the mobile market.

5.166 In addition, we do not consider that BT's analysis is comprehensive or robust, as there are a number of potentially important considerations that have not been fully taken into account. These include the impact on the Direct effect of MNOs offering multiple price points for 0845/0870 calls, competitive interactions between MNOs, substitution between 0845/0870 calls and other services, profit maximisation by BT, the impact of changes in the prices of the MNOs' other services, and the inability of the MNOs to set different 0845/0870 prices for calls to different TCPs.

Mobile Tariff Package Effect

Introduction

5.167 Not only could there be a Direct effect on the retail price of 0845 and 0870 calls, but there may also be implications for other services provided by MNOs and MVNOs to their customers (Mobile tariff package effect). This is a point that has been emphasised by the MNOs.

5.168 As a preliminary point, we understand it is common ground between the Parties that the effect of NCCNs 985 and 986 will be to reduce the profit earned by MNOs on 0845/0870 calls (and the same applies to any other OCP whose current average retail price is at least 12.5ppm). This is because they will pay higher termination charges to BT. Even if they seek to avoid this by reducing their 0845/0870 prices to below 12.5ppm (so that they are on the bottom tier of BT's termination charges), their retention will still be lower than previously, i.e. before the introduction of NCCNs 985 and 986, because their retail prices will be lower than previously. If the MNOs choose to increase 0845/0870 prices sufficiently to retain their pre-existing (i.e. pre-NCCN 985 and 986) profit margin on these calls, there is still likely to be a reduction in their profit on these calls, because fewer 0845/0870 calls might be made at the higher prices. In other words, whilst the MNOs can minimise their loss of profit from NCCNs 985 and 986, it is our understanding that they cannot avoid experiencing a profit reduction compared the situation without the NCCNs. This is consistent with what the MNOs have told us about the effect of NCCNs 985 and 986 (e.g. see the discussion of the financial impact at the start of this Section). It is also our understanding that BT accepts that it will be a consequence, as reflected in the economic analysis in BT's 080 papers.

5.169 We have identified two potential ways in which the Mobile tariff package effect may arise, taking into account the arguments and evidence provided by the Parties: a "waterbed" effect in the context of a "competitive bottleneck" (explained below); and relationships between consumers' demand for 0845/0870 calls and the other mobile services provided by the MNO. We discuss each in turn.

5.170 First, BT has suggested that 0845/0870 calls may be a competitive bottleneck, as discussed in some of BT's 080 papers (explicitly in Maldoom 3 – see paragraph 5.71 - and by implication in Dobbs 1-3). With a competitive bottleneck, the operator faces very different competitive conditions for two (linked) sets of services it provides to consumers.

5.171 In the context of this Dispute, if 0845/0870 calls are a competitive bottleneck, each MNO would set 0845/0870 prices independently of its decisions to set the prices for its other services, and it would do so facing few competitive constraints, i.e. this would be the bottleneck service. By contrast, each MNO would face competition on the other mobile services that it offers, i.e. these would be the competitive services.

5.172 In relation to 0845/0870 calls, the Mobile tariff package effect can be seen as a waterbed effect[504]. The logic of the waterbed effect is that any excess profits earned on the bottleneck service are competed away in lower prices for the competitive services. A reduction in the profits on the bottleneck service is expected therefore to lead to higher prices for the competitive services (because it is no longer profitable to offer such low prices for these services).

5.173 The second potential way for the Mobile tariff package effect to arise reflects the relationship between the demand for 0845/0870 calls and the MNOs' other services sold to the consumer. That is, the MNO sets 0845 and 0870 prices as part of the package of prices for all the services sold to mobile consumers. 0845/0870 calls may be either complements or substitutes for these other services (and there may be substitutes and complements among the other services). Alternatively, the relationship between services in the demand faced by an individual MNO may reflect competition between MNOs, since if a high price for one service leads some consumers to switch to a competing MNO, sales of all of the services to those consumers are lost to competitors (as consumers buy the package of services from one MNO). Therefore under this view the MNO does not set the prices for 0845/0870 independently of other services that make up the overall mobile bundle purchased by consumers, and it takes account of demand relationships with other services when setting 0845/0870 prices.

5.174 Within this setting, if the marginal cost of one service changes (in this case the cost of 0845/0870 calls due to the increased termination charges introduced by NCCNs 985 and 986), it can induce a change in the prices of other services offered by the MNO – this is the second mechanism for the Mobile tariff package effect.

5.175 As a result, under either of these ways for the Mobile tariff package effect to arise, we expect that a Mobile tariff package effect is likely to occur and to involve price increases with a negative effect on consumers. The exact scale and nature of such effects is, however, less clear.

Views of the parties

5.176 T-Mobile argues that MNOs compete fiercely to offer customers the best overall package or bundle of retail charges for mobile services, focussing in particular on those aspects of the bundle that are of most importance to the customer, e.g. the number of free minutes included in a monthly bundle[505]. It argues that the reduced margin on calls to 0845/0870 numbers will have an inevitable knock-on effect on other prices that form part of the overall mobile offering because where the underlying costs of providing the service are increased, it will not necessarily feed into a Direct effect on 0845/0870 retail prices, but elsewhere in the consumer offering (e.g. higher monthly subscription fee, reduced inclusive call allowances, lower handset subsidy or potentially spread across various elements of the overall package). As a result, T-Mobile argues that it will inevitably result in a transfer of

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[504] For example, this is analogous to the waterbed effect in mobile termination: an increase in mobile termination charges (the bottleneck service) is expected to lead to lower prices for other mobile services (the competitive services). See "Wholesale mobile voice call termination Market Review", Volume 2 – Main consultation 1st April 2010
http://www.ofcom.org.uk/consult/condocs/wmctr/wmvct_consultation.pdf

[505] Para 2.78 T-Mobile 5th March 2010

value from consumers of mobile services to BT, and so mobile customers will ultimately lose out[506].

5.177 [✂] states that "if interconnect costs in respect of originating calls to 0845 and 0870 numbers increases, [✂] will seek to recoup these through increasing its own charges (whether or not the retail price of calls for 0845 and 0870 numbers rise)"[507]. It states that the financial impact of BT's higher termination charges is significant and thus damaging to its business[508]. T-Mobile also sets out this view and describes the scale of the additional charges as "extremely material", arguing that payment of the charges will have a detrimental impact on its cashflow, and therefore ultimately on its ability to promote its services, improve customer care, and invest in its own network[509].

5.178 [✂] states that it would need to recover the new costs or revenue losses that it incurs from NCCNs 985 and 986 and this would potentially involve raising prices in other elements of the basket of services it provides (and where lower prices may be considered to be more valuable by [✂] customers).

5.179 [✂] states that a 0845/0870 price increase in light of changes to wholesale prices alone is not an option as it considers profitability of a tariff plan as a whole rather than specific number ranges. Therefore it notes that rather than recovering the cost increase by changing 0845/0870 retail prices, it may be necessary to consider absorbing it elsewhere in the customer offering (e.g. a reduction in the number of inclusive minutes).[510]

5.180 As set out above at paragraphs 5.151-5.152, BT does not comment on the Mobile tariff package effect.

<u>Our view on Mobile Tariff Package effects</u>

5.181 We consider that Mobile tariff package effects are likely to arise and will have a negative effect on mobile consumers. This is, first, because we understand it to be common ground between the Parties that NCCNs 985 and 986 will reduce the MNOs' profits from 0845/0870 calls. Second, given this, there is likely to be a Mobile tariff package effect under either of the potential mechanisms of a waterbed effect for a competitive bottleneck or inter-related demand among the services offered by the MNO. In our analysis we take into account both potential mechanisms.

5.182 We note that BT ignores and makes no comment on the Mobile tariff package effect, even though it is implied by the economic models it is advancing in BT's 080 papers. For example, whilst Maldoom 3 draws an analogy with mobile termination and refers to the logic of a competitive bottleneck, neither that paper nor BT's other evidence discusses the implied waterbed effect. Whilst Reid 1 includes models of price-setting by MNOs in which they offer many services which have inter-related (complementary) demand, that paper assumes that only 080 (and by implication in this Dispute, 0845/0870) prices will change in response to the change in BT's

[506] Q2 S191 T-Mobile
[507] Letter from [✂] in response to Dobbs 1 and 2, 14th May 2010
[508] Paragraph 3 O2 submission, 11th March 2010
[509] Para 2.79 T-Mobile 5th March 2010
[510] Q11 S191 Orange

termination charges, i.e. the Mobile tariff package effect is ignored in Reid 1 by assumption.[511]

5.183 As to the potential scale of the Mobile tariff package effect arising from the waterbed effect, it is indicated by the MNOs' loss of profit on 0845/0870 calls from the introduction of NCCNs 985 and 986. Estimates from both BT and the MNOs suggest that this loss of profit is more than [✂] per annum (at unchanged 0845/0870 prices – see Tables 5.1 and 5.2).

5.184 If 0845/0870 calls were a competitive bottleneck, we can use a potential analogy with mobile termination to inform an understanding of the extent to which this potential scale of effect may be realised. In the Wholesale mobile voice call termination market review Ofcom has considered whether the waterbed is complete, and this issue is also relevant here in relation to the Mobile Tariff Package effect. In other words, will all of the reduction in profit from 0845/0870 calls be passed on to consumers in the form of retail price increases elsewhere in the bundle, or will the MNOs absorb some of the reduction themselves? In relation to the waterbed effect and mobile termination charges, we suggested that while the evidence was not conclusive, the waterbed effect is unlikely to be 100% complete[512].

5.185 One difference between mobile termination and 0845/0870 calls is that:

a. 0845/0870 calls are sold by the MNO to the same customer as other mobile services and within the same overall tariff package;

b. in contrast, mobile termination is sold by the MNO to a customer (the OCP, whose customer in turn is the caller to the mobile network) who is different from its own subscriber to whom it sells other mobile services.

5.186 As a result, the incentives of the MNOs in light of changes to the cost of providing 0845/0870 calls may be different, meaning the extent of the effects may not be identical. It is not clear whether 100% of the reduction in profit from 0845/0870 calls will be made up from higher prices for other mobile services as this depends on the nature of competition between MNOs. However, we expect the Mobile tariff package effect to be significant, particularly given that [✂] have all stated that they will seek to recover the increased costs and will potentially do so from other elements of the mobile bundle rather than 0845/0870 calls specifically (see discussion above).

5.187 As regards the potential Mobile tariff package effect arising from inter-relationships in demand, a range of outcomes is possible. It depends, firstly, on the nature and strength of any demand interdependencies between 0845/0870 calls and other mobile services; and secondly, on the role of 0845/0870 prices in competition between MNOs and the nature and strength of that competition. As has been pointed out by the MNOs, Ofcom has previously defined the relevant market as mobile access and call origination (including calls to 0845/0870 numbers) and we found this market to be effectively competitive.

[511] In addition, Dobbs 3 cites spillover effects on other products as a rationale for an increasing elasticity of demand of 080 calls at higher prices, but again includes no explicit recognition or analysis of the Mobile tariff package effect.

[512] Paragraphs 5.27 to 5.30, "Wholesale mobile voice call termination Market Review", Volume 2 – Main consultation 1st April 2010
http://www.ofcom.org.uk/consult/condocs/wmctr/wmvct_consultation.pdf

5.188 The comments from the MNOs suggest that there is likely to be a time lag between any acceptance of the termination charges set out in NCCNs 985 and 986 and a change to their retail prices. This is because of the need for MNOs to analyse the impact of any price change in the context of their wider tariff packages in order to assess the most appropriate, as well as to provide the notice period to customers. Therefore there may be a lag of some months before any negative Mobile tariff package effect materialises.

5.189 Overall, we note that NCCNs 985 and 986 are likely to have a negative Mobile Tariff Package effect on mobile customers. We expect this effect to be significant, potentially more than [✄] per annum. However, the precise scale of this effect and the speed with which it might occur are less clear.

Provisional conclusion on consumer effects at the originating end

5.190 Overall, the net effect on consumers at the originating end of 0845/0870 calls is sensitive to the direction of the Direct effect, on which we have mixed evidence. This is because the Mobile tariff package effect is always negative and because, whilst it is an important consideration in our analysis, we give relatively less weight to the Mobile tariff package effect than to the Direct effect (due to our policy preference on the pricing of 0845/0870 calls, as discussed in Section 4). The net effect will depend on the Direct effect as shown in Table 5.9.

Table 5.9: Summary of direction of effects on consumers at the originating end

		0845/0870 prices fall	0845/0870 prices unchanged	0845/0870 prices rise
(i)	Direct effect	Positive for consumers	No effect	Negative for consumers
(ii)	Mobile tariff package effect	Negative	Negative	Negative
(i) & (ii)	Overall effect at originating end	Positive, if the Direct effect is sufficiently large	Negative	Negative

5.191 If 0845/0870 prices are unchanged, the overall effect at the originating end is negative because of the Mobile tariff package effect.

5.192 If 0845/0870 prices rise, both effects are negative for consumers at the originating end.

5.193 If 0845/0870 prices fall, there are effects in opposite directions: the Direct effect has a positive impact on consumers whereas the Mobile tariff package effect involves price rises for other mobile services, which has a negative impact. The Mobile tariff package effect is likely to be significant (reflecting at least part of the MNOs' loss of profit from the introduction of NCCNs 985 and 986 of more than [✄] per annum). Therefore, even though we place more weight on the positive Direct effect than the negative Mobile tariff package effect, for the overall effect at the originating end to be positive, the size of the reduction in 0845/0870 needs to be sufficiently large.

5.194 We can illustrate what this means by considering a reference case using simplifying assumptions as follows (and we consider below the implications of relaxing these assumptions):

a. 100% waterbed effect;

b. no change in the volume of services purchased by mobile customers even when prices change; and

c. equal weight on the Direct effect and the Mobile tariff package effect.

5.195 In this reference case, consumers are worse off through the effects at the originating end, if NCCNs 985 and 986 lead to any increase in BT's termination charges compared to the previous situation before these NCCNs, i.e. if the MNOs end up above the bottom tier on BT's tiered termination charges after any changes they make to their 0845/0870 prices. This can alternatively and equivalently be expressed as consumers being worse off in the reference case if BT earns any increase in its profits from NCCNs 985 and 986.

5.196 The reason is as follows:

a. At unchanged 0845/0870 prices, and with a waterbed effect of 100%, the whole of the MNOs' loss of profit (which equals BT's profit gain) is reflected in higher prices for other mobile services through the Mobile tariff package effect. Mobile consumers are worse off (as noted above), because they only pay higher prices.

b. On the other hand, if MNOs reduce 0845/0870 prices down to the bottom tier of NCCNs 985 and 986, BT gains no profit increase, because the termination charges paid by MNOs are at the same level as previously. The MNOs' loss of profit from lower prices and a reduced retention on 0845/0870 prices is fully offset via an increase in profit earned through higher prices for other mobile services. Mobile consumers benefit from lower 0845/0870 prices, but this is fully offset by the higher prices they pay on other mobile services.

c. In between these two scenarios, mobile consumers lose more from the higher prices for other mobile services (the Mobile tariff package effect) than they gain from the lower prices for 0845/0870 calls (the Direct effect).

5.197 We now consider how the analysis for the reference case changes when we relax each of the simplifying assumptions (individually):

a. If the waterbed effect is less than 100%, as it may be, then a smaller Direct effect than one that takes all MNOs' average 0845/0870 prices down to the bottom tier could be sufficient for there to be an overall benefit for consumers. This is because the Mobile tariff package effect would be smaller than assumed in the reference case.

b. If the volume of mobile services changes when prices change, the required size of the Direct effect to yield an overall benefit at the originating end could either increase or reduce compared to the reference case. Which way it goes depends on which services are relatively more price sensitive.513 If the

[513] The comparison should take into account both the change in demand for each service in question as its price changes (i.e. the own-price elasticity of demand) and the change in the demand for other

demand for 0845/0870 calls is less price sensitive than the demand for other mobile services, then the Direct effect needs to be larger than in the reference case for there to be a positive benefit overall. Our understanding is that the evidence from the MNOs tends to suggest that the demand for 0845/0870 calls is relatively less price sensitive (e.g. see paragraphs 5.60-5.68).

c. As set out in Section 4, we place relatively more weight on the Direct effect than on the Mobile tariff package effect. This means that there could be an overall benefit to consumers at the originating end even if 0845/0870 prices do not fall the whole way down to the bottom tier of NCCNs 985 and 986.

5.198 The discussion above provides a framework for considering whether, in the scenario in which MNOs reduce 0845/0870 prices in response to NCCNs 985 and 986, the Direct effect is likely to be sufficiently large to ensure that there is an overall benefit to consumers at the originating end.

5.199 As stated above, based on the evidence available to us, we consider that the direction and magnitude of the Direct effect of NCCNs 985 and 986 is uncertain. Given this, the consumer effect at the origination end is unclear, although we note that, because of the negative Mobile tariff package effect, the Direct effect would not only need to be positive but also sufficiently large for the overall effect to be positive at the originating end for consumers.

Indirect effect

5.200 The impact on 0845/0870 SPs and the provision of 0845/0870 services depends on the incentives on BT to pass on higher termination charges to SPs in the form of lower hosting charges and/or higher quality hosting services. The benefits to the consumers of 0845/0870 calls also depend on the response of SPs to any such better deals from BT, such as by improving the availability or quality of services they offer.

<u>Views of the Parties</u>

5.201 In its submission on 29th March 2010, BT states that "the terms of NCCNs 985 and 986 allow a more equitable share of the revenues generated across the NTS platform for these calls for all parties involved in this value chain"[514]. In addition, it argues that it expects that any benefit to terminators from this approach to termination charges will largely be traded away as SPs re-negotiate contracts with TCPs[515]. Therefore, it considers there will be "greater consumer benefit as more revenue becomes available at the termination end and which is subsequently available to service providers to create better services"[516].

5.202 However, whilst BT notes that it would consider introducing revenue share for a greater number of 0845 and 0870 customers if it were commercially viable, [517] it also states that it currently has [✂] revenue share. It notes that each commercial

services (i.e. the cross-price elasticity). The relative elasticity affects the overall benefit, because it indicates whether or not the increase in the deadweight loss on the services suffering a price increase exceeds the reduction in deadweight loss on the services benefiting from a price reduction.

514 P2, BT submission 29th March 2010

515 P2 BT submission 29th March 2010

516 P6 BT submission

517 Q3 S191 BT

negotiation would be dependent on the service surround, contract length and level of commitment, and these negotiations would [✄].

5.203 H3G states that in its view, "it is clear that BT is using its ability to unilaterally change its pricing under the BT SIA to generate additional margin for its self rather than benefiting Service Providers"[518]. In its submission of 14th April 2010 H3G states that:

> "in the Parties' most recent commercial negotiations on the Dispute, BT confirmed that it is not proposing to pass the benefit from the termination charges to the service provider end. BT justified this approach on the basis that as and when other TCPs begin to make similar charges to OCPs it will benefit the service providers in the form of lower prices as a result of increased competition"[519].

5.204 T-Mobile also argues that "the NTS call origination condition would not require BT to pass on the higher termination revenues it receives from originating operators to the NTS service providers concerned [therefore] BT is able to retain those additional revenues itself and is thereby placed at a competitive advantage"[520].

5.205 T-Mobile also argues that BT has no incentive to pass on the additional revenue it receives under NCCNs 985 and 986 to SPs so long as other operators are unable to replicate BT's charging structure[521].

Views of 0845/0870 SPs

5.206 BT provided us with its top ten 0845 and 0870 SP customers (excluding its own services) based on February 2010 call volumes, and these are set out in Tables 5.10 and 5.11 below.

[Table 5.10: BT's Top Ten 0845 SPs]

Customer Name	Example services on the contract
✄	✄
✄	✄
✄	✄
✄	✄
✄	✄
✄	✄
✄	✄
✄	✄

518 Para 20 H3G 14th April
519 Para 19 H3G 14th April 2010
520 Para 2.13 T-Mobile 5th March
521 Para 2.80 T-Mobile submission 5th March 2010

✂	✂
✂	✂

[Table 5.11: BT's Top Ten 0870 SPs]

Customer Name	Example services on the contract
✂	✂
✂	✂
✂	✂
✂	✂
✂	✂
✂	✂
✂	✂
✂	✂
✂	✂
✂	✂

5.207 In order to understand the views of 0845/0870 SPs, we contacted the top ten identified by BT. We only received responses from three – the [✂].

5.208 [✂] states that it predominantly uses 0800 or 0300 numbers, but that there are a number of [✂] which still use 0845 although the choices for use are usually historical. It states that it "did start to move people away from 0845 and especially 0870, however since the change by BT initially to zero some of these rates, the picture has become more complicated".[522]

5.209 [✂] states that it uses 0845 and 0870 numbers alongside other 08 numbers, and it has always given its clients the costs of each service and they decide depending on the service they require. It also states that "most of our 0870 were set up before we earned revenue".[523]

5.210 [✂] states that it uses a variety of 0800 and 0845 as well as geographic numbers for our customers to contact them. 0800 is used primarily for the initial access numbers into [✂]; whereas 0845 numbers tend to be used for subsequent enquiries. It is very concerned about mobile operators charging their customer for accessing its 0800 numbers, but did not comment on the prices for calls to its 0845 numbers.[524]

Replicability

[522] [✂]
[523] [✂]
[524] [✂]

5.211 In the 080 Determination, the evidence available at the time suggested that other TCPs were unable to match BT's termination increases in part due to the barrier its billing system as a transit operator may create for other TCPs' ability to replicate (i.e. the lack of information about the identity of the OCP when BT was used as a transit operator). As a result, we concluded that there was unlikely to be competitive pressure for significant pass-on of termination revenues to 080 SPs by BT. Therefore replicability of variable termination charges linked to OCPs' retail pricing is an important consideration.

5.212 BT has informed us that it has introduced a cascade billing capability which is suitable to meet the needs of any TCP wishing to replicate the approach it is adopting[525]. In its submission of 29th March 2010, BT states that the cascade billing solution that was developed for IV Response Ltd can be easily adapted as necessary to provide the same opportunity for any terminator of 0845 and 0870 number ranges who wishes to replicate BT's termination charging initiative.[526]

5.213 BT describes the problem and its potential solution as follows:

> "BT's interconnect billing system is capable of setting specific charges to an OCP sending a call for transit over the BT network. The charge is aligned with the dialled digits number range and the dialled digits number range holder. This enables BT to charge a specific termination rate to that OCP and then reconcile that with the bill produced by the TCP which will contain a range of termination rates specific to individual OCPs.
>
> Some TCPs' billing systems may not have the ability to recognise the individual OCP that has originated the call. BT can provide a billing report enabling the TCP to modify their bills to include specific OCP termination rates. BT's billing system can generate a report identifying call volumes by individual OCPs and by terminating number ranges. The TCP is then able to use this information to accurately bill BT according to which individual OCP has originated the call. BT does intend to charge for producing this report. Negotiations are continuing with a view towards setting a fair and reasonable price."[527]

5.214 In addition to this, BT states that a development is planned for its billing system which will reduce the operational overheads of entering rates against each number range allocated to individual TCPs. As well as being suitable for use with all TCPs, this can be used for BT terminated and CP terminated traffic sent to BT via a third party.

5.215 BT set out the process for replicability by other TCPs in its submission on 29th March 2010 and it is as follows:

(i) The TCP decides on its pricing and methodology.

(ii) The TCP issues BT with an OCCN giving a minimum of 56 days notice, with the new charges to come into effect on the 1st day of a month (no mid-month billing changes).

(iii) BT updates the Carrier Price List (CPL) and informs industry of its new transit charges for calls to the TCP's number range(s) giving 28 days notice.

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[525] BT submission, 29th March 2010.
[526] Page 9 of BT's submission of 29 March 2010
[527] Q9 (a) BT S191

(iv) On the commencement of the new charges BT will bill the OCP accordingly. For the TCP to be able to bill BT correctly they need to know the network the traffic has originated on. Previously, this information has not been required as all traffic is charged at the same rate irrespective of the originator. BT supplies the TCP with a file showing the origination profile of the traffic.

(v) In agreeing to these charges BT will only pass through revenue to the TCP that has been collected from the OCP, i.e. if the OCP refuses to pay the charges BT will not pay out to the TCP.

5.216 In support of the ability for other TCPs to replicate, BT states that interest has been shown so far by three TCPs who wish to implement similar charging principles for calls to their 0845/0870 numbers[528]. Two of these TCPs – IV Response and Gamma – have already issued their own OCCNs to implement retail price-based termination charges (see Section 3 at paragraphs 3.47-3.49). In addition, the third, [✂], has informed us that it is also in the process of introducing a variable termination charge that is linked to the OCP's retail price, and expects to introduce its charges on 1st July 2010.

5.217 BT states that any further requests from TCPs for adjustment to billing systems would be dealt with when they are received, but it sees no reason to assume the process followed would be any different to the one described above[529]. However, we also note that the cost of BT's billing solution for TCPs who replicate variable termination charges is still subject to commercial negotiation and has not yet been agreed.

5.218 [✂], however, explains that it terminates [✂] 0845 and 0870 number ranges for [✂], and that it would not be able to impose a similar charging structure as that introduced by BT due to restrictions in its billing systems[530]. [✂] also has [✂]allocation of 0845 and 0870 numbers and, aside from its principled objections to the approach, its initial view is that it would not be possible to introduce similar tiered termination charges since the functionality does not exist in its billing system and [✂] to justify such an initiative[531]. This is a view echoed by T-Mobile[532].

<u>Our view on Indirect effects</u>

5.219 We consider that three issues are especially relevant to the scale of Indirect effects. First, whether other TCPs can broadly replicate BT's termination charges in NCCNs 985 and 986. Second, whether BT will pass on its higher termination revenues from NCCNs 985 and 986 into better deals for SPs, e.g. because of competitive pressure from other TCPs. Third, how SPs will respond to any such better deals and the extent to which this will lead to benefits to the consumers of 0845/0870 calls, such as through improved availability or quality of services. We consider each of these issues in turn.

5.220 Current information from BT suggests that its variable termination charging approach could be replicated quite quickly using the OCCN route rather than a SOR. BT claims that TCPs could submit their desired charging structure to BT via an OCCN and within 56 days they would have a solution in place for the transit billing system. Additionally, we note that some other TCPs are already in the process of

[528] P9 BT submission 29th March 2010
[529] Q9 (c) S191 BT
[530] Q6 S191 [✂]
[531] Q7 S191 [✂]
[532] Q6 S191 [✂]

implementing a variable termination charge regime. Therefore we do not consider that BT's billing system as a transit operator is any longer acting as a serious barrier to other TCPs replicating variable termination charges. Some TCPs have told us that they have no plans to introduce termination charges linked to the OCP's retail price, but the reasons they gave us did not relate to barriers arising from BT.

5.221 BT has estimated that in its case "the charging mechanism proposed will improve margin and revenue for 0845 and 0870 by up to [✂] per annum" (see Table 5.1), which suggests there are potentially significant Indirect benefits to be realised. But will this revenue necessarily be passed on to 0845/0870 SPs and so lead to consumer benefits via the Indirect effect?[533]

5.222 Although some TCPs have already or are in the process of replicating variable termination charges, some ([✂][534] and [✂][535]) have informed us that they currently have no intention to introduce such charging, but that this is subject to further consideration if other TCPs also introduce similar charging structures. If the number of TCPs replicating such charging is limited, then the competitive pressure for revenue to be passed on to the 0845/0870 SPs may also be limited. We also note that [✂] have indicated to us they [✂] to their 0845/0870 SPs in the form of revenue share, [✂] has said it will use the increased revenue to improve the quality of its hosting service.

5.223 However, the [✂] NTS TCPs (BT and [✂]) are either currently – or intending to – use variable termination charges, as well as a number of other TCPs. Therefore, we consider it likely that in due course competitive pressures would encourage some pass-on of increased termination revenue to SPs, whether in the form of lower prices or improved quality of hosting services. There may, however, be a time lag before this competitive pressure builds up. In addition, the pass-on to SPs may require renegotiations of contracts and this may take some time to occur, depending on the duration of existing contracts.

5.224 If there is pass on of revenue (or reduced hosting charges or higher quality hosting services) to SPs, will this lead to material benefits for consumers of 0845/0870 calls? As set out above, the top ten 0845/0870 SPs that BT hosts appear to be mainly financial institutions and government departments. This appears to be a view echoed by H3G which suggests that 0845 and 0870 numbers tend to be used for customer care services and help lines.[536] Indirect benefits to these consumers depends on the response of the SPs to the better deals they receive from TCPs for hosting services (which in turn is dependent upon the competitive pressure for pass-on from the TCPs, as discussed above).

5.225 Additionally, given that revenue share is available on other NTS number ranges, it is more likely that SPs have chosen the 0845/0870 number ranges for reasons other

[533] If so, it would imply increased outpayments (revenue share) or other costs of hosting, such that the net termination charge (i.e. the headline or gross termination charge less outpayments to SPs) would be relatively close to the cost of termination – see the discussion of the cost of termination relative to gross and net termination charges in Section 4.
[534] [✂]
[535] [✂]
[536] H3G notes that "0845 numbers have a high public awareness among customers and are typically used for…customer care, advice lines, response lines, placing orders, requesting a brochure, generating and complaint handling". Additionally, H3G states that "0870 are also well known to consumers and are typically used for advice lines, help lines, technical support and after sales support". Para 17 H3G 14th April

than revenue share. For example, research among SPs as part of the "NTS: A Way Forward" consultation in September 2005 found that "many of these businesses had chosen the 0845 and 0870 numbers because of the simple local rate and national rate pricing message" [537]. Additionally, the business qualitative research found that the main reasons NTS numbers were used was for convenience (e.g. ease of routing calls, number portability and to help customers remember the numbers) – most businesses did not claim to associate the small revenue gained from 0845 or 0870 numbers as actual income and most claimed they would not miss it if it was not there[538].

5.226 This view is supported by the information provided by [✄] who stated that they currently mainly use 080 and 03 numbers, the former of which has "freephone" connotations, and the latter of which is charged up to the same rate as for UK geographic calls (including inclusion in bundles where relevant) for all OCPs. This suggests that the retail price of the calls is the main issue for [✄], and therefore their use of 0845/0870 numbers may not increase in response to increased revenue share/improved hosting services following NCCNs 985 and 986.

5.227 We therefore consider that it is uncertain whether and to what extent SPs will improve the availability or quality of their services to the benefit of 0845/0870 consumers (even if there is pass-on by TCPs of higher termination charges into better deals for hosting services to those SPs).

5.228 T-Mobile suggests that in the long term, requiring OCPs to pass on any revenues above costs would encourage more businesses and consumers to move their numbers from geographic to 0845/0870 numbers and would result in mobile customers being unfairly required to subsidise the services provided on non-geographic numbers. If this occurs, we consider that it is likely to have a negative impact on end users, especially since a range of OCPs, including MNOs, do not follow our policy preference and choose to set higher prices for 0845/0870 calls than for geographic calls. We do not, however, have evidence that NCCNs 985 and 986 will lead to such substitution of non-geographic numbers for geographic numbers.

5.229 Therefore overall it appears to us that several TCPs are now in the process of replicating BT's retail-related termination charges (including [✄]), and BT has facilitated this for those TCPs who are reliant upon them for data. Although increased revenue share to the SPs is not currently occurring, we consider that competitive pressure as other TCPs introduce similar charging may force BT (and other TCPs) to pass on higher termination charges to SPs in the form of lower hosting charges/higher outpayments (revenue share) and/or higher quality hosting services. However, there is likely to be a delay before such competitive pressure may be realised while TCPs who choose to replicate make changes to their billing systems and/or put in place the processes necessary to replicate, and while contracts with SPs are renegotiated. The responses of SPs to any such better deals is not clear and so it is uncertain to what extent SPs will in turn pass on those benefits to callers.

Provisional conclusion on Consumer effects

5.230 Table 5.12 below summarises our analysis of the direction of the effects on consumers, taking into account both the effects operating at the originating end (Direct and Mobile tariff package effects) and the terminating end (Indirect effect). As

[537] P45, "NTS: A Way Forward" consultation in September 2005 http://www.ofcom.org.uk/consult/condocs/nts_forward/nts_way_forward.pdf
[538] P168, "NTS: A Way Forward" consultation in September 2005

the table shows, the likely overall effect depends on whether we consider it is more likely that 0845/0870 prices will fall, stay the same or increase.

Table 5.12: Summary of direction of effects on consumers

		0845/0870 prices fall	0845/0870 prices unchanged	0845/0870 prices rise
(i)	Direct effect	Positive for consumers	No effect	Negative for consumers
(ii)	Mobile tariff package effect	Negative	Negative	Negative
(i) & (ii)	Overall effect at originating end	Positive, if the Direct effect is sufficiently large	Negative	Negative
(iii)	Indirect effect	Positive for SPs, but uncertain for callers	Positive for SPs, but uncertain for callers	Positive for SPs, but uncertain for callers
(i), (ii) & (iii)	Overall across both originating and terminating ends	Positive, if the Direct effect is sufficiently large	Negative	Negative

5.231 If 0845/0870 prices fall, there are effects in different directions and the sizes of these various effects are inter-related:

a. The Mobile tariff package effect is negative, because there are likely to be increases in the prices of other mobile services, reflecting at least part of the MNOs' loss of profit from 0845/0870 prices, estimated at more than [✂] per annum.

b. The Indirect effect may be positive, but is uncertain. There are likely to be benefits to SPs to the extent that BT's higher termination revenues are passed on in the form of better deals for 0845/0870 hosting services. However, based on the evidence currently available to us, it is uncertain whether and to what extent SPs will improve the availability or quality of their services to the benefit of consumers of 0845/0870 calls.

c. In any case, in this scenario the Indirect effect has a smaller maximum scale than the potential size of the Mobile tariff package effect. This is because at lower 0845/0870 prices, MNOs pay lower termination charges, so that the increase in BT's termination revenues from the introduction of NCCNs 985 and 986 is less than the estimated figure of more than [✂] per annum (which assumed no change in MNOs' prices).[539]

d. The Direct effect is positive for consumers in this scenario (by assumption).

[539] In effect, this reduction in termination payments to BT is passed to consumers through the reduction in MNOs' 0845/0870 prices (although it may be offset by increases in such consumers' prices for other mobile service through the Mobile tariff package effect).

e. The larger the Direct effect, the smaller the Indirect effect, because lower 0845/0870 prices lead to lower termination charges paid to BT. If the Direct effect is sufficiently large that MNOs reduce 0845/0870 retail prices to the bottom tiers, there will be no additional termination charges and so it is unlikely SPs will benefit from any increased revenue share/improved hosting services. However, they may benefit if there is an increase in call volumes resulting from the price decrease.

5.232 Overall, even taking into account the relatively greater weight we place on the Direct effect compared to the Mobile tariff package effect, we consider that the price reductions in 0845/0870 calls need to be sufficiently large to ensure that the benefits from the Direct and Indirect effects more than outweigh the negative impact of the Mobile tariff package effect (see also the discussion above at paragraphs 5.193-5.198).

5.233 If 0845/0870 prices are unchanged following the introduction of NCCNs 985 and 986, whether the overall effect is positive or negative will depend on the relative sizes of the Mobile tariff package effect and the Indirect effect, and the time it takes for these effects to materialise. Although the potential scale of these two effects is similar, based on the evidence available to us, it is not clear that the Indirect effect will necessarily outweigh the Mobile tariff package effect. In particular, the evidence currently available to us does not clearly suggest that improved deals to SPs will necessarily flow to consumers of 0845/0870 services (as discussed above). Therefore, on balance, we consider it more likely that the overall effect on consumers will be negative than positive. However this conclusion when there is no retail price change for 0845 and 0870 calls is finely balanced.

5.234 If 0845/0870 call prices rise, both of the effects at the originating end (Direct and Mobile tariff package effects) are negative, but the Indirect effect at the terminating end is positive. Overall, the effect on consumers is likely to be negative, as the negative effects at the originating end are likely to be at least as large as the uncertain positive effects at the terminating end. In addition, the negative Direct effect would mean that 0845/0870 prices moved further away from our regulatory policy preference and the preferences of SPs, and so the negative effects at the originating end are likely to be more important than the positive Indirect effect.

5.235 The analysis of the Direct effect is important to our conclusion on the overall effect of BT's NCCNs 985 and 986 on consumers. Our provisional conclusion on the Direct effect is that its direction and magnitude is uncertain (see paragraph 5.162 above and the reasons set out in detail in the subsequent paragraphs). As set out above (see paragraphs 5.190 to 5.199), for the overall effect on consumers to be positive, the Direct effect would not only need to be positive for consumers but also sufficiently large, given the negative Mobile tariff package effect and uncertain Indirect effect for callers.

5.236 On balance, therefore, we provisionally conclude that the risk of an adverse effect on consumers suggests that NCCN 985 and 986 do not satisfy Principle 2. However, we note that this judgement is finely balanced.

Effect on competition

5.237 Under Principle 2, NCCNs 985 and 986 should avoid a material distortion of competition among TCPs, transit operators, OCPs in retail services, and MNOs in wholesale access and origination to MVNOs. These four potential areas of concern are discussed further below.

TCPs

Views of the Parties

5.238 H3G argues that there is a material risk of a distortion of competition among TCPs as TCPs face significant barriers when trying to compete with BT, and in particular, other TCPs are unlikely to be able to match BT's charges due to several factors[540]. These are:

(i) Their lack of direct interconnection with MNOs (as these are not generally commercially viable for other TCPs);

(ii) BT's current transit billing system (i.e. its inability to identify the OCP); and

(iii) The TCP's billing system, which may need to be upgraded for it to be able to match BT's new termination charges.

5.239 Out of these concerns, H3G is most concerned about the second as it "understands that BT's transit billing system limits the ability of TCPs to identify the OCP thereby preventing them from replicating BT's new charging structure"[541].

5.240 However, BT has submitted evidence (detailed above in paragraphs 5.212 to 5.217) setting out how other TCPs are able to replicate its approach to termination charges. Therefore, if BT were to pass on higher termination charges (in whole or in part) to SPs, it would not necessarily gain a competitive advantage in the NTS termination and hosting market since the evidence suggests that other TCPs are generally able to offer broadly similar variable termination charges to BT and, if so, they could also pass on their additional termination payments to SPs.

5.241 Additionally, BT states that to date, it "has not made public the ladder positions of individuals so any TNO wishing to do this cannot merely follow BT's pricing"[542]. But it noted that it is "BT's intention to publish individual ONO [✄] charges so that third party operators have the necessary information in order to be able to bill and charge correctly"[543].

Our view

5.242 Given the above and the available evidence on the ability of other TCPs to replicate BT's variable termination charging (as discussed above under the Indirect effect), we consider the risk that NCCNs 985 and 986 would lead to a material distortion of competition among TCPs is relatively low.

Transit

Views of the Parties

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[540] Para 21 H3G 14th April 2010
[541] Para 22 H3G 14th April
[542] P9 BT 29th March 2010
[543] P10 BT 29th March 2010

5.243 T-Mobile has noted the refusal of non-BT transit providers to carry this traffic unless it is willing to pay the maximum BT tariff in order to protect themselves from the risk of under-recovery of costs[544].

5.244 H3G states that "BT's charges are likely to encourage OCPs to route calls to the relevant 0845 and 0870 numbers through alternative transit providers to avoid paying BT's charges (where that transit provider is unable to replicate BT's charging structure)…[and] in these circumstances, a transit provider is likely to react by increasing its transit charges to mitigate the risk of arbitrage by OCPs"[545].

5.245 C&W argues that there are two key issues with the transit market (which are not resolved by an ability to bill according to Calling Line Identification, CLI):

a. Until C&W is informed, with adequate notice, of the termination rates BT applies to an OCP it cannot provide its customers with stable transit prices. At present the only option is a manual work around which is both clumsy and impracticable.

b. Originating CLI billing does allow C&W to offer transit where it connects directly to the relevant OCP. It cannot however safeguard C&W's position where traffic is sent via another operator. Whilst CLI billing would allow C&W to identify slightly more easily who sent the call originally, this is not a real time ability. As a result C&W would still be forced to price non-mobile originators at a level which prevents it from providing them with a credible offering in order to prevent C&W from attracting the higher rated mobile traffic.[546]

5.246 As regards information about the termination charge that BT is applying to any OCP, BT states that it:

> "has, so far, not made public the individual charges it is levying on individual ONOs. Where an ONO switches traffic via a third party operator rather than directly to BT, the third party operator needs to know the rates BT is charging individual originating operators in order to be able to (i) charge the ONO correctly (ii) reconcile BT's charges. It is BT's intention to publish individual ONO charges so that third party operators have the necessary information in order to be able to bill and charge correctly. To enable BT to provide accurate billing for transit calls, when receiving 0845 and 0870 calls sent by the originator via a third party, BT would be reliant on the transit CP providing the call origination information."[547]

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[544] Para 2.82 T-Mobile 5th March 2010
[545] Para 23 H3G 14th April 2010
[546] E-mail from Justin Hornby, 4th June 2010
[547] P10 BT 29th March 2010

Our view

5.247 Our recent engagements with stakeholders indicate there are no insurmountable barriers in implementing a ladder pricing methodology for transit operators. However, transit providers need to know in advance BT's OCP-specific termination rates so that they can charge OCPs the appropriate rate. We note in this regard that it is BT's intent to publish OCP-specific termination rates.

5.248 However, we also note the potential concern regarding transit providers' ability to identify the OCP. For calls arriving via a transit provider, BT needs information from the transit provider to identify the OCP, and where this is not possible or is based on CLI (i.e. the transit provider cannot provide ingress route information), BT may be unable to determine the actual originator of the call. For example, if the caller at the originating end has ported its number, CLI will not identify the true OCP, only the number range holder (i.e. the donor network). A transit provider may also be unable to identify the OCP based on the ingress route if the call arrives via another transit provider and that transit provider does not identify the OCP. This may have implications for the ability of transit providers to accurately bill MNOs on BT's behalf (discussed under Principle 3 below). It may also affect the incentives on the call routing decisions of MNOs.

5.249 BT has not identified to us a mechanism to address this issue. One TCP, [✂], has informed us that it excludes calls for which the OCP cannot be identified from the ingress route from their ladder pricing charges. However, if BT follows this approach it could have implications for transit since the MNOs could theoretically use another transit provider to send traffic to BT to "hide" their identity and so avoid the additional termination charges.

5.250 This reliance on CLI could result in inefficient routing choices by the OCPs, affecting the transit providers. That is, OCPs may choose a transit operator not on the basis of efficient transit service, but in order to avoid a higher termination charge by BT. The termination charge avoided could more than offset the extra transit costs of such inefficient routing. Such actions by OCPs may distort competition in the transit market by encouraging inefficient routing choices.

5.251 The scale of this concern is not certain, but it may be material. We are not currently aware of how it might be avoided.

5.252 Therefore, on this basis we consider that there are some concerns about the risk of a distortion in the transit market as a result of the introduction of NCCN 985 and NCCN 986.

<u>OCPs</u>

Views of the Parties

5.253 T-Mobile argues that by linking its wholesale charges to the retail price of its wholesale customers, BT influences, manipulates, restricts and distorts the ability of each of its wholesale customers to set its retail charges freely at a competitive level[548]. Further, H3G states that "As Ofcom has not determined that it is necessary for 0870 call prices to be regulated in these circumstances; it is unacceptable for BT to attempt to restrict or penalise OCPs pricing in this way"[549], and Orange also states

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[548] T-mobile submission 5th March 2010

[549] Para 16 H3G 14th April

that "it is inappropriate and potentially anti-competitive for BT to seek to control ONOs retail charges in this manner"[550]. Vodafone argues that BT's stepped termination charges deprive OCPs of their ability to determine their wholesale and retail prices freely, which is central to the unfettered price competition that delivers benefits for consumers[551].

5.254 Vodafone argues that BT's pricing arrangements have the potential to place it at a competitive disadvantage. This is because it argues that the possible consequences of BT's new charging structure are: (a) Vodafone offering calls to 0845 and 0870 numbers at existing retail rates but significant new additional wholesale cost; (b) higher retail rates for calls to 0845 and 0870 numbers; and/or (c) increased tariffs in other parts of the basket of services for Vodafone customers. It argues that the last two options would make Vodafone's overall offering less attractive in the retail mobile market and so will distort competition.[552]

5.255 T-Mobile argues that BT's charges will also inhibit and distort competition between mobile operators on the call bundles and mobile tariffs available. It states that MNOs balance the different elements of the overall proposition and compete fiercely to offer customers the best overall package or bundle of retail charges for mobile services, focussing in particular on those aspects of the bundle that are of most importance to the customer, e.g. the number of free minutes included in a monthly bundle. It argues that any MNO which gets this balance wrong will lose market share, and so the Mobile tariff package effect and the ability to switch value between different elements of the overall proposition is an important factor of competition[553].

5.256 Additionally, as mentioned above, T-Mobile argues that the structure of NCCNs 985 and 986 will act as a focal point for OCPs' retail charges since they will have an incentive to align their retail charges towards the top of each of BT's charging bands. T-Mobile states that this will distort competition in the mobile retail market (a market in which BT is also present in as an MVNO)[554].

5.257 T-Mobile has also raised an issue in relation to MVNO retail pricing. It states that it has a large number of wholesale customers who in turn have [✂] subscribers, and their retail prices for calls to 08 numbers are different to T-Mobile's (in fact, often lower). As a consequence of the additional charges levied by BT, T-Mobile argues that it will be forced to increase its charges to its wholesale customers, and it is anticipated that these charges will be passed on to the subscribers of its wholesale customers. It states that a number of its wholesale customers have complained that it is unfair that they will incur a 13ppm price increase when this is primarily based upon T-Mobile's retail prices (due to the weighting of its subscriber bases), and so may be forced to increase their retail charges for calls to non-geographic numbers. In other words, even where a wholesale customer offers a price eligible for a lower tier on the BT price list, they will still incur the tiered price applicable to the average of the MNO's - and its MVNOs' - retail prices, which may well be higher.[555] As a result of this, T-Mobile argues that the MVNO would be incentivised to bring its retail charges

[550] P3 Orange 9th April
[551] Para 4.5 Vodafone submission 23rd March 2010
[552] Para 4.1 (ii) Vodafone submission 23rd March 2010
[553] Q2 S191 T-Mobile
[554] Para 2.76 T-Mobile 5th March 2010
[555] Para 2.59 T-Mobile submission 5th March 2010

into line with its network host, distorting competition between the MVNO and its host network in the retail market[556].

5.258 T-Mobile suggests that in the long term, requiring OCPs to pass on any revenues above costs would encourage more businesses and consumers to move their numbers from geographic to non-geographic numbers and would result in mobile customers being unfairly required to subsidise the services provided on non-geographic numbers. They then argue that the long run effect of this would be that MNOs would find themselves subject to price control regulation on call termination and, as a result of misguided regulation of the NTS markets, on a significant proportion of call origination traffic. Therefore retail competition would be restricted and distorted, leading to increases in other prices to the detriment of consumers.[557]

5.259 Some of the MNOs have also suggested there may be an impact on the range of mobile packages available. As discussed above, T-Mobile notes that mobile operators do not treat all their customers identically but offer a variety of different packages, each of which is designed to attract a certain type of customer[558]. For example, for those customers who place a high value on calling 0845 and 0870 numbers and who call them often, T-Mobile offers the option of buying a booster which gives an effective low rate for making these calls (equivalent to 8.33ppm). T-Mobile states that it adjusts the mix of value given to customers so that it can achieve a position what makes it viable to offer benefits which particular groups of customers value.

5.260 However, it argues that by using an average retail charge to calculate the termination charge payable, it would ignore the differentiation between customer groups (according to the factors those customers consider most important) and ignore the mobile tariff package effect, and so would undermine the ability of MNOs to differentiate between customers in this way[559]. As a result, T-Mobile argues that there would be significant harm to consumers through decreased choice and a reduction in the attractiveness of the market offerings available.

5.261 [✄] argues that BT's frequent changes to its existing NTS termination charging arrangements in recent months is undermining the business case for pricing propositions to be launched. It argues that these changes demonstrate that inputs may vary and could increase at very short notice. Therefore [✄] does not have certainty about the cost components which have a significant influence on any final commercial decision.[560]

5.262 [✄] argues that if NCCNs 985 and 986 were allowed, BT would be free to potentially alter the bands at the wholesale level or increase the charge at will, and given that these wholesale charges are explicitly linked to the retail charges, frequent charges by BT could necessitate adjustments by [✄] at the retail level for a particular pricing proposition to be preserved. This, combined with the costs of communicating price changes to its customers (as well as any confusion frequent price changes could cause, affecting perceptions of [✄]) means [✄] considers that BT's charges are

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556 Para 2.77 T-Mobile submission 5th March 2010
557 Para 2.14 T-Mobile submission 5th March 2010
558 Q2 S191 T-Mobile
559 Q2 S191 T-Mobile
560 Q2 (c) S191 [✄]

likely to create more uncertainty for [✄] and undermine further the commercial rationale for any pricing innovation that was being considered.[561]

5.263 BT has stated to us that its expectation is that the tariff levels will change very infrequently, as although it reviews all its prices annually (at least), "this does not mean that the prices necessarily changed when there is a review"[562].

Our view

5.264 We consider these arguments from the MNOs in the following categories:

a. General distortion of competition by interfering with the free choice of prices by OCPs;

b. Tiers in BT's NCCNs acting as focal points;

c. MVNOs aligning retail prices with those of their host MNO;

d. Impact on the range of mobile packages available; and

e. Deterrent to pricing innovations due to lack of certainty about termination charges.

5.265 In relation to the arguments made by the MNOs about the general distortion, we do not consider that NCCNs 985 and 986 will necessarily distort competition. BT's tiered termination charges represent a further factor to be taken into account by the MNO when choosing its prices. But all MNOs face the same termination charge schedule and continue to be able to freely choose their 0845/0870 retail prices (as well as other prices) in light of all relevant information they have identified such as cost of provision, consumer preferences etc (see discussion in paragraphs 5.60 to 5.68 as part of the Direct effects analysis). Therefore any differential effect on MNOs is a result of its commercial decisions, and so not a distortion of competition in itself.

5.266 We note T-Mobile's argument that the top of the tiers of NCCNs 985 and 986 may act as a focal point for OCPs' retail charges, thus potentially distorting competition. BT's economic analysis also recognises this as a potential issue (paragraphs 83-84, Maldoom 3), albeit Maldoom 3 suggests this is avoidable by having sufficiently short steps.

5.267 However, most of the MNOs have stressed to us that they do not set a single price for 0845/0870 calls but instead set a range of prices on different packages to different customers. Any focal point effect would therefore apply to the average of these retail prices, leaving the MNO with significant freedom to set the individual prices consistent with this average (although the exact nature of this relationship depends on the method used to derive and update the MNO's average retail price, which is discussed below under Principle 3). For these reasons, we consider that the materiality of this effect on competition among OCPs is unproven.

5.268 T-Mobile's point about the impact on MVNO pricing as a result of the averaged nature of the charges across OCPs on the same MNO network suggests that MVNOs could end up mimicking the pricing strategies of the MNO networks they use, thus dampening price competition among MNOs and MVNOs to the detriment of

[561] Q2 (c) S191 [✄]
[562] Email from Tony Fitzakerly of BT, 14th May 2010.

consumers. As a result of this, there may be the potential for a convergence in retail prices, and even for a distortion in the mobile hosting market given the interdependence of MVNO wholesale costs with their host MNO's retail prices. However, it is not clear that this effect would be inevitable, and indeed there could be ways for it to be mitigated (for example, see discussion below under the potential effect on the wholesale access and origination market). Additionally, we consider that this effect is likely to be dependent upon the method used to calculate the average retail price on which the termination charge is based (on which we comment below). Finally, as we noted above in relation to the argument about focal points, the potential alignment between MVNOs and the host MNO relates to the average price, not to each and every individual price for 0845/0870 calls that the MVNOs and/or MNO may choose to set.

5.269 In relation to the point made by T-Mobile about the potential removal of certain bundles, the suggestion is that the introduction of NCCNs 985 and 986 may have an impact on the range of mobile packages available, particularly in terms of the ability of customers to select which combination of services are most valuable to them. This is because, by limiting the margins/increasing the costs of 0845 and 0870 calls, it may reduce the flexibility of MNOs in relation to their pricing strategies and services offered, and so ultimately make it more difficult for consumers to make the trade-off between the balance of prices for different parts of the mobile bundle offering. For example, some of the MNOs have suggested that certain add-on services, which allow customers to pay a fee in order to achieve lower priced 08 calls, and bespoke tariffs offered to business customers, may become less available given BT's tiered termination charges. The argument specifically made by one MNO [✂] is that such lower-priced packages for 08 calls will become uneconomic, because the termination charge paid to BT will exceed the MNO's average revenue per minute from 0845/0870 calls on that package. We would regard it as a significant concern if NCCNs 985 and 986 disincentivised MNOs from pricing 0845 and 0870 calls in attractive ways to consumers, including in the same way as geographic calls.

5.270 However, although we recognise this point, we note that the MNO's argument is incomplete, because it does not take into account that withdrawal of lower-priced packages could lead to an increase in the MNO's average retail price and, if this effect was sufficiently large to move the MNO onto a higher tier, lead to a higher termination charge paid to BT. Such a possibility could provide an incentive to retain lower-priced packages under certain circumstances (see the detailed discussion of the Direct effect above). The nature of any such offsetting effect is likely to depend on the method used to derive and update the average retail price (which we discuss below). Therefore although we note the risk that there may be a reduction in the range of services/bundles available from MNOs, particularly in relation to NTS calls, since the evidence provided by the MNOs is incomplete, we do not currently place great weight on this potential concern.

5.271 In relation to [✂] point about uncertainty over BT's termination charges and future variations affecting its willingness to offer new and innovative tariffs, we understand that certainty is important for business planning. Therefore, we consider that this is a legitimate concern. However, we note that this concern is not unique to BT's termination charges for calls to 0845/0870 numbers, as there is the potential for other OCPs to face uncertainty about termination charges, including the uncertainty faced by OCPs (such as BT) in relation to changes in mobile termination charges. In addition, the significance of the concern is likely to depend on two considerations.

5.272 First, the OCP's business planning and certainty is affected by the method used to derive and update the ARP of the OCP. This consideration could be taken into account by the Parties if they engage in negotiations about the method for the ARP.

5.273 Second, the OCP's certainty and business planning is affected by the frequency with which BT changes its termination charges. Although BT has suggested that it might change termination rates at most once a year, there is nothing to prevent it from changing its prices more frequently. Furthermore, we note that it might face competitive pressures to make more frequent charge changes, such as from other TCPs who also choose to adopt termination charges linked to the OCP's retail price.

5.274 Therefore we recognise that there are possible concerns about distortions in competition between MNOs/MVNOs in retail services, in particular about disincentives to pricing innovations due to a lack of certainty about termination charges and potential for the range of packages to be reduced if lower-priced packages are made uneconomic.

Wholesale access and origination to MVNOs

Views of the Parties

5.275 Some MNOs have argued that NCCNs 985 and 986 may cause a distortion of competition in MVNO hosting due to the interactions between the average retail prices of MVNOs and their host MNO, and the impact this has on the termination charge faced.

5.276 T-Mobile argues that the role of an MNO's average retail price in an MVNO's termination charge may provide an incentive for the MVNO to switch host networks in some circumstances, distorting competition between the host network and other MNOs in the wholesale hosting market[563]. Vodafone also argues that increases in the wholesale access charges as a result of higher termination charges would be commercially unattractive and potentially make Vodafone's wholesale access and origination offer less attractive in a market where there is strong competition to secure agreements with new wholesale access seekers[564].

5.277 Vodafone states that the impact of the stepped termination charges on Vodafone and other operators active in the wholesale markets will depend on a number of factors, including 0845 and 0870 traffic volumes, tariff structures, customer mix and the number of MVNOs they host, the tariffs and traffic volumes of these MVNOs. Nevertheless, Vodafone concludes that BT's charging model is likely to place some of its competitors at a competitive disadvantage, and in doing so will distort competition in the wholesale and retail mobile markets.[565]

Our view

5.278 Whilst we acknowledge that there could be a potential distortion in the wholesale access and origination market as a result of the link between MNO retail prices and MVNO wholesale/termination charges, we agree with Vodafone that the impact of the termination charges will depend on many factors, including traffic volumes, customer mix and the characteristics of the MVNO they host.

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[563] Email from Tony Fitzakerly of BT, 14th May 2010.
[563] Para 2.77 T-Mobile 5th March
[564] Q7 S191 Vodafone
[565] Para 4.4 Vodafone submission 23rd March 2010

5.279 There may be ways for the MNO to mitigate an adverse effect, either through its own 0845/0870 retail pricing – for example by reducing its charge (which would be in line with our policy preference) – or through the arrangements it has in place with the MVNO. An example of the latter would be through the way the average price is estimated and the role of MVNO call volumes and revenues in this estimate, or alternatively the MNO may be able to effectively de-average the termination charge payable. This could mean that an average retail price is calculated across the MNO and its MVNOs for the purposes of identifying the termination charge payable to BT, but then the MNO could choose to vary the degree of pass through to the MVNOs, potentially more accurately reflecting their individual average retail prices. However, we note that at least one MNO ([✂]) has suggested that it is not currently possible to do this since its wholesale billing system is not designed to deal with such complexity[566].

5.280 The size of any distorting effect depends on the importance of 0845 and 0870 calls to MVNOs, and we note that all non-geographic calls (excluding PRS) accounted for only [✂] of total mobile-originated voice minutes in 2008[567]. As a result, it is possible that any effects will be relatively small and/or short-lived and avoid material distortion to the incentives of MVNOs to switch between MNOs.

5.281 Therefore although we note the potential concerns, we do not consider that NCCNs 985 and 986 will necessarily provide a significant distortion to competition in the wholesale access and origination market. This is because we consider that there may be ways for the potential for this effect to be reduced and because 0845/0870 calls generally account for a small proportion of total calls.

<u>Provisional conclusion on competition effects</u>

5.282 Our provisional conclusions on the four potential areas of concern can be summarised as follows:

a. We consider the risk that NCCNs 985 and 986 would lead to a material distortion of competition among TCPs is relatively low.

b. Whilst we consider that there are no insurmountable implementation barriers for transit operators in implementing a ladder pricing methodology, there are concerns about the potential distortion of OCPs' choice of transit provider (when calls arrive via another transit provider who does not identify the OCP).

c. We recognise that there are possible concerns about distortions in competition between MNOs/MVNOs in retail services, in particular about disincentives to pricing innovations due to a lack of certainty about termination charges and potential for the range of packages to be reduced if lower-priced packages are made uneconomic.

d. We do not consider that NCCNs 985 and 986 will necessarily provide a significant distortion to competition in the provision of wholesale access and origination by MNOs to MVNOs.

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566 T-Mobile letter 14th May 2010

567 2009 CMR and internal information

Our view on Principle 2

5.283 Taking the issues raised by our analysis of consumer benefits and competitive distortion in the round, we consider that, on the evidence currently before us, Principle 2 is not sufficiently likely to be met.

Application of Principle 3

5.284 Principle 3 is that the implementation of BT's charging structure should be reasonably practicable to implement.

5.285 We consider in turn below the following three issues:

a. Practicability of deriving average retail call prices

b. Practicability of MNO pass-on to MVNOs

c. Practicability of applying the stepped termination charges for ported numbers at the originating end.

Practicability of deriving average retail call prices

<u>Views of the Parties</u>

5.286 We asked the MNOs to provide us with an estimate of their average 0845 and 0870 retail prices, and all the MNOs have raised concerns about their ability to derive an estimate.

5.287 [✂] is able to calculate the average retail price charged for 0845 and 0870 calls (excluding wholesale partners), and its calculations demonstrate that these are as follows:

a. **[**✂

b. ✂**]**

5.288 This average retail charge is calculated by looking at the total retail value of all calls made by [✂] retail customers to 0870 and 0845 numbers and dividing this by the total volume of billable minutes to those number ranges. This figure does not include wholesale partners.[568]

5.289 In response to our information request, [✂] supplied an average charge, relating to a sub-set of its customers (excluding bespoke agreements) and using what it calls a crude method. This was done by calculating the total traffic volumes and the basic derived retail prices that Vodafone levies. The average retail price for 0845 calls was **[**✂.**]**[569]

5.290 T-Mobile also provided an estimate. It states that for pre-paid tariffs and standard post-pay tariffs, the equation is simpler and so, the average charge has been calculated as **[**✂**]**. It argues however that the calculation then becomes more difficult when looking at the T-Mobile 'Flext' tariffs, the 08 booster package and the various

568 Question 5 of S191
569 Question 4 of S191 pg 7

standard and bespoke business tariffs. These tariffs are all set at different prices and account for at least **[✂]**[570] of all 0845 and 0870 calls in March.[571]

5.291 Despite providing an estimate of their average retail prices, [✂] have all raised concerns around the calculation of such an average, as have [✂] who stated they were unable to provide an estimate in response to this Dispute. We now set out the MNOs' concerns.

5.292 [✂] identifies the following billing system limitations: there are two sets of data which [✂] is unable to reconcile, the call data is aggregated to three digits not four (so 084 rather than 0845) and it has an inability to distinguish between BT and non-BT terminated calls. [✂] consider any work-around would be unwieldy and would create some degree of margin for error. Even if [✂] reached this stage, it argues it would still not be able to determine which numbers were BT-hosted or non BT-hosted numbers and would have to assume that customer calling patterns to these numbers are the same.[572]

5.293 H3G has identified the following limitations in their billing systems which it says prevents it from estimating an average retail price:

a. It is unable to distinguish between calls to BT and non BT terminated numbers;

b. It is unable to distinguish between calls to ported and non-ported numbers;

c. It is unable to distinguish between calls to 0845 and 0870 numbers originating on H3G's network and those originating on H3G's national roaming partner network;

d. It is not privy to information about the retail revenues generated from calls made by customers of their MVNO partners; and

e. It is not privy to information about the retail revenues generated from calls made by the customers of their international roaming partners calling these services whilst roaming on H3G's network.[573]

5.294 Along with the practicalities of their billing systems, some of the MNOs have raised concerns about the availability of call volume and revenue data and variations in their effective average 0845 and 0870 retail prices. [✂] states that it would not be in a position to provide even a crude estimate until after the end of each month when an invoice had been raised by BT, and [✂] also argues that the average calculation would only be able to be performed retrospectively[574].

5.295 [✂] states that it expects its average retail price to vary from month to month due to variations in tariffs/call volumes, and so it would not be possible to use one fixed average retail charge as a basis for determining the applicable BT wholesale charge over any length of time. As a result, [✂] argues the average price estimation would need to be done every month, although it notes that it does not have the resource to

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[570] **[✂]**

[571] Question 5 of S191 pg 5 and top of pg 6. Dispute submission 2.61

[572] Question 5 of S191 pg4

[573] Annex A1 dispute submission, letter dated 30 October from [✂] to BT, Pg 2 & 3. This can also be found in point 27-29 of the dispute submission

[574] Q4/5 S191 T-Mobile

dedicate to verifying the wholesale charge. This view that monthly calculations would be necessary is also supported by [✂] who states that the volume of calls charged at differing prices will have a material effect on any average retail price calculation, creating a disproportionate use of its resources (particularly if it also has to liaise with its wholesale partners on a monthly basis)[575]. Further, [✂] has commented that it would be significantly costly and disruptive for them, and their wholesale partners, to upgrade their business systems, in order to perform this calculation.[576]

5.296 These variations in average retail prices were also identified by [✂], which considers it impracticable to calculate an average charge because retail charges depend on a number of variables such as volume of traffic originated under bespoke, typically corporate agreements, the proportion of calls made by post-pay and pre-pay consumers, and minimum call charges[577]. However, it also notes that its retail rates for 0845 and 0870 currently stand at 20ppm for post pay customers and 25ppm for pre-pay customers[578].

5.297 The MNOs have also all raised concerns about their ability to estimate an average retail price for their MVNO customers and the inclusion of MVNO pricing into the overall average retail price estimate. [✂] [579] and H3G[580] argue that without a breakdown of the relevant volumes, revenues, and price bands, it is not possible to estimate an average price and so it could only be obtained directly from MVNOs. In any event, [✂] considers it is unrealistic and disproportionate to expect it to calculate the average retail rate of calls to 0870 and 0845 numbers made by third party competitors. [✂] states that its largest MVNO ([✂]) was unable to determine an average due to the complexity of its rates. [✂] considers that the same issues it faces in estimating an average would apply when attempting to obtain this information from its wholesale MVNO partners. In addition, it states that it is not clear how the charging arrangements might apply in practice for an MVNO - e.g. would it be based on the wholesale access charge received or the retail price of the MVNO? If it is the latter, [✂] highlighted the competition law issues in obtaining call volume and pricing information from a direct competitor (a point also made by [✂]), as well as the issues around the use of averaging in the first place (e.g. the different price plans and call volumes of the MVNO's and also the possible need for a third party to verify an average)[581].

5.298 BT has confirmed that they have no direct contractual relationship with MVNOs and accept that their pricing plans may have a material impact on the average rate billed by each of the MNOs. On this basis, BT states that it has been willing to adjust the tier position of any MNO as a result of MVNO pricing on their network. BT has also confirmed that it should be the MVNO retail charge that is taken into account and not the wholesale charge.[582]

5.299 The inclusion of international roaming partners in the average price estimate is also identified by the MNOs as an issue similar to the inclusion of MVNOs. [✂] and T-Mobile argue that they have no visibility of the retail rates charged by these partners and consider the only way to obtain this information is to ask for it, although the large

[575] Question 5 of S191 pg 5 and top of pg 6. Dispute submission 2.61
[576] Question 5 of S191 pg 6
[577] Question 4 of S191, Pg 2.
[578] Q13 S191 O2
[579] Question 9 of S191
[580] Para 29 H3G 14th April
[581] Question 8 of S191 pg 10 & 11
[582] Question 6 of S191 pg4&5

volume of roaming partners will make this unreasonable and almost impossible on a regular basis. Additionally, they both note there is no obligation for international roaming partners to provide the information, and [✂] states that based on the call volumes for some roaming partners, the cost of providing this may outweigh the benefits.[583] Additionally, T-Mobile states that requiring such information from their international roaming partners could damage commercial relationships[584]. [✂] also raise similar points[585].

5.300 [✂] also notes that BT's new tiered charging bands include VAT, a variable factor which both [✂] and BT are unable to control, but could mean the termination charge applicable will need to be re-categorised into a different band[586].

5.301 Aside from these calculation issues, Vodafone sees substantial problems with the use of averages because they raise concerns about overcharging and because of their adverse effects on the development of new and innovative pricing offers.

5.302 BT, on the other hand, estimates its average retail price for the purposes of calculating the termination charge payable when it is the originator of 0845 calls as per the Call Origination Condition and the NTS calculator. It calculates the average discount rate applicable to 0845 using the following methodology[587]:

(i) Full call data is used and is priced according to each customer's discount arrangements/package to determine the "true" revenue from each call at the appropriate time of day. Distinctions are made between Residential voice 0845 revenues and the revenues generated from Residential calls to ISP services where the latter are excluded from free call options;

(ii) This exercise is repeated using LUS/base call prices;

(iii) These two total revenues are then compared to produce the relevant discount rate – currently 31.22 per cent;

(iv) This discount rate can then be applied to the various headline price points for 0845 (i.e. daytime, evening, weekend).

5.303 BT states that it regularly adjusts the average discount rate in line with changes to headline and discount arrangements, and so argues that 0845 and 0870 originators should be able to calculate, monitor and advise BT of any changes to their averaged charges for calls to these numbers in a timely manner. BT states that it may even be possible for retrospective adjustment to be made within an agreed timescale if there is any over or under payment due to changes in discount positions.[588]

5.304 Additionally, BT states:

> "Frequently charges are such that it is common practice in the wholesale environment to set rates for a pre-determined time, and then review at regular intervals. It is also reasonable to set rates and change them in line with material changes in the source data or data sample.

[583] Question 10 of S191
[584] Dispute submission para 2.63
[585] Question 9 of S191 pg 12
[586] Q5 S191 [✂]
[587] P8 BT submission 29th March 2010
[588] P8-9 BT 29th March 2010

BT, with Ofcom approval, agreed with NTS TCPs to only review the NTS discount rate annually. Consequently, when calculating the NTS POLOs to reflect changes in discount volumes, BT uses historic volume and revenue data. This approach is supported by NTS TCPs and has proven a factor in reducing the number of OCCN driven disputes and could easily be adopted by the MNOs to calculate their retail NTS charges.

Again all options are open for consideration at this time. When BT has had the opportunity to speak to CPs in regard to this matter, this is the view that has been passed to CPs, including CPs who think this may amount to monthly changes in the rate."[589]

5.305 It appears that the Parties have not been involved in significant negotiation around the calculation of the average retail price, and as a result, the MNOs have not provided BT with estimated average 0845 and 0870 retail prices. Therefore we asked BT how it was currently assessing the termination charge payable by each of the MNOs. In response to our formal information request, BT supplied screen shots of the relevant price plans they used to determine where a MNO would sit on the pricing ladder. The screen shots for Vodafone, Orange, O2 and T-Mobile showed a single price plan was selected to determine the average rate. For H3G, BT sent us the full published price lists.[590] BT states that it has made it clear to the MNOs that it is willing to negotiate an alternative position on the ladder with MNOs, but notes that "at the time of writing, there have been no negotiations with MNOs to set these rates"[591].

5.306 Some MNOs have raised concerns about the approach currently used by BT in estimating the retail price of MNOs. [✂] state that BT's approach appears to have been to use one headline price on their website to determine the termination rates that are applicable[592], and they consider that this is too simplistic and inappropriate. [✂] considers this method is flawed as BT has incorrectly factored in a call set up charge and also estimated the average rates to be above [✂] maximum retail charge of [✂].[593] Additionally, it fails to take into account the very considerable variation in [✂] tariffs across and within its customer segments. [✂] argues that BT's approach is too simplistic as the estimated price (20ppm) does not take into account historic tariffs, pre-paid tariffs, and business tariffs: all of which have different numbers of subscribers being charged at different rates. As a result of this over-simplification, [✂] states that 0870 numbers are currently on the incorrect level of BT's tiered termination charge.[594]

5.307 H3G also considers BT's assessment of its average retail prices (**[✂])** to be wrong because it assumes a charge per call of **[✂]**, but H3G does not (currently) make a pence per call charge for 0845 and 0870 calls (a per call charge applies to other non-geographic calls). It states that the analysis fails to take into account some tariffs such as the **[✂]**, and it assumes a proxy average of **[✂]** for 0845 and **[✂]** for 0870 calls.[595]

589 Email from BT 30th April 2010
590 Email to Ofcom on 26 April
591 Q5 S191 BT
592 Question 3 of S191 pg 4
593 Question 3 of S191 pg 5 and also dispute submission 4.1(iv) pg9 and 4.11- 4.15(this then refers to 080)
594 Question 4 of S191 (orange have not raised this with BT)
595 Annex A1 dispute submission, letter dated 30 October from 3 to BT, Pg 2.

5.308 [✂] argues that the actual calculation required to determine the average rate is extremely complicated, and that due to this complexity, the unknown variables that would need to be factored in, the assumptions that would need to be made and the need to obtain accurate and verifiable data from over [✂] wholesale partners, [confidential: T-Mobile] has been unable to provide BT with an average network retail charge.[596]

5.309 According to [confidential: Vodafone], to arrive at any sort of weighted average reflecting what customers actually pay, it is not appropriate simply to aggregate the sum of individual price points and divide by the number of price points, since this makes no allowance for the proportion of customers facing each price and the volume of call minutes actually made by these customers. It argues that calling patterns and volumes may vary considerably between different customer groups, and subsequently over time. In particular this applies to business customers who have bespoke agreements. [confidential: Vodafone] has identified that over half of its business customers **[✂]** are on such bespoke tariffs[597].

5.310 [✂] also notes that its retail prices for 0845 and 0870 calls vary across the different segments of its customer base (and can vary considerably even within a particular customer segment). Currently, [✂] retail tariffs for calls to 0845 and 0870 numbers for its post-paid customers vary, but have a maximum of [✂], whilst calls for pre-paid customers are set at [✂]. Conversely, tariffs for some enterprise customers are set at a flat rate [✂], whilst tariffs for other enterprise tariffs may vary considerably between [✂] according to the bespoke contractual negotiations.[598]

5.311 There are also some practicability concerns around the level of accuracy required by BT. BT states that it believes that it is only the originating CPs (and their resellers) who can fully assess the charge they make for calls to BT's 0845 and 0870 numbers and who are therefore able to supply the true average retail prices. However, it states that in order to make matters simple, it has consistently said it will accept the originator's estimation of their pricing (reflecting that of their MVNO) and implement the appropriate termination charges on the pricing ladder[599]. BT also states that by accepting the rate provided by the MNOs, it would not expect the MNOs to carry out excessive work.[600]

5.312 However, [✂] considers that a fully accurate price would need to be calculated by the MNOs given BT's requirement for it to be formally signed off by a CFO[601]. [✂] also suggests that BT's requirement of formal sign off of any average retail price calculation by [✂] of finance adds bureaucracy and cost to the regime[602]. [✂] has raised concerns about the process for acceptance by BT of an estimated retail price given its incentives to get the highest wholesale charge possible. To avoid potential disputes about what the average charge is, [✂] consider they would need to disclose commercially sensitive information to BT – who is a competitor in the mobile market – which is not the normal course of business and so could distort competition. To avoid

[596] Question 3 of S191 pg 3
[597] Question 3 of S191 pg 5 and also dispute submission 4.1(iv) pg9 and 4.11- 4.15(this then refers to 080)
[598] Para 2.4 [✂] submission 23rd December 2009
[599] P2 and 7 BT 29th March 2010
[600] P8 BT submission 29th March 2010
[601] Q3 S191 [✂]
[602] Q5 S191 [✂]

this, a third party may be required to verify the price, however this will add further cost and not necessarily resolve the conflict between parties.[603]

5.313 Finally, T-Mobile argues that given the significant costs involved in carrying out the average price calculation on a monthly basis to satisfy BT's requirements, BT should bear all the costs since it is the only party to benefit from the calculation[604].

Our view

5.314 We consider the comments from the Parties in the following categories:

a. Derivation of average retail price of the MNO, given variation in prices to different customers on different packages;

b. Treatment of MVNOs' retail prices;

c. Treatment of international roaming partners;

d. BT's method to derive the retail price of each MNO; and

e. Verification, use of third parties and the cost of calculating the average retail price.

5.315 We consider that it is practicable to identify a methodology to derive a reasonable estimate of the MNO's average retail price that is fit for purpose. [✂] has already provided us with its average retail price for each of 0845 and 0870 calls (excluding wholesale partners). [✂] have also provided estimates relating to a substantial proportion of their customer base. [✂] mainly charges [✂]. We also note that BT conducts an analogous calculation annually of its own average NTS prices.

5.316 We are minded to consider that each MNO should be in a position to estimate its own average 0845 and 0870 retail call price to an acceptable degree of accuracy and subject to a reasonable verification procedure. We recognise that there may be a number of practical issues for the MNOs in doing so, as reflected in the responses. But we consider that this approach is reasonable as it involves each MNO estimating the average of the prices that it chooses to charge to its own customers. We can see that in some circumstances a precise calculation of the average 0845 and 0870 call prices might be difficult, but we do not consider that to be the requirement, because an estimate using reasonable assumptions is likely to be fit for purpose.

5.317 The MNOs have suggested that the calculation of the average retail price would need to be, or is expected to be on a monthly basis. BT notes that its own NTS calculations are annual using historic data and suggests that such an approach might also be adopted by the MNOs. We consider there is scope for negotiation between the Parties to reach an acceptable and proportionate solution, but so far there have not been any meaningful negotiations. In these circumstances we consider that it would be premature for us to specify and impose on the Parties a specific method.

5.318 Some of the MNOs explain that they are unable to calculate the average retail price for BT-terminated 0845/0870 traffic. However, it is not clear to us that this represents an insuperable problem. Unless the retail price for calls to BT-terminated 0845/0870 numbers is significantly different from 0845/0870 calls to numbers hosted by other

[603] Question 3 of S191 pg 6
[604] Q4/5 S191 [✂]

TCPs, which we understand is not currently the case, it does not appear necessary for MNOs to calculate an average retail price based on BT terminated 0845/0870 traffic only.[605] Ultimately we consider that the degree of accuracy required and the nature of any verification procedure are matters for negotiation between the Parties.

5.319 As regards the treatment of MVNOs' retail prices, we are minded to consider that the MNO should liaise with the MVNO or reseller with which it has a contractual relationship, to allow that MVNO or reseller to provide an estimate of its average 0845 and 0870 retail call prices, along with suitable verification. We are minded to consider that the MVNO should be in a position to estimate its own average 0845 and 0870 retail call prices to an acceptable degree of accuracy and subject to a reasonable verification procedure, as for the MNOs as set out above (and ensuring compliance with competition law).

5.320 There are many alternative methodologies which could be used to derive the individual average retail prices for the MNO and the MVNO, and how these figures are combined to provide the overall average retail 0845 and 0870 prices. As a result, and given the limited negotiations between the Parties on this issue to date, we are minded not to be prescriptive in the approach that should be adopted and consider that the Parties should be able to find a suitable set of arrangements (compliant with competition law).

5.321 We recognise that it would be a material complication to the calculation of the average retail price to take into account the retail prices charged by each of the MNO's international roaming partners. However, we understand that international roaming accounts for a relatively small proportion of 0845/0870 calls, in which case omission of this complication may not introduce a material bias into the calculation. Whilst it is for the Parties to negotiate, it may be proportionate to exclude international roaming retail prices from the calculation.

5.322 We note BT's approach has generally been to use published retail prices for one particular consumer tariff as the deemed retail price for all 0845 and 0870 calls for the MNOs. This approach is likely to be inadequate (even where the MNO has failed to provide a verified average price). We acknowledge there may be limits on BT's ability to compute an average, reflecting the limited information that is available to it (such as the absence of information on the proportion of call minutes made on each of the MNO's different price points). Therefore, we consider the following is a reasonable approach:

a. In the first instance it is for the MNO to provide an estimate of its own average retail 0845 and 0870 call prices, subject to a reasonable verification procedure; and to liaise with the MVNOs and resellers with which it has a contractual relationship to do likewise, subject to the requirement to comply with competition law.

b. Details of the arrangements, such as the degree of accuracy of any estimates, verification procedures or involvement of neutral third parties, should be the subject of negotiation between the Parties.

[605] Our understanding is that the average price for BT-terminated 0845/0870 traffic compared to traffic to all 0845/0870 numbers would only be different to the extent that retail prices varied by time of day and the volume weights for the different times of day were different between the two types of traffic. However, the MNOs prices do not generally vary by time of day. Even if they did, in the absence of clear evidence to the contrary, it is likely to be reasonable to use the average for traffic to all 0845/0870 numbers as a proxy for the average to BT-terminated 0845/0870 traffic.

c. If the MNO is unable or unwilling to, we are minded to consider that BT is entitled to estimate the applicable average retail call prices using publicly available information, but taking account of reasonable and verified comments made by the MNO. In our view it is not sufficient for BT to look at one tariff only – BT should at the minimum establish the range of publicly available prices offered by the MNO and select a figure for the average retail price from within this range using reasonable assumptions (e.g. a price at or near the top of the range should be supported by evidence why this was justified) and taking into account reasonable and verified comments made by the MNO (e.g. about the relative weights to be attached to different prices).

5.323 We recognise that the calculation of an ARP will entail some cost, depending on a range of factors, such as the calculation method, the frequency with which it is updated, the nature of any verification procedures, the possible involvement of third parties etc. However, we would urge the parties, in negotiations about the methodology, to ensure that the cost is minimised (given the need for an ARP that is fit for purpose), does not place undue burden on the parties, and remains practicable to implement. Since the parties have not yet engaged in any meaningful discussions on this issue, we consider that it would be premature for us to give direction on where these costs should fall and our provisional view is that this remains a matter for negotiation between the Parties.

Practicability of MNO pass-on to MVNOs

<u>Views of the Parties</u>

5.324 [✂] states that linking the level of the wholesale charge to the retail price of the OCP is a new development, and so would not be provided for in the contractual arrangement with its wholesale access customers. Therefore it argues that any changes to the wholesale access arrangements would require the express consent of the wholesale partner unless that change flowed from mandatory regulatory obligation[606]. That said, [✂] does note it would need to consider how to recover any additional cost that it might face as a result of BT levying a wholesale rate applicable to its MVNOs since it will, as the operator hosting the MVNO, be incurring the termination charge on behalf of the MVNO[607]. As a result, it notes that one commercial option would be to seek to pass through this new cost in some form to its wholesale customers at the time of the next contractual negotiation.

5.325 [✂] has not changed any agreement with its wholesale customers following the introduction of NCCNs 985 and 986, and has no plans to in the next six months. Similarly to [✂], it notes that any amendment to the wholesale agreements is subject to negotiation[608].

5.326 [✂] however states that its agreements with existing wholesale customers ordinarily give it the right to pass through any changes to interconnection rates. As a result, it has already passed through the increased termination charges (based on [✂] retail rates only) to MVNOs.

5.327 [✂] has not considered changing the rates that it charges to its wholesale customers following the introduction of NCCNs 985 and 986, despite its ability to change its current contractual agreements with existing wholesale customers. However, [✂]

[606] Q7 S191 Vodafone
[607] Q7 S191 Vodafone
[608] Q8 S191 [✂]

considers that if BT prevails in this dispute, it will need to consider changing its agreements.[609]

5.328 [✂] notes that generally its wholesale agreements with MVNOs allow it to pass on any increase in call termination charges, but in order to do so it must serve a notice period of [✂]. [✂] has passed on BT's increased termination charges in full to [✂] of its wholesale partners, but was unable to pass the increased charges on to one wholesale partner for commercial reasons ([✂]) meaning it was forced to absorb the additional cost itself[610].

Our View

5.329 From the above information provided by the MNOs, it appears that different MNOs have different contractual arrangements with their wholesale customers. We consider this is a commercial matter for the MNOs and their wholesale customers. In our view it does not imply that BT's NCCNs 985 and 986 are impractical.

Practicability of applying the stepped termination charges for ported numbers at the originating end

5.330 Calling Line Identification (CLI) is information attached to a telephone number which links it to the original number range holder. When billing an OCP for the termination of a call, a TCP can use CLI to identify the volume of calls which originated from each OCP. However, when a number has been ported, the CLI still relates to the original range holder so, for example, calls from a number ported from Orange to O2 would be viewed as Orange-originated minutes if CLI is used to identify the call originator. Therefore, with variable retail-related termination charges, billing by CLI could have implications for billing accuracy.

Views of the Parties

5.331 BT states that it "is able see the route by which the call entered the BT network. This means that it is possible for BT to identify the source of the call without recourse to the CLI"[611]. This is because it assumes that the MNO passing it the call is the entity originating the call rather than the number range owner, and therefore BT bills the MNO at the rate notified to that MNO regardless of the CLI range holder[612].

5.332 However, where the call is sent to BT via a third party transit provider, BT is reliant on CLI where the transit provider is unable to provide information identifying the OCP of the call.

Our view

5.333 This suggests that BT is not reliant upon CLI information for calls originating from OCPs directly connected to BT, and therefore porting at the originating end should not cause issues for accuracy of billing for such calls. Nevertheless, for calls arriving via a transit provider, BT needs information from the transit provider to identify the OCP. However, it may be the case that the transit provider is unable to identify the OCP, for example, when the call arrives via another transit operator and that transit operator does not provide the identity of the OCP. BT has not identified to us a

[609] Q8 S191 [✂]
[610] Q7 S191 [✂]
[611] P10 BT 29th March 2010
[612] Q4 (a) S191 BT

mechanism to address this issue. This could lead to a concern about billing accuracy for such calls.

5.334 This is related to the potential concern discussed under Principle 2 about the distortion of the OCPs' choice of transit provider (see paragraphs 5.248 to 5.252). We consider this issue should be addressed by BT or in commercial negotiations between the Parties so as to ensure billing accuracy without distorting competition.

Our view on Principle 3

5.335 On the derivation of average retail prices, our provisional conclusion is that NCCNs 985 and 986 should be practicable to implement in practice, but we are unable to reach a firm conclusion on whether this is actually the case because further negotiation is required between the Parties. In particular, the Parties have not as yet engaged in any meaningful negotiations about the method to derive and update estimates of each MNO's ARP. We note that if we were to conclude that Principles 1 and 2 were met, we would expect that the need for further negotiation would not preclude a finding that that the NCCNs were fair and reasonable, given our view that there is a realistic prospect that the Parties should be able to agree on a practical methodology to enable implementation.

5.336 We also observe that BT's approach to these termination charges (by linking the charges to the retail price for 0845 and 0870 calls) is a break with industry convention and previous regulatory practice. Previously, industry convention was generally to have uniform termination charges across TCPs for NTS termination. This in fact was an argument advanced by BT in the previous 0870 determination (as noted in Section 4 paragraph 4.72). But we do not consider that a change in industry convention is sufficient reason to conclude that BT's NCCNs 985 and 986 are not fair and reasonable, as there may be a good justification for a change. Accordingly we have analysed these NCCNs in their own right, as detailed above in this Section.

5.337 However, BT's new approach to termination charges raises considerable complications in that different OCPs are likely to be charged different rates by BT, and other TCPs are likely to adopt different approaches to variable termination charges, meaning that OCPs may face different termination rates depending on each TCP's adopted approach. In general, complicated arrangements can have unintended and unforeseen consequences. We have also noted above that the new arrangements proposed under BT's NCCNs give rise to specific practical issues which have not been fully resolved, in particular: the implications of porting at the OCP end and the cost to the OCPs of calculating their average retail prices.

5.338 In addition, there is the potential for wider implications of the level of the TCP's termination charges being related to the retail price set by the OCP. As noted by O2, such an approach to termination charges could be applicable to other call types, not just 0845 and 0870, such as fixed-to-mobile calls (see paragraph 4.102). A specific conclusion on the issue raised by O2 is beyond the scope of this Dispute.

5.339 Were we to conclude that BT's NCCNs 985 and 986 satisfied Principle 2 (contrary to our provisional conclusion above) as well as Principle 1, we would need to give further consideration to the risk of unintended, unforeseen or wider implications that are potentially undesirable.

Provisional conclusions: Are the termination charges in NCCN985 and NCCN 986 are fair and reasonable?

5.340 Taking into consideration our assessment across the three Principles, our provisional conclusion is that it is not fair and reasonable for BT to apply new termination charges for calls to 0845 and 0870 numbers hosted on its network, which are based on the level of the retail charge made by OCPs for calls to these numbers, as specifically set out in BT's NCCNs 985 and 986 dated 2 October 2009. This is primarily on the basis that, on the evidence currently before us, Principle 2 is not sufficiently likely to be met.

Annex 4

Supplementary Consultation to resolve a dispute between BT and each of Vodafone, T-Mobile, H3G, O2 and Orange about BT's termination charges for 0845 and 0870 calls. Non-confidential version.

A4.1 This Annex repeats Sections 1 and 2 of the Supplementary Consultation. Paragraph numbers are the same as those in the Supplementary Consultation.

Section 1

The purpose of this supplementary consultation

1.1 This supplementary consultation provides an opportunity for stakeholders to comment on areas where we have changed some of our provisional conclusions from those set out in our Draft Determination to resolve disputes referred to us by each of Vodafone Limited ("Vodafone"), T-Mobile (UK) Limited ("T-Mobile"), Hutchison 3G UK Limited ("H3G"), Telefónica O2 UK Limited ("O2"), and Orange Personal Communications Services Ltd ("Orange") (together, the "MNOs") against British Telecommunications plc ("BT"). We joined each party to the original dispute submitted by Vodafone, so we therefore refer to this dispute as the "Dispute"; and we refer to the MNOs and BT collectively as the "Parties".

1.2 We note that from July 2010, the Orange and T-Mobile brands will operate under a single company, "Everything Everywhere Limited". However, we have continued to refer to the Parties as Orange and T-Mobile for the purposes of this document. Where joint views have been submitted to Ofcom we will refer to the Parties as T-Mobile/Orange.

Draft Determination

1.3 On 10 June 2010 we published our Draft Determination setting out our provisional conclusions in respect of the Dispute and the reasoning supporting these conclusions. We provisionally determined that NCCNs 985 and 986 were not fair and reasonable and invited stakeholders to comment on the draft determination by 24 June 2010.

1.4 We received responses from: BT (the "BT Response"); T-Mobile and Orange together (the "T-Mobile/Orange Response"); O2 (the "O2 Response"); Vodafone (the "Vodafone Response"); H3G (the "H3G Response"); C&W (the "C&W Response"); Virgin Media (the "Virgin Response") and IV Response (the "IVR Response").

1.5 In Section 2 we set out stakeholders' submissions and our comments on matters relating to the Direct effect and the unintended, unforeseen and wider implications of allowing NCCNs 985 and 986 to stand. We also received submissions on other matters raised in the Draft Determination – these will be addressed in our Final Determination, but as set out in paragraph 1.22 these do not form part of this Supplementary Consultation.

Our revised provisional conclusions

1.6 In response to submissions received during the consultation we have revised some of our provisional conclusions and our reasoning which underpins them, and we are therefore providing the Parties with an opportunity to comment on these matters. The changes relate specifically to our reasoning on the Direct effect and the wider implications of NCCNs 985 and 986. The summary of our revised provisional conclusions are set out in paragraphs 1.7 to 1.18 below; however our overall provisional conclusion remains that NCCNs 985 and 986 are not fair and reasonable.

Our provisional conclusion on Principle 1

1.7 For the reasons set out in the Draft Determination, our analysis suggests that Principle 1 is met by NCCNs 985 and 986 because they allow the MNOs to obtain a sufficiently large retention on 0845 and 0870 calls relative to their retention on geographic calls.

1.8 Having reviewed the responses to our Draft Determination, our provisional conclusion on Principle 1 remains as set out in the Draft Determination.

Our provisional conclusions on Principle 2

1.9 Principle 2 relates to consumer and competition effects.

Consumer effects

1.10 In the Draft Determination our view was that the direction and the magnitude of the Direct effect were unclear. In the light of the responses, our revised view is that the direction of the Direct effect is more likely to be positive for consumers than negative, i.e. there is more likely to be an incentive for MNOs to reduce 0845/0870 call prices than to increase them. However, we maintain the view that the magnitude of the Direct effect is uncertain. We also maintain our view of the Mobile tariff package and Indirect effects as in the Draft Determination.

1.11 The overall effect on consumers depends on the relative sizes of the different possible effects on consumers (i.e. Direct, Indirect and Mobile tariff package), which are uncertain. However, notwithstanding our revised provisional conclusions on the Direct effect, we are minded to remain of the view that the risk of an overall adverse effect on consumers suggests that NCCNs 985 and 986 do not satisfy Principle 2.

Competitive effects

1.12 Our provisional conclusion on the competitive effects is unchanged from the Draft Determination. The risk of competitive distortions between TCPs is relatively low and there may be no significant distortion to competition in MNOs' wholesale sales to MVNOs. However, there are concerns about the potential distortion of OCPs' choice of transit provider, and about competition between MNOs/MVNOs in retail services (relating to disincentives to pricing innovations and potential for the range of retail packages to be reduced).

Overall view

1.13 We maintain our provisional conclusion that, taking the issues raised by our analysis of consumer benefits and competitive distortion in the round, on the evidence currently before us, Principle 2 is not in our judgement sufficiently likely to be met.

Our provisional conclusion on Principle 3

1.14 We maintain our provisional conclusion in the Draft Determination on the derivation of average retail prices. This aspect of NCCNs 985 and 986 should be practicable to implement in practice, but we are unable to reach a firm conclusion because further negotiation is required between the Parties.

1.15 In the Draft Determination we noted that, were we to conclude that Principles 1 and 2 were satisfied, we would need to give further consideration to unintended, unforeseen or wider implications. Although we remain of the provisional view that Principle 2 is not satisfied, we have considered these issues further.

1.16 The new arrangements proposed under BT's NCCNs represent a substantial change in industry arrangements with considerable complexities of implementation and a number of practical issues which have not been fully resolved. We consider that they carry with them a risk of unintended, unforeseen or undesirable wider implications. If we were in a position to conclude that there would be clear and unequivocal benefits to consumers from NCCNs 985 and 986, we might place less weight on these concerns. However, given our provisional view that Principle 2 continues not to be met, we consider that these concerns are relevant. Taking into account the uncertainty which we have identified as to the practical effects of BT's NCCNs, we provisionally conclude that BT's NCCNs 985 and 986 do not satisfy Principle 3.

Our provisional conclusion across Principles 1, 2 and 3

1.17 Our overall provisional conclusion remains unchanged from the Draft Determination. Taking into consideration our assessment across the three Principles, our provisional conclusion is that it is not fair and reasonable for BT to apply new termination charges for calls to 0845 and 0870 numbers hosted on its network, which are based on the level of the retail charge made by OCPs for calls to these numbers, as specifically set out in BT's NCCNs 985 and 986 dated 2 October 2009. We have reached this provisional conclusion on the basis that the charges do not satisfy Principle 2 and Principle 3 on the evidence currently available to us.

1.18 We therefore propose that the Parties should revert to the terms on which they were trading prior to the imposition of NCCNs 985 and 986.

Our provisional conclusion on repayments

1.19 Our provisional conclusion on repayments remains unchanged from the Draft Determination, for the reasons set out in that document.

Ofcom's decision to re-consult stakeholders

1.20 We have significantly changed certain aspects of our provisional reasoning from that set out in the Draft Determination. As a result, we consider that it is appropriate and fair for us to give stakeholders the opportunity to comment on those changes. We have therefore decided to publish this supplementary consultation on the matters raised in Section 2, on which we invite comments.

1.21 We consider that in the circumstances of this case, the need to undertake a supplementary consultation means that it is reasonable for us to conclude that exceptional circumstances apply, such that we are not required to resolve the dispute within the four month deadline prescribed by section 188(5) of the Act. Notwithstanding this, we remain under an obligation to make our final determination as soon as is practicable.

1.22 For clarity, the following areas (in relation to which we received submissions in response to the Draft Determination) are not referred to in detail in this Supplementary Consultation, as they do not pertain to those areas in relation to which our reasoning has changed from that set out in the Draft Determination. We will however address them fully in the Final Determination:

- Ofcom's policy preferences for 0845 and 0870 calls
- The processes used by Ofcom in reaching a Determination
- The scope of the Dispute
- Ofcom's analytical framework
- The application of Principle 1
- The application of Principle 2 – Mobile tariff package effect and Indirect effect
- The application of Principle 2 – competition effects
- The application of Principle 3 – practicability of deriving the average retail price, MNO pass-on of charges to MVNOs, and porting at the OCP end

Structure of this document

1.23 We have set out stakeholders' relevant submissions and our responses in **Section 2**; part of BT's supplementary economic evidence, a further report by Professor Dobbs ("Dobbs 4"), is at **Annex 1**; part of the MNOs' economic evidence, a report by Frontier Economics (the "Frontier Report"), is at **Annex 2**; our response to BT's submissions on the Annexes 3 to 5 of the Draft Determination is at **Annex 3**; and **Annexes 4 to 6** provide details on how to respond to this consultation.

1.24 This supplementary consultation closes at **5pm on 21 July 2010**.

Section 2

Ofcom's modified reasoning following submissions on the Draft Determination

2.1 This Section sets out the submissions we have received from the Parties and interested parties that relate specifically to those areas where we have significantly changed our provisional reasoning or conclusions.

Areas covered in Section 2

2.2 We received comments on the Draft Determination and new evidence from the Parties regarding the Direct effect, which have led us to amend our provisional conclusion on the likely direction of changes in prices in response to NCCNs 985 and 986. We are now of the view that NCCNs 985 and 986 are more likely to lead to a reduction in 0845/0870 prices than a price increase. However, the magnitude of any such price reductions remains unclear. We consider it appropriate to give the Parties (and interested parties) an opportunity to comment on the revised evidence and our analysis of it - see paragraphs 2.15 to 2.156.

2.3 Parties to the Dispute have also raised concerns regarding practical complexities, the wider implications and unintended or unforeseen effects which might arise if we were to find that NCCNs 985 and 986 are fair and reasonable. Having carefully considered these submissions we have revisited our provisional conclusion on Principle 3. We broadly share the concerns that have been expressed, particularly in light of the substantial change in industry arrangements that would be involved in implementing NCCNs 985 and 986 in advance of the conclusion of Ofcom's current NGCS Review, given the uncertainty of possible risks to consumers. These matters are discussed in more detail in paragraphs 2.157 to 2.165.

2.4 Before turning to these issues, we first discuss an important point of context: the nature of the dispute resolution process and its comparison to the process for regulatory policy projects.

The dispute resolution process

2.5 The scope of the Dispute is to determine whether it is fair and reasonable for BT to apply new termination charges for calls to 0845/0870 numbers hosted on its network, as set out in NCCNs 985 and 986. We are required to resolve this Dispute. Whilst we have for exceptional circumstances exceeded the four-month deadline, we remain under an obligation to resolve the dispute as quickly as possible.

2.6 There are two potential outcomes: either we find that the new charges are fair and reasonable, or that they are not fair and reasonable. In determining which of these outcomes is in our judgement the more appropriate, we have to take into account all relevant considerations.

2.7 In the context of a time-limited dispute resolution process, there are limits on the extent of the analysis which both we and stakeholders are able to carry out. In this

Dispute, a substantial – indeed unusually large – amount of evidence has been submitted from the six Parties to the Dispute and the other interested stakeholders. This evidence is wide-ranging and much of it is complex. For example, BT's arguments involve and rely heavily on the extension of the previous economic literature to develop new economic theory. The evidence raises a large number of issues, each of which we have assessed.

2.8 As well as assessing all of the substantial evidence provided to us by the six Parties to the Dispute and by other interested stakeholders, we have used our information-gathering powers to obtain more evidence, which we have also analysed. In any regulatory assessment there is always further analysis that could be done, but the nature of the dispute resolution process imposes some constraints.

2.9 The matters before us in this Dispute are in our view akin to matters which we would usually consider in the context of a more extensive and less time limited policy project. Such policy projects typically allow for a more detailed and broader analysis, longer consultation periods with a wider set of stakeholders, and a larger range of options and outcomes, which are not constrained by the matters referred to us in a dispute. Any resulting conclusions also apply to the industry as a whole, rather than being binding only on the parties to a dispute.

2.10 These constraints reflect the different purpose of disputes, which are intended to provide speedy resolution of disputes between two or more parties, and not the development of new regulatory policy.

2.11 We note these differences here because they are in our view relevant to our proposed resolution of this Dispute. In particular, much of the evidence provided to us by BT in this Dispute is based on theoretical economic analysis, and is not supported by empirical evidence. We note that there may be limits to the amount of empirical analysis that BT could have undertaken itself in this regard.[613] However, in the time available we have not ourselves been able to, for example, commission new consumer research or conduct our own complex empirical investigation (e.g. econometric analysis of the own- and cross-price elasticity of demand for 0845/0870 calls, or of the price-setting decisions of the MNOs), as would be possible in a policy review.

2.12 We consider that this is relevant to the exercise of our judgement in deciding how to resolve this Dispute, given the uncertainties which we consider remain over the magnitude and likely effects of BT's new charges. This is particularly relevant given the fact that in our view there would be a wide range of stakeholders affected, both directly and indirectly, were we to conclude that BT's NCCNs 985 and 986 were fair and reasonable, including:

a) Consumers of 0845/0870 calls and of other mobile services;

b) TCPs which are competing against BT, as they would need to change their own termination charges to remain competitive (as some have already done);

c) SPs using 0845 and 0870 as the charges they pay (or revenue they receive) from TCPs may change;

[613] Although we do not accept that it could not have undertaken any – see paragraph 2.151 and footnote 71 below.

d) OCPs other than the MNOs if their average retail prices for 0845/0870 calls are at least 12.5ppm;

e) MVNOs; and

f) Transit operators, given the changes required for practical implementation of BT's NCCNs and new termination charges by other TCPs, or any changes in the nature of transit competition.

2.13 We note that our current policy project, the NGCS Review, has a broader scope and a process better suited to such wide-ranging issues concerning the appropriateness of the current obligations and policy preferences, and the wider implications.

2.14 As a consequence of the constraints on us in resolving this Dispute (including as to the evidence and options available to us, which is unlikely to be as robust or complete as that used to formulate policy development in a policy project), where we are unable to reach firm, evidence based conclusions on the material before us, we consider it is appropriate to exercise caution when assessing whether NCCNs 985 and 986 are fair and reasonable. We discuss this issue at paragraphs 2.150 to 2.155 below. We consider that this is consistent with our overriding duty to further the interests of citizens and consumers.

Principle 2: The Direct effect on consumers

Introduction

2.15 In this section we summarise the key issues raised in response to the Draft Determination in relation to the Direct effect of NCCNs 985 and 986, set out our view on each issue, and then we explain our revised provisional conclusions on the direction and magnitude of the Direct effect.

2.16 In summarising the issues we have grouped the responses under the following headings:

- Empirical evidence in relation to BT's models
- Elasticity of demand
- Multiple price points
- Lack of competitive interactions and prices of other services
- Substitution between 0845/0870 calls and other services
- Profit maximisation by BT
- Other issues
- Conclusion on Direct effect

2.17 We have received submissions in relation to the Direct effect from BT, including a further economic report by Professor Ian Dobbs ("Dobbs 4"); from the MNOs, including an economic report prepared by Frontier Economics (the "Frontier Report") on behalf of Vodafone, O2 and H3G; and from other interested stakeholders. We first summarise the additional analysis in Dobbs 4 and set out our views on this before turning to the key issues raised by BT, the MNOs and other interested stakeholders.

The Dobbs 4 report

Summary of arguments in Dobbs 4 report

2.18 BT has provided a further report by Professor Dobbs (Dobbs 4) which extends the framework used in Dobbs 3. We understand that the purpose of this additional analysis is to respond to the concerns raised in the Draft Determination in relation to the robustness and comprehensiveness of BT's economic analysis, and in particular: (a) to provide a more satisfactory analysis and explanation of strategic interactions and mobile tariff package effects; and (b) to allow for the possibility of relatively inelastic demand for 0845/0870 calls at current prices, as suggested by some MNOs.[614]

2.19 Dobbs 4 adjusts the framework used in Dobbs 3 to take account of possible negative 'spillover effects' between 0845/0870 retail prices on the profits earned by MNOs from other services at current price levels (in this context, a negative spillover effect would arise if an increase in 0845/0870 retail prices led to a reduction in the profits earned on other services). In particular, MNOs are assumed to set 08 prices to maximise the profits earned from these services, whilst taking into account the spillover effect on profits earned from other services. Furthermore, the analysis in Dobbs 4 assumes that:

- The demand for 08 services depends only on the price for 08 services and is not affected by the prices of other services or rivals' prices. Professor Dobbs argues that this is a reasonable assumption in the absence of any evidence to the contrary, and given MNOs' statements that 08 numbers are subject to less competitive pressure than headline rates for other parts of the mobile bundle.

- The spillover term in the MNO's profit function is assumed to increase linearly with the 0845/0870 retail price (i.e. an increase in 08 prices results in a reduction in wider MNO profits from other services). Professor Dobbs explains that:

> "As the 08 retail price p is varied, this may affect the level of demand for the MNO's other services; whilst this might be in part substitution and in part complementary, the primary effect is likely to be complementary. This is because a higher price for 08 services will tend to induce some customers to shift allegiance to other MNOs, so reducing the demand for all the MNO's services"[615]

2.20 Professor Dobbs states that the spillover term is not 'ad hoc' and acts as a 'reduced form' summation of various possible 'indirect effects' of a unilateral change in 08 retail prices (including impacts on the MNO's other service demands, change in its prices for other services due to the mobile tariff package effect, and competitor reactions). In this regard, Professor Dobbs explains that:

> "Conceptually, as the 08 price is changed, this might also lead to the MNO re-optimising prices in the tariff bundle of its other services (the so called mobile tariff package effect – MTP). This can be viewed as a 'feedback' effect. The

[614] Professor Dobbs confirms that in Dobbs 3 the elasticity of demand for 0845/0870 calls at current prices is inferred by assuming that MNOs are profit maximizing and that the implied elasticity is always in the elastic range. Professor Dobbs also notes that spillover effects on other MNO retail services are discussed only briefly in Dobbs 3 and that this report assumed that spillover effects are significant only at prices that are higher than current 0845/0870 retail prices.

[615] Dobbs 4, paragraph 15

> same is true of hypothesized strategic reactions by other MNOs consequent on a unilateral change in a given MNO's 08 price – these can also be thought of as potentially leading to feedback effects on the profitability of the MNO's business."[616]

2.21 As noted above, Dobbs 4 assumes that, whilst a unilateral variation in the 08 price can affect the demand for other services, and may result in tariff reoptimisation and competitor responses, these wider changes are unlikely to have a significant effect on the demand for 08 services.[617] Professor Dobbs explains that:

> "The existence of significant spillover effects is in any case rather speculative – again no robust evidence has been presented for it – and it does seem reasonable, in the absence of any evidence to the contrary, to assume that feedback effects from induced strategic reactions are likely to have negligible quantitative impacts on 08 demands. Indeed, several MNOs have admitted as much, in that they regard 08 numbers as not part of the headline rates which are subject to more intense competitive pressures. It is also worth noting that, in so far as there is a feedback effect, this will tend to reduce the spillover effect on the individual MNO."[618]

2.22 With this modification to the framework used in Dobbs 3, Dobbs 4 presents a number of numerical simulations of MNO profits as a function of 0845/0870 retail prices, assuming that the demand for these services is either linear or constant elasticity.[619] These scenarios cover a range of demand elasticities for 0845/0870 calls in the inelastic range, and a range of marginal cost (up to 5ppm) and initial 0845/0870 prices (up to 40ppm). Professor Dobbs concludes that:

> "if one allows for spillover effects and for the possibility that (as MNOs claim) demands are inelastic at current prices …the WTS [wholesale tariff schedule] proposed in NCCN 985/986 emphatically incentivises retail price reductions. The only marginal cases are when demand is relatively elastic, marginal costs are high, and the MNO current price is 40ppm or more. For MNO current retail prices lower than 40ppm, the effect is clear cut."[620]

> "Whilst it is not possible to prove beyond all doubt that the proposed WTS incentivises price reductions [on 0845/0870 calls], the evidence presented here suggests that it does seem very likely to do so. This conclusion seems to be robust to quite a wide range of model specification variation and also parameter value variation (for example concerning marginal costs and demand elasticities).[621]

Our view

2.23 We set out our views on Dobbs 4 in relation to (a) the reconciliation of profit maximisation behaviour by MNOs and the evidence on demand elasticity; and (b) the treatment of strategic interaction and mobile tariff package effects.

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616 Dobbs 4, paragraph 16
617 Dobbs 4, paragraph 16
618 Dobbs 4, paragraph 17
619 Professor Dobbs also reports that he has considered a number of other functional forms. Whilst results are not reported, Professor Dobbs states that these do not affect his conclusions.
620 Dobbs 4, paragraph 42
621 Dobbs 4, paragraph 36

Reconciliation of profit maximisation and evidence on demand elasticity

2.24 As discussed above, we understand that one of the purposes of the Dobbs 4 analysis is to reconcile the assumption of profit maximisation with the views and evidence provided by the MNOs which suggest that demand for 0845/0870 may be relatively inelastic at current prices. Dobbs 4 argues that this can be done by modifying the framework used in Dobbs 3 to include a spillover effect as described above.

2.25 We agree that this provides a possible way in theory of reconciling the MNOs' evidence that demand is inelastic at current prices with the hypothesis of profit maximisation. However, it is unclear whether it does so in practice, since as Dobbs 4 notes no clear empirical evidence has been presented to support the materiality of a spillover effect (see paragraph 2.21 above). If spillover effects are not present or not material, the Dobbs 4 framework does not reconcile profit maximisation with the available evidence from the MNOs on demand elasticity. But, although we raised this issue explicitly in paragraph 5.137 of the Draft Determination, in our view neither has any of the MNOs provided a satisfactory alternative explanation (as we explain at paragraph 2.55 to 2.59 below).

Treatment of strategic interaction and mobile tariff package effects

2.26 Professor Dobbs claims that the spillover term in Dobbs 4 is not ad hoc, and that it acts as a 'reduced form' summation of the various indirect effect of 08 prices on an MNO's profits. Whilst a reduced form approach is not necessarily ad hoc, we consider that this does depend on how well the reduced form approach reflects the underlying features of the market or the structural models (in this case of multi-product competition) whose form it reduces. For this reason, it would be preferable to derive the spillover term from an explicit model of competition. However, as noted in the Draft Determination and also by BT in its submission[622], we recognise that a full analysis of multi-product competition between MNOs would be complex.

2.27 The relevant question for us to consider is whether the assumptions that underpin the reduced form approach in Dobbs 4 are likely to be robust. In this regard, Dobbs 4 appears to make two key assumptions: (a) that the spillover term is negative and linear (i.e. the magnitude of the negative spillover effect is proportional to increase in the 0845/0870 call price); and (b) that the demand for 08 calls depends only on the price for 08 calls.

The nature of the spillover term

2.28 Dobbs 4 assumes that an increase in 0845/0870 call prices would result in a reduction in profits earned from other services, since a unilateral increase in these prices will tend to induce some customers to switch MNO. As noted above, this assumption is consistent with inelastic demand for 0845/0870 calls at current prices in the Dobbs 4 framework.

2.29 We note that, if the primary effect of an increase in 0845/0870 call prices on other services is one of substitutes rather than complements, then it would be more likely that the profit earned from other services would increase and that the proposed tariffs would give rise to an incentive to increase 0845/0870 call prices. In the Draft Determination we suggested that there may be some scope for substitution between 0845/0870 calls and other geographic calls. We discuss this issue at paragraphs 2.85 to 2.89 below.

[622] BT Response, paragraph 78

2.30 Dobbs 4 also assumes that the spillover function is approximately linear. Our view is that the spillover function is unlikely to be linear over a wide range of prices, given that it reflects the interaction of a range of complex factors regarding the demand for other mobile services and competitor responses. The nature of the spillover function is ultimately an empirical question, and so in the absence of supporting empirical evidence we are unable to reach a clear view on the shape of the spillover function, given the available information. In this regard, we agree with Professor Dobbs' statement that:

> "Overall, it is difficult to conclude one way or the other on whether the spillover effect might increase faster or slower than in the linear specification".[623]

2.31 Professor Dobbs argues that this does not affect his conclusions, since it would take quite strong concavity in the spillover function at higher prices to significantly alter the finding that the proposed tariffs would give rise to an incentive to reduce 0845/0870 call prices.[624] However, no supporting analysis is presented in Dobbs 4 to show that strong concavity is unrealistic. We also note that the absence of any rigorous derivation of the spillover function from an underlying model of multi-product competition makes it difficult to place *a priori* restrictions on either the shape of the spillover function (i.e. linear, convex or concave) or the size of the effect, especially as it is the summation of at least three indirect effects (as described at paragraph 2.20 above). Given this uncertainty, there is therefore a risk that the spillover function is strongly concave, and in the Dobbs 4 model this could result in an incentive to increase 0845/0870 call prices.

No feedback effect on 08 demand

2.32 The second key modelling assumption in Dobbs 4 is that there is no significant feedback from changes in the prices of other services or competitor reactions on 08 demand. No evidence is presented to support this assumption, but Professor Dobbs argues that it is reasonable, given the lack of any evidence to suggest that there are strong spillover effects, and MNOs' comments that 08 numbers are not part of the headline rates that are subject to more intense competitive pressure.

2.33 We consider that the assumption that there are no significant feedback effects on 08 demand is likely to be a simplification, even if 08 prices are not important to subscription choice. In principle, feedback effects could arise through interdependencies between 0845/0870 calls and geographic calls (a possibility we noted in the Draft Determination), or because the profits earned on 0845/0870 calls may enable MNOs to offer lower charges for other services and attract additional subscribers, which would be expected to result in an increase in 0845/0870 demand.

2.34 Professor Dobbs suggests that if there is a feedback effect, this would tend to reduce the spillover effect. No explanation is given for this claim, hence we have not been able to form a clear view on this question.

2.35 We are therefore currently unable to exclude the possibility that there may be a significant feedback effect on 0845/0870 demand. If this is the case, then it could weaken the incentive to reduce 0845/0870 call prices. However, whilst this may be

[623] Dobbs 4, paragraph 45

[624] Dobbs 4, paragraph 46 and Figure 7.1. In this context, a concave spillover function implies that the impact of an increase in 08 prices on wider profits diminishes at higher 08 price levels

relevant to the magnitude of any price reduction, the direction of the direct effect is only likely to be reversed if the feedback effect is sufficiently large.

2.36 As to the suggestion that spillover effects may not be strong, we agree that this is consistent with the evidence currently available to us in the Dispute. However, as noted above, if this is the case, then the Dobbs 4 framework does not appear to provide a reconciliation in practice between profit maximisation and the evidence from the MNOs of inelastic demand for 0845/0870 calls.

Empirical evidence in relation to BT's models

Submissions

2.37 T-Mobile/Orange submits that as well as the points discussed by Ofcom, there are a number of reasons "why BT's assumption that call prices will fall is incorrect"[625]. In particular it argues that:

- BT has provided no empirical evidence to support its assumption except to argue that inelastic demand would not be consistent with profit maximisation by the MNOs (although MNOs have provided evidence to the contrary). Additionally, operators are setting their prices in a competitive market and there is no reason to expect firms maximising prices in a competitive market to be on the elastic part of the market demand curve. As well as elasticity, MNOs have to take into account the risk that a high charge for one call could lead to some consumers switching provider;

- MNOs currently offer a range of tariff plans, but BT's ladder of charges is likely to force operators to set more uniform prices (both by operators across their own tariffs and between operators), with the risk that customers who are most concerned about the cost of these calls face higher prices;

- BT's model ignores further key aspects of the complexity of MNO pricing in practice – the effects on and pricing of substitutes and complements (as identified by Ofcom), as well as the more general issue that customers acquire a bundle of services from MNOs, and so changes to the price of any service in the bundle are likely to necessitate adjustments to other prices (driven by the need to remain competitive and to continue to recover their costs).

2.38 Vodafone argues[626] that BT's claim that tariffs provide an incentive to reduce retail charges is an ex post justification which is not supported by the contemporaneous evidence on BT's motivation. It further adds that BT's economic analysis fails to take into account a number of important issues, in particular the way in which NTS calls are sold and priced by MNOs.

2.39 The Frontier Report (on behalf of H3G, O2 and Vodafone) explains that mobile retail pricing is complex:

a) MNOs compete over bundles in a competitive market and tailor their price/product offerings to maximise consumer value, subject to competitive pressures;

[625] T-Mobile/Orange Response, page 16
[626] Vodafone Response, paragraph 1.3

b) Firm level demand is in part a function of retail competition;

c) Price-setting will take into account complementarity and substitutability between different services for different customer groups, the MNO's profit target and the nature of competition between MNOs.

2.40 In Frontier's view, none of the BT frameworks includes all three aspects of this price-setting process. This is important since the impact on retail prices of an increase in the wholesale price of one of many products in a bundle depends on how these factors interact.[627]

2.41 BT argues in its submissions that it can discern no evidence or coherent argumentation from any of the MNOs which in any sense undermines the conclusions it has come to in its submissions on 080 as to the likely incentives on retail prices and which are equally relevant to this dispute[628].

2.42 BT argues that it is unfair for Ofcom to impose a burden of proof on BT which it cannot meet. Furthermore, if it is not possible to determine the elasticity of demand, then it is appropriate to derive conclusions assuming profit maximisation and a plausible range of costs, taking into account the price setting techniques of the MNOs, as is done in BT's modelling.[629]

Our view

2.43 Given the overlap between the issues raised by the Parties and our consideration of BT's papers, we address each of these points further below, as follows:

a) T-Mobile/Orange Response

(i) No empirical evidence – Elasticity of demand, see paragraphs 2.45 to 2.59
(ii) Uniformity of prices – Multiple price points, see paragraphs 2.60 to 2.66
(iii) Complexity of MNO pricing – Substitutes and complements, see paragraphs 2.85 to 2.89, and prices of other services, see paragraphs 2.67 to 2.84

b) Vodafone Response

(i) No support from contemporaneous evidence – see paragraphs 2.90 to 2.99
(ii) The price setting of NTS calls – see paragraph 2.67 to 2.84 that consider competitive interactions and the prices of other services

c) Frontier Report

(i) Sales of bundles in competitive market – Competitive interactions and prices of other services, see paragraphs 2.67 to 2.84.
(ii) Retail competition – Competitive interactions, see paragraphs 2.67 to 2.84.
(iii) Relevant factors in price setting - Substitution and complementarity, see paragraphs 2.85 to 2.89, Competitive interactions and prices of other services, see paragraphs 2.67 to 2.84.

2.44 In response to BT's comments, we acknowledge that there is limited evidence available, and that it is appropriate to take this into account in our assessment. We comment on the available evidence and its implications for our conclusion at paragraphs 2.150 to 2.155 below.

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[627] Frontier Report, paragraphs 33- 39
[628] BT response, Paragraph 56
[629] BT Response, paragraph 65

Elasticity of demand

Submissions

2.45 BT considers that the Draft Determination is incorrect and misleading in relation to the role of the elasticity of demand for 0845/0870 calls in the Dobbs 3 and Reid 1 frameworks. It states that BT makes no assumption on the price elasticity; rather it is inferred from knowledge of the marginal costs and the assumption of profit maximisation. BT also argues that Reid 1 and Dobbs 4 both consider the possibility of inelastic demand in the context of an implied spillover effect from 08 prices to the demand for other services[630].

2.46 BT states that it would welcome clarification from Ofcom as to whether or not it believes that the MNOs are profit maximising and that such an assumption is appropriate to make in the resolution of this and similar disputes. BT also refers to a comment from Dobbs 4 that if the MNOs are not interested in profit, it begs the question why they object to changes in BT's wholesale tariff schedules in the first place.[631]

2.47 The Frontier Report argues that the Dobbs 3 analysis implicitly assumes elastic demand at current prices, and is at odds with the evidence which suggests that demand is inelastic. It cites Ofcom's May 2008 consultation document on extending PRS regulation to 087 numbers, which assumed an elasticity of demand for 087 calls of -0.3[632]. The Frontier Report suggests that this evidence is consistent with MNOs considering factors other than the elasticity of demand for 0845/0870 calls when setting retail prices, and hence that the Dobb 3 approach does not reflect the way in which MNOs set retail prices.[633] In this regard, the Frontier Report suggests that the setting of mobile prices is complex, and that the price-setting process will take into account complementarity and substitutability between different services for different customer groups, the level of target profit that MNOs wish to make (which is influenced by the overall strength of competition), and the nature of competition between the MNOs.[634] The Frontier Report also suggests that MNOs may use 'rules of thumb' for pricing, given the complexities of the retail mobile market, even if this may not be profit maximising.[635]

2.48 T-Mobile/Orange also argue that BT has provided no empirical evidence to support its assumption except to argue that inelastic demand would not be consistent with profit maximisation by the MNOs (even though MNOs have provided evidence to the contrary). Additionally, they argue that operators are setting their prices in a competitive market and so there is no reason to expect firms maximising prices in a competitive market to be on the elastic part of the market demand curve.

2.49 T-Mobile/Orange also argue that as well as elasticity, MNOs have to take into account the risk that a high charge for one call could lead to some consumers switching provider[636].

[630] BT Response, paragraph 67
[631] BT Response, paragraph 68
[632] Paragraph 6.47, "Extending Premium Rate Services Regulation to 087 Numbers", May 2008. http://stakeholders.ofcom.org.uk/binaries/consultations/087prs/prscondoc.pdf
[633] Frontier Report, paragraphs 49-51
[634] Frontier Report paragraph 38
[635] Frontier Report, footnote 21
[636] T-Mobile/Orange Response, page 16

2.50 IVR provided confidential information of the impact of the action of one MNO [(✂)] increasing the effective price of calls to 0870 numbers on the call volumes it received as a TCP. IVR states that 0870 calls were removed from inclusive bundles and increased in price to [✂]. IVR provided data on total monthly 0870 call volume, minutes and revenue figures for May 2006 to May 2008 (i.e. relating to all of the 0870 traffic received by IVR from all OCPs), and in an email on 15th June which initially provided us with this data, IVR argues that the decrease in call volumes "could support the BT elasticity theory".

Our view

2.51 We agree with BT that the analysis in Dobbs 3 and Reid 1 does not make any direct assumption on price elasticity. While paragraph 5.134 of the Draft Determination states that "BT's papers assume that demand is relatively elastic", we clarify elsewhere (for instance in paragraphs 5.135 and A3.13) that BT's papers derive price elasticity from the first-order conditions for profit maximisation before the introduction of the termination charge schedule, based on a range of assumed initial average prices and marginal costs.[637]

2.52 In addition, we agree with BT that Reid 1 and Dobbs 4 both allow for the possibility of inelastic demand at the level of each OCP for 0845/0870 calls in the context of an implied spillover effect between 0845/0870 call prices and the profits earned by an MNO on other services. However, as noted at paragraph 2.25 above, if spillover effects are only limited, as suggested in Dobbs 4, then this does not appear to provide a reconciliation in practice between profit maximisation and the evidence from the MNOs of inelastic demand for 0845/0870 calls.

2.53 The remark in paragraph 4.135 of the Draft Determination that "[…] BT has not provided any direct empirical evidence on the elasticity of demand for 0845 or 0870 calls" is purely a factual observation which is also confirmed by Dobbs 4.

2.54 We also recognise that Dobbs 3 and Dobbs 4 seek to address the lack of empirical evidence by considering a range of scenarios that assess whether the results are robust to alternative assumptions on the key parameters. For example, as noted in Dobbs 4, "it is true that no empirical evidence is presented in favour of assumptions concerning demand elasticity or the structure of MNOs demands. However, this is dealt with by way of sensitivity analysis – that is a range of alternative values for parameters is considered, alongside a range of structural forms for demand functions."[638] We comment below on the assumption of profit maximisation (see paragraphs 2.91 to 2.99).

2.55 On the point raised by the Frontier Report about the apparent inconsistency between the evidence of inelastic demand and the Dobbs 3 analysis, we agree that the evidence of inelastic demand might also be consistent with MNOs considering factors other than the elasticity of demand for 0845/0870 calls and marginal cost alone when setting price.[639] The Frontier Report refers to demand substitutes / complements, the level of target profits, and the nature of competition between the MNOs. The Frontier Report does not, however, provide specific empirical evidence to demonstrate that these are relevant or important considerations for the MNOs in practice. Although the

[637] Dobbs 4 (paragraph 5) and the Draft Determination (footnote 206) both note that the justification for the range of assumptions used for the marginal cost to MNOs of such calls have an empirical basis.
[638] Dobbs 4, paragraph 6
[639] Frontier Report, paragraphs 49-51

Frontier Report also suggests the possibility of 'rule of thumb' pricing by MNOs, it does not provide any specific supporting evidence to suggest that MNOs use such rules of thumb for pricing in practice.

2.56 We agree with T-Mobile/Orange's observation that there is no reason to expect firms maximising prices in a competitive market to be on the elastic part of the market demand curve. However, we understand that the evidence submitted by the MNOs in relation to the inelasticity of demand (as set out in the Draft Determination) relates to demand at the level of each MNO rather than market level demand for 0845/0870 calls (i.e. the impact of a unilateral change in call price by an MNO on its own demand for 0845/0870 calls). BT's economic models also use demand for 0845/0870 calls at the level of each MNO, not the market demand across all MNOs. Similarly, the reference in the Frontier Report to Ofcom's PRS document relates to an estimate for the elasticity of demand at the market level, not at the level of an individual OCP.

2.57 T-Mobile/Orange also question the lack of consideration in BT's framework of the possibility that customers would switch MNO if the price of a given service was set at a high level. We consider that BT's economic models allow for this possibility in theory by taking account of 'spillover' effects.

2.58 We consider that there are serious limitations to the inferences that can be drawn from the data provided by IVR. Firstly, we note that the data is for total call volumes originated by all OCPs, not just [✂], but we have no information on whether any other OCP also changed their retail price for these calls in this period. Secondly, as noted in an email from IVR on 15th June, during the period which the data covers, it was actively migrating traffic from the 0870 number range onto various 0844 price points, due to the impending 0870 policy change. Therefore for both of these reasons, it is difficult to isolate the volume response to the [✂] price change from any price changes by other OCPs in the same period, or the declining call volumes that resulted from the migration by SPs away from the 0870 number range. As a result, we do not consider that this data provides sufficiently reliable evidence to either support or refute the existing evidence and views of demand elasticity for 0870 calls.

2.59 In summary, we consider that the inclusion of a spillover term in BT's analysis represents a coherent way in theory of reconciling the evidence on inelastic firm level demand with the assumption of profit maximisation. However, it only provides a satisfactory reconciliation in practice if spillover effects are significant. This is not clearly supported by the existing evidence – indeed, as Dobbs 4 notes, the evidence set out in the Draft Determination tends to suggest that spillover effects are not large. We also do not consider that the submissions of the MNOs, including the Frontier Report, provide empirical evidence to support a satisfactory reconciliation between profit maximisation and the evidence on inelastic demand at the level of each MNO for 0845/0870 calls.

Multiple price points

Submissions

2.60 BT argues that its analysis does consider the issue of multiple price points. It argues that Reid 1 and Dobbs 3 work on this assumption with the latter taking the findings of the former to address the issue of incentivisation based on the average price which is how the wholesale tariff schedule actually operates. It thus argues that Ofcom is factually incorrect in paragraph 5.140 of the Draft Determination[640].

2.61 Vodafone argues that uncertainty in termination charges will have an adverse effect on the development of new pricing propositions introduced by Vodafone, specifically for calls to non-geographic number ranges. Vodafone has recently introduced a bolt-on tariff to enable 080, 0845 and 0870 calls to be made by customers within their overall bundle of minutes and calls. [✂]. There is a lack of clarity of how minutes within the bundle would be treated in the calculation of the average retail price.[641]

2.62 T-Mobile/Orange also state that MNOs currently offer a range of tariff plans, but BT's ladder of charges is likely to force operators to set more uniform prices (both by and between operators), with the risk that customers who are most concerned about the cost of these calls face higher prices[642]. For example, T-Mobile/Orange argue that since BT's termination charges form part of the marginal cost of 0845/0870 calls, they at the very least create a floor to the retail call prices, as OCPs will not want to price below this floor otherwise they would incur a loss on every call minute made at that price. Therefore, they argue that BT's charges carry a serious risk of forcing the removal of the lowest prices for these calls. Further to this, T-Mobile/Orange state that, given the removal of the lowest priced calls, OCPs will have to remove or adjust tariffs with the highest price for these calls in order to avoid facing higher termination charges. They argue therefore that this process will inevitably lead to a loss in the range of tariffs currently available.[643]

Our view

2.63 In the Draft Determination we expressed the concern that the analysis of the stepped tariff in Reid and Dobbs 3 focused on the average price for 08 calls and did not explicitly consider multiple prices. As noted above, BT has clarified that this analysis relies on the analysis of multiple price points in the context of a continuous tariff in Reid 1. As noted in the Draft Determination, it is suggested by BT that this analysis shows that it is sufficient to focus on the relationship between the wholesale price and the average retail price as a matter of arithmetic (as acknowledged in the Draft Determination at paragraph A3.24). We noted in the Draft Determination (at paragraph A3.29) that there was insufficient explanation to understand some parts of Reid 1's analysis of multiple price points. BT has not provided any further explanation of the mathematical analysis in Reid 1.

2.64 Vodafone and T-Mobile/Orange raise concerns that the new NCCNs may restrict innovation and limit the availability of tariff plans compared to the current situation. In respect of the risk of uniform retail prices (both by and between operators) due to the stepped nature of BT's termination charges, we note that NCCNs 985 and 986 depend on average retail prices. For this reason, if there was a move towards more uniform retail prices between operators this would apply to average prices rather than individual prices, "leaving the MNO with significant freedom to set the individual prices consistent with this average (although the exact nature of this relationship depends on the method used to derive and update the MNO's average retail price, […]" (Draft Determination, paragraph 5.267).

[640] BT Response, paragraph 69
[641] Vodafone Response, paragraph 2.9-2.14. We address Vodafone's related concern about volatility in the termination charge at paragraphs 2.115 to 2.117 below.
[642] T-Mobile/Orange Response, page 16
[643] T-Mobile/Orange response, pages 21-22

2.65 As for the potential deterrent to tariff innovation, suggested by Vodafone, or the reduced variation of tariff plans due to the creation of "a price floor", as argued by T-Mobile/Orange, we note that the withdrawal of low-priced calls may affect the average retail price of the MNO and therefore potentially trigger an increase in the applicable termination charge (although we recognise that the nature of this impact depends on the details of the derivation of the average retail price). For this reason, we would expect MNOs considering the withdrawal of low-priced calls to take account of this impact on the average retail price, given the structure of the termination charge schedule (and once the methodology for the average retail price is clearer), as well as the level of the currently applicable termination charge. As discussed in the Draft Determination (at paragraphs 5.41 to 5.43), the effect on retail prices will depend on the balance between the increase in the level of the termination charges and the structure of the termination charges. T-Mobile/Orange has not provided us with an explanation for the incentive to withdraw lower-priced tariffs that takes account of the impact on the average retail price and structure of BT's termination charges as well as the level of the charge. Further, given that NCCNs 985 and 986 depend on average retail prices, there could still be significant freedom to set different tariff plans consistent with this average (although, as noted, the details of this would depend on the method to derive MNO's average retail price).

2.66 For the reasons above, we consider that BT has partially addressed Ofcom's remarks on multiple price points summarised in paragraphs 5.138 to 5.140 of the Draft Determination. We also consider that the other Parties' submissions in response to our Draft Determination do not provide new or compelling additional evidence or arguments on this issue.

Lack of competitive interactions and prices of other services

Submissions

2.67 T-Mobile/Orange state that BT's model ignores the fact that customers acquire a bundle of services from MNOs, and so changes to the price of any service in the bundle are likely to necessitate adjustments to other prices, due to the need to remain competitive and for MNOs to continue to recover their costs[644]. T-Mobile/Orange also note that the models presented by BT effectively assume that MNOs are monopolists selling a single product that uses termination services supplied only by BT. They argue this is far removed from the reality of MNOs selling a bundle of services to customers in an intensely competitive market and in which BT is one of many TCPs.[645]

2.68 The Frontier Report criticises the Dobbs 3 approach for introducing spillover and reputation effects above 20ppm in an arbitrary way which is not supported by any analytical modelling[646]. In Frontier's view, Reid 1 introduces spillover effects in a more rigorous way. However, there are two main issues with the analysis according to the Frontier Report: (a) there is no consideration of the nature of competition between MNOs; and relatedly, (b) there is no linkage between prices of different elements of the mobile retail bundles.

2.69 Reid 1 allows for an increase in the price of 080 calls to lead to a decrease in the volume of other services, as end users switch to alternative MNOs to benefit from lower 080 call prices. This is an attempt to model some elements of competition.

[644] T-Mobile/Orange Response, page 16
[645] T-Mobile/Orange Response, page 16
[646] Frontier Report, paragraphs 53-54

However, according to the Frontier Report the approach ignores the possibility that the prices of other services in the bundle could change. Moreover, if all MNOs have an incentive to raise prices, the spillover effect may not apply because subscribers would not have the choice of alternative tariffs with lower 080 call prices from other MNOs.[647]

2.70 More generally, the Frontier Report refers to the academic literature on interconnection charges to illustrate the importance of considering retail competition before drawing inferences on MNO's pricing incentives. In its view, the literature shows that the level of the interconnection charge (and the corresponding retail price) will depend on the model of retail competition assumed. The introduction of a stepped termination charge schedule would likely be more complex, depending also on consumer preferences for the various parts of mobile retail bundles. Thus, in Frontier's view, the BT framework does not provide a reliable basis to draw conclusions on the effect of the termination charge schedule on either the prices of 0845/0870 or the prices for other elements of the bundle.[648]

2.71 For instance, depending on how MNOs react to the termination charge schedule, the competitive equilibrium prices for 0845 and 0870 calls could change significantly. Because the MNO's retention increases with the retail price, on the last step of the termination charge schedule there could be a significant increase in 0845/0870 prices by all MNOs if demand elasticity is low, MNOs all had an interest to increase prices and any reputation/spillover effect was small.[649]

2.72 BT has made several comments in relation to our view of competitive interactions in their papers[650]:

a) Firstly, BT states that it addresses this issue in Reid 1 which shows the direction of price movement.

b) Secondly, BT argues that the MNOs essentially dismiss the relevance of competitive interactions as they argue that prices for 08x numbers are not the primary focus of price setting and competition between them.

c) Thirdly, BT states that its analysis does not treat all the MNOs as pure monopolists as Ofcom claims. In Dobbs 1, the modelling was explicitly that of differentiated Bertrand competition. This framework was simplified in subsequent submissions by Dobbs to illustrate the key properties of the termination charge schedule. Thus Dobbs 2 refers to the 'monopoly case' but in fact the analysis is identical to that in Dobbs 1 except for the assumption that MNOs' marginal costs are similar (and an upper bound can be put on this parameter). That is, as in Dobbs 1 and Dobbs 2, the analysis applies whether the firm is a monopoly or faced with differentiated Bertrand competition. Dobbs 3 is different as it focuses on MNO pricing responses to the NCCN956 step function. BT states that, for simplicity, the analysis assumes constant elasticity demand functions and largely ignores the strategic interaction effects that can arise in oligopolistic competition. There is some discussion of a spillover effect at higher prices, but this is not given particular emphasis in Dobbs 3.

[647] Frontier Report, paragraphs 58-59
[648] Frontier Report, paragraphs 41-43
[649] Frontier Report, paragraph 44
[650] BT Response, paragraphs 70-78

d) Fourthly, Ofcom raises the question of what happens if demand is inelastic and there are significant spillovers, and this is analysed in Dobbs 4, which therefore does implicitly encompass competitive interactions. The spillover term in this work can be interpreted as taking account of the unilateral effect of an MNO changing its 08 price on the demand for its other services; for possible induced changes in prices of those other services; and for the impact of reactions by other MNOs that feedback on to the MNO's other services. The model considers that the possible further feedback of induced changes in the MNO's other prices back on the demand for the 08x numbers is not quantitatively significant. BT argues that in this context it is important to bear in mind the fact that all MNOs are faced with the same termination charge schedule and so might simultaneously adjust retail prices. Simultaneous downward adjustment to retail prices will tend to reduce feedback and spillover effects in comparison to a unilateral price adjustment.

e) Fifthly, BT suggests that strategic interactions amongst TCPs are ignored by Ofcom, even though BT is only one of many terminating operators and that retail prices are set across arrangements for all TCPs.

f) Sixthly, to the extent that there is complexity in modelling multi-product competition – and BT agrees with Ofcom here – there is a limit to what BT or any party can do to ascertain the impact of such effects. BT considers that Ofcom has provided no evidence that these effects are at all material. On the other hand, BT has undertaken work with spillover assessments which do capture these effects at least to a reasonable degree.

Our view

2.73 Our concerns in relation to competitive effects and pricing of other services were summarised in paragraphs 5.141 to 5.144 and 5.151 to 5.154 of the Draft Determination. We note that the comments made by T-Mobile/Orange are in line with the characterisation of BT's economic evidence in Ofcom's Draft Determination. We refer to the specific points made by T-Mobile/Orange in the paragraphs below when addressing Frontier's and BT's comments.

2.74 The Frontier Report argues that the analysis of spillover and reputation effects in Dobbs 3 is arbitrary. We agree with this comment and note that BT has sought to address this in Dobbs 4, which we discuss at paragraphs 2.26 to 2.36 above. In our discussion of Reid 1 below, we address the Frontier Report's remark that Reid 1, while providing a more rigorous analysis of spillover effects, does not take account of competitive interaction and of multi-product pricing.

2.75 We agree with the Frontier Report that alternative models have been developed in the literature of interconnection pricing which differ from the economic models submitted by BT. However, we note that the Frontier Report has not demonstrated the empirical relevance of these alternative models to the issues in the Dispute.

2.76 With regard to the incentive properties of the stepped termination charge schedule on the top step, and the potential for price increases, we acknowledge that there may be some conditions under which this is the case, as shown by our results on the Dobbs 3 framework (Annex 5 of the Draft Determination). However, we note that these considerations are relevant only when initial average prices are above 30ppm (for calls to 0845 number ranges) or 36ppm (for calls to 0870 number ranges) and depend on the level of marginal cost and the assumed form of the demand function.

2.77 In relation to BT's six points we note the following. First, we agree with BT[651] that Reid 1 carries out a local analysis which is designed to infer the direction in which the retail price would be modified, following the introduction of the termination charge schedule, rather than to derive the new profit-maximising price for the MNO.[652] Given this, the Reid framework therefore does not need to take account of competitor responses on the basis that they are mathematically second order.[653] This consideration also applies to changes in the prices of other mobile services. The implication, however, is that Reid 1 does not inform the question of the magnitude of the Direct effect.

2.78 Second, as to BT's argument that the MNOs themselves dismiss the relevance of competitive interactions, we note that on the contrary the MNOs emphasise the intensity of competition in the retail market. However, their comments also highlight that competition takes place at the level of the overall bundle of services offered to customers rather than at the level of the single 0845 or 0870 number range.[654] This also reflects the views of T-Mobile/Orange summarised above.

2.79 Third, BT responds to Ofcom's comment that BT's economic models treat the MNO as a niche monopolist. We note that this observation is also made by T-Mobile/Orange and that the Frontier Report also comments that BT's economic models do not consider the nature of competition between MNOs. BT points out that Dobbs 1 considers Bertrand competition and that Dobbs 2 builds on an identical framework. In this respect, we note that Dobbs 1 does not derive the competitive equilibrium when other MNOs optimise their prices and considers the profit-maximisation problem of the MNO in isolation.

2.80 We agree with BT that Dobbs 3 "largely ignores the strategic interaction effects that can arise in oligopolistic competition" and that this is the extension considered in Dobbs 4, albeit in a stylised way through the use of a reduced form spillover term that seeks to reflect the implications of changes in the prices of other mobile services and "strategic reactions by other MNOs consequent on unilateral change in a given MNO's 08x price."[655] However, as discussed at paragraphs 2.26 to 2.36 above, the spillover term in Dobbs 4 is not derived from an explicit model of competition, but rather makes a number of assumptions on the nature of the spillover effect and the feedback effect of changes in other prices on 0845/0870 demand. We acknowledge that a reduced form approach has some practical advantages compared to a full analysis of multi-product competition in the circumstances. But the relevant question is whether this reduced from approach is sufficiently robust and comprehensive to provide reliable predictions regarding the direction and magnitude of the Direct effect. We have set out above a number of reservations about the assumptions used, which are relevant to our overall assessment.

2.81 Fourth, we agree with BT that spillover effects may be reduced if all MNOs have an incentive to cut retail prices. The same logic also applies if all MNOs have an incentive to increase retail prices, as noted in the Frontier Report.[656]

2.82 Fifth, our analysis in the Draft Determination took into account that BT is one of many terminating operators. Competition amongst TCPs is considered in the Draft

[651] BT Response, paragraph 70
[652] Draft Determination, paragraph A4.14,
[653] BT Response, page 33
[654] As referred to, for instance, in paragraph 2.1 of Vodafone's Response.
[655] Dobbs 4, paragraph 16
[656] Frontier Report, paragraphs 58-59

Determination at paragraphs 5.211 to 5.229 (as part of the discussion of the Indirect effect) and at paragraphs 5.238 to 5.242 (in assessing the impact of the NCCNs on competition amongst TCPs). Given this, we disagree with BT's suggestion that strategic interactions amongst TCPs have been ignored. We also note that our provisional conclusions on the Indirect effect as regards pass-on by TCPs to SPs and the risk of competitive distortion among TCPs were broadly aligned with BT's views on these issues.

2.83 Sixth, we consider at paragraphs 2.150 to 2.156 below the available evidence given the constraints of the dispute resolution process on all parties.

2.84 In summary, we consider that BT has partially addressed Ofcom's concerns in relation to competitive interactions and pricing of other services.

Substitution between 0845/0870 calls and other services

Submissions

2.85 BT submits that in relation to substitutability, these are second order effects if anything at all. BT does not consider that switching is a material issue and neither Ofcom nor the MNOs have produced any evidence to show that it is. To the extent that ISPs might switch between 0845 and for example 080 then the two disputes are joined in any case[657].

2.86 Moreover, Dobbs 4 notes that the extent to which substitution is a significant concern is debatable. In his view, in so far as all 08 numbers are subject to a similar termination charge schedule, the importance of substitution is reduced[658].

Our view

2.87 The potential for substitution between 0845/0870 calls and other services is potentially important because, as we noted in the Draft Determination, it tends to increase the MNO's incentive to raise prices (all else assumed constant).

2.88 BT seems to have misunderstood our point where it refers to switching by ISPs. As noted in paragraphs 5.145-5.147 of the Draft Determination, the issue we considered was *callers* substituting between 0845/0870 and other types of call, such as geographic calls. Moreover, while (as noted by Dobbs 4) it may be the case that substitution is less important when all 08 numbers are subject to a similar termination charge schedule, this does not address substitution between mobile calls to those numbers and, for instance, mobile calls to geographic numbers.

2.89 However, we note that the available evidence does not suggest that there is likely to be a large substitution effect, and as BT notes, inelastic firm demand for mobile-originated 0845/0870 calls at current prices, as suggested by the MNOs[659] may be inconsistent with a strong substitution effect.

[657] BT Response, paragraph 79
[658] Dobbs 4, paragraph 19
[659] Draft Determination, paragraph 5.136

Profit maximisation by BT

Submissions

2.90 BT considers that profit maximisation by BT is totally irrelevant and states that it is not clear why Ofcom introduces this issue here and not in 080. In particular it argues that Ofcom's assertions on the validity of the modelling contingent on profit maximisation by BT are without foundation[660]. BT argues that the real issues are whether NCCNs 985 and 986 induce a reduction in retail prices by OCPs, the acceptability of profit sharing and practicality.[661]

Our view

2.91 In the Draft Determination and where relevant in this document we consider the 'real issues' we understand BT to be referring to, i.e. the Direct effect, the reasonableness of revenue sharing on 0845 and 0870 in the applicable circumstances, and questions of practicability. However, contrary to BT's assertion, in our view it is very relevant to consider profit-maximising behaviour by BT. This is because, as we explain below, consideration of profit maximisation by BT either reveals an inconsistency in BT's analysis of the Direct effect or a limitation in its analysis. In either case, there is a significant doubt about the extent of the reliance we should place on BT's theoretical models, especially as regards the magnitude of the Direct effect.

2.92 We pointed out in the Draft Determination (paragraph 5.150) that, if NCCNs 985 and 986 led MNOs to reduce their 0845/0870 call prices to below 12.5ppm, i.e. on the bottom tier of charges, these NCCNs would result in no increase in BT's termination charges or in its profit per minute. It would be more profitable for BT if MNOs did not have any incentive to reduce 0845/0870 prices or to reduce them by a smaller amount. BT's adviser, Professor Dobbs, accepts that NCCNs 985 and 986 do not maximise BT's profits:[662]

> "Clearly, the proposed WTS schedule[s] do not maximise profits for BT"

2.93 First, on one interpretation, this reveals an inconsistency in BT's theoretical economic analysis of the Direct effect because, on the one hand, it is critically dependent on the assumption that MNOs maximise profits and yet, on the other hand, it also relies on the failure of BT to maximise its profits within the framework of that same theoretical analysis. BT's response to the Draft Determination does not reconcile this inconsistency.

2.94 In the absence of clear evidence to the contrary, it is generally reasonable to assume that commercial companies' decisions are motivated by profit maximisation - as BT has argued in relation to the MNOs, this is rational. In our view the real issue in the context of the Dispute is the extent to which BT's theoretical models of pricing decisions adequately capture the considerations relevant to rational or profit-maximising decisions in the real world (i.e. whether the analysis of the influences on the MNO's profit includes all of the important real-world factors).

2.95 Second, as we set out in the Draft Determination (paragraphs 4.109-4.118), the contemporaneous evidence on BT's rationale is in fact consistent with profit maximisation by BT. However, that evidence is not consistent with an outcome in

660 BT Response, paragraphs 80 to 81

661 BT Response, paragraph 80

662 Dobbs 4, paragraph 20

which the MNOs significantly reduce their 0845/0870 call prices in response to NCCNs 985/986. In its response to the Draft Determination BT does not comment on the contemporaneous evidence or our interpretation of it.

2.96 Third, theoretical economic models are stylised, seeking to capture important aspects of reality. However, decision-making in the real world is complex and in practice operators may take account of a range of considerations that are difficult to capture in such models. For example, the way in which consumers or companies behave does not always accord with traditional economic theory (as recognised in the burgeoning literature on behavioural economics); competitive interactions can be complex and multi-dimensional, especially where operators sell a wide range of services to heterogeneous consumers; and operators may take a long-term view or have wider strategic objectives, trading off short-term profits on the specific services under consideration to build reputations, relationships or to have impacts that will yield long-term gains. The MNOs have referred to some such considerations, as discussed in paragraphs 5.60 to 5.68 of the Draft Determination. For example, in describing their approach to setting prices, the MNOs have referred to consumer perceptions of value (across as well as within the bundle), the variety of customer preferences and tariff packages, and the importance of call volume forecasts and actions of competitors, and they have stressed the importance of practical considerations and constraints, such as the clarity and ease of communication with their customers, and the limitations of billing systems.

2.97 In BT's own decision to set the termination charge schedules in NCCNs 985 and 986, it took account of considerations beyond those captured in the theoretical models on which BT is relying for its analysis of the Direct effect. These models are incapable of explaining BT's choice to introduce NCCNs 985 and 986 within the framework of rational or profit-maximising behaviour, as Dobbs 4 appears to accept (at least by implication). In our view this points to a limitation in these models in providing a complete or accurate view of real-world pricing decisions. If BT's framework is incapable of explaining BT's own behaviour as rational or profit-maximising, then we have significant doubts about the extent that it can do so for the MNOs.

2.98 For the avoidance of doubt, we do not object to BT's assumption that the MNOs will seek to maximise their profits. Rather, in the absence of supporting empirical evidence, we consider that BT's theoretical models cannot be relied on adequately to capture all of the important real-world considerations in those profit-maximisation decisions.

2.99 Nor do we consider it surprising that theoretical economic models of pricing decisions fail to capture all of the important real-world considerations, especially as the nature of those decisions is complex and multi-faceted, as is the case for MNOs, given the number of services they provide, the range of customers they serve and the nature of the competitive interactions they face. Such stylised theoretical models are often useful in a variety of ways, such as understanding specific effects which are part of, but not the complete, picture; or providing illustrations of the scale of different impacts. However, in this Dispute BT's arguments go far beyond such uses of economic theory. BT's argument is that the theoretical models represent the real-world decisions sufficiently accurately that we should rely on them to reach our conclusion in this Dispute even in the absence of supporting empirical evidence. We have significant doubts that BT's models are capable of bearing this weight.

Other issues

Submissions

2.100 The Frontier Report applied the Dobbs 3 and Reid 1 frameworks to test the impact of the 0845/0870 charges on retail prices. As regards the Dobbs 3 approach:

a) The Frontier Report's results are similar to Ofcom's in Annex 5 of the Draft Determination. With constant elasticity and linear demands, if marginal cost and initial retail price are sufficiently large, the MNO has an incentive to increase retail prices.

b) However, in Frontier's view there is no reason to restrict demand to linear or constant elasticity. For instance, it may be the case that some customers are very price sensitive and some are not. If MNOs set prices so that many of the more price sensitive customers make 0845/0870 calls, the termination charge schedule could increase 0845/0870 call prices if it is now profit maximising for MNOs to consider only the demand from the more inelastic customers.

2.101 As regards the Reid 1 approach, the Frontier Report argues that Ofcom has incorrectly failed to include the call set-up charge for NCCN 985. Frontier states that its analysis suggests that for 0845 daytime calls there could be an incentive to increase retail prices when they are initially below 27.5ppm if the MNOs marginal cost is above 1.8ppm.[663]

2.102 BT argues that Ofcom has incorrectly failed to take account of the existing fixed termination charge for NCCN 985 and 986. BT contends that, when this is taken into account, the Reid framework indicates that there is an incentive to reduce 0845 retail prices if the marginal cost is below 5.83ppm, except for the first step where the marginal cost threshold is 2.33ppm. In the case of 0870 calls, BT contends that the Reid framework shows that there is an incentive to reduce call prices if the marginal cost is below 6.96ppm for all tariff steps.[664]

2.103 BT argues that "it is a misunderstanding of BT's analysis (Dobbs 3 and Reid 1) to separate the case of the continuous wholesale tariff schedule (WTS) and the stepped WTS."[665]

2.104 BT argues that the Dobbs framework should be implemented assuming initial retail average prices rather than specific price points and that BT believes that Ofcom may have based its analysis on individual price points.[666]

2.105 Additionally, BT argues in Annex 1 of its submission that Ofcom is incorrect in stating that the BT models assume a downward sloping demand curve. In particular it argues that Reid 1 looks at the direction of price movement, so it does not rely on this assumption (other than being a consequence of a profit-maximising price). Dobbs 3 does make some assumptions of the wider nature of the OCP's demand in so far as this analysis illustrates where a new profit maximising price is likely to be[667].

[663] The Frontier Report, paragraphs 61-62, incorporates the set-up charge in the analysis, and assumes that the average duration of a call is 3 minutes.
[664] BT Response, page 39
[665] BT Response, page 33
[666] BT response, page 39
[667] BT Response, page 33

2.106 Vodafone considers that the introduction of such unpredictable charging mechanisms by BT reduces the prospects and incentives for Vodafone to set retail charges for [✄] off-net calls to other mobile and fixed lines (such as Vodafone's recently introduced bolt-on tariff – see paragraph 2.61 above).

2.107 Vodafone argues that as other TCPs seek to introduce similar charging structures as BT, but with potentially different pricing bands and wholesale rates, the case for the introduction of what Ofcom has described in another context as a risk premium would become more pressing. Vodafone argues that it would be difficult to introduce differential retail charges based on the identity of the TCP and this would cut across its own objective of providing simple, easily comprehensible tariff structures for its subscribers. Vodafone argues that it might be forced to consider [✄] against a variety of charging structures, prone to change at short notice.[668]

2.108 In this context, Vodafone notes that Ofcom, in its recent consultation on mobile call termination, has expressed concern about the practice of 'flip-flopping'[669] by MNOs. Vodafone has referred to submissions from fixed operators who state that they are forced to increase their retail charges to protect themselves against unexpected swings in termination rates on a monthly basis. Vodafone notes that Ofcom has said:

> "They [the fixed operators] are effectively placing a premium on their retail prices to self-insure against spikes in termination rates. This is obviously detrimental to consumers who pay a higher price as a result."[670]

Our view

2.109 We note the Frontier Report's comments on the restrictions imposed on the functional form of demand in the application of the Dobbs framework in Annex 5 of the Draft Determination. However, we consider that we do not have evidence to conclude how the Dobbs results would be affected under alternative assumptions on the demand function and we note that Frontier has not submitted additional evidence that would enable us to draw different conclusions.

2.110 With regard to the application of the Reid condition, we agree with BT's clarification that the existing fixed charge is relevant. This implies a modification of the Reid condition as set out in BT's submission. In the interest of clarity, we reproduce in Annex 3 (of the Supplementary Consultation) the modified Reid condition and the tables in BT's submission which apply the condition to NCCNs 985 and 986 (under the assumption there are no spillover effects).

2.111 The Frontier Report has not set out the details of its calculations in relation to the inclusion of the set-up fee for NCCN 985 in the Reid framework. However, our understanding is that Frontier has increased the termination charge in column (2) of Table A5.9 of the Draft Determination to reflect an allocation of the set-up fee based on an assumed call duration of 3 minutes. We do not consider that this is correct, since the set-up charge was applicable prior to the introduction of NCCN 985. If the set-up fee was taken into account in the same way as the existing fixed termination

[668] Vodafone Response, paragraph 2.16-2.17.
[669] Flip-Flopping refers to the practice of varying rates by time of day and weekend to exploit flexibility in the way that the charge control is formulated. In practice this can result in large short term changes in mobile termination rates, while still allowing compliance with the charge control.
[670] Wholesale mobile voice call termination, Market Review, Consultation 1 April 2010 ("MCT April consultation"), paragraph 9.122

charge in line with BT's comments (see paragraph 2.102), then the Reid condition would be satisfied for marginal costs higher than those indicated in the table.

2.112 Concerning BT's comments that Ofcom misinterpreted BT's analysis by discussing separately the continuous termination charge schedule case and the stepped termination charge schedule case, we understand that "the analysis of the continuous WTS is a means of developing the analysis of the stepped WTS" as argued by BT. For this reason, in the draft Determination we described BT's analysis of a continuous termination charge schedule before discussing the stepped termination charge schedule. However, for the purposes of assessing the impact of NCCNs 985 and 986, it is clearly the analysis of the stepped termination charge schedule which is of direct relevance and applicability.

2.113 In relation to BT's comments on the Dobbs framework, we are aware that Dobbs 3 refers to average price points rather than individual price points. The range of initial average retail prices we consider in Annex 5 of the draft Determination (i.e. 15ppm – 40ppm) is consistent with Dobbs 3 as well as with indications from some of the MNOs about their average retail prices (see paragraph A5.10(ii) in the Draft Determination).

2.114 In regard to the assumption of a downward-sloping demand curve, while the analysis in Reid 1 does not explicitly make the assumption of a downward sloping firm demand, this is implicit in inferring demand elasticity from the Lerner condition. For instance, when discussing whether the introduction of the termination charge schedule will affect the price setting decision of the MNO, Reid 1 states "given that Δq_i will be negative when Δp_i is positive and vice versa".[671] From this statement, we considered that a downward sloping firm demand was being assumed. The analysis in Dobbs 3, which analyses a stepped termination charge schedule, makes assumptions on the functional form of the demand function to derive the results on the profit-maximising price following the introduction of the termination charge schedule. As reported in paragraph A4.7(iii) in the Draft Determination, Dobbs 3 assumes that "each firm faces a demand for the relevant service which is constant elasticity up to a certain threshold price level." BT does not appear to dispute this fact.

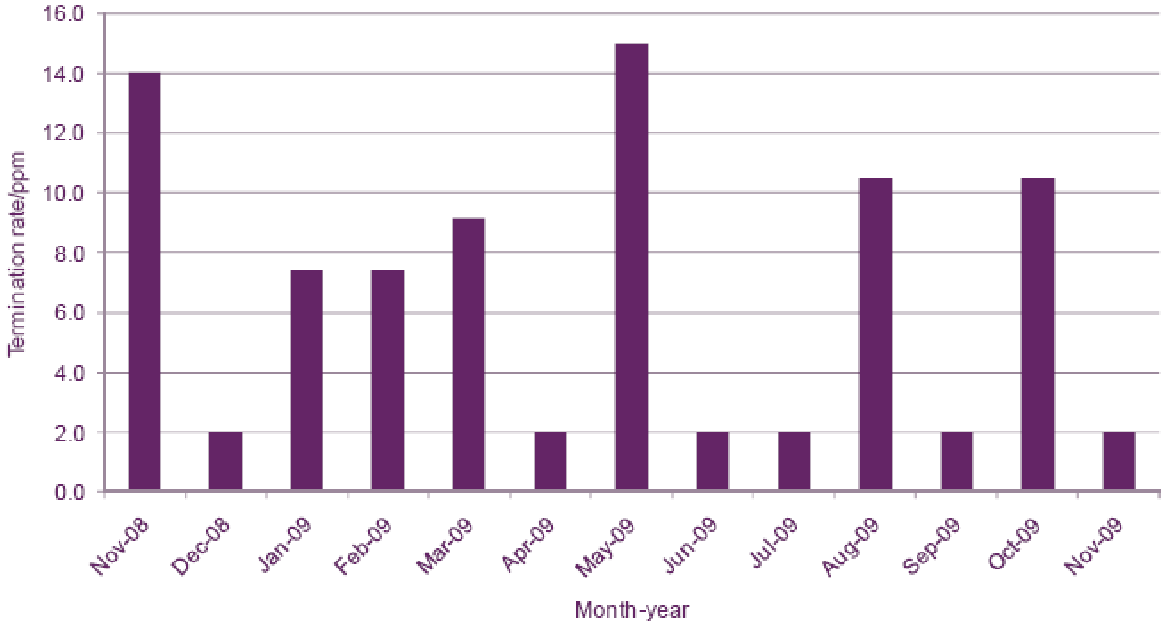
2.115 In relation to Vodafone's submission about the unpredictability of BT's proposed tariff arrangement, we note that the concern about 'flip-flopping' in the context of mobile termination charges is in part that "frequent and radical changes in time of day rates increase risk for originating providers and potentially raise their costs",[672] which we illustrated in the MCT April consultation by showing the weekend mobile termination rates of one national MNO, as reproduced at Figure 2.1 below.

2.116 Will changes in BT's or other TCPs' termination rates subsequent to NCCNs 985 and 986 be as frequent or as radical as the changes experienced in mobile termination rates? BT has suggested to us that it might change termination rates for 0845/0870 calls at most once a year (see paragraph 5.273 in the Draft Determination). Although there is nothing to prevent BT or other TCPs from changing prices more frequently than annually, it is unclear to us that they would change their prices as frequently as on a monthly basis, or by as large amounts as mobile termination rates.

[671] Reid 1, paragraph 39
[672] MCT April consultation, paragraph 9.121

2.117 Therefore, whilst we do not exclude the possibility that MNOs may seek to self-insure against changes in BT's termination rates, it is not clear that the concern is of the same scale as for the regulation of mobile termination charges.

Figure 2.1: Weekend mobile termination rates of one MNO, November 2008 to November 2009[673]



Provisional conclusion on Direct effect

Submissions

2.118 BT states that it is surprised to see that Ofcom at paragraph 5.62 of the Draft Determination is uncertain even as to the direction of the effect of the termination charge schedules. BT cannot deduce any plausible scenario or evidence from the Draft Determination by any party which gives any credibility to the assertion that rational behaviour by the MNOs would induce prices to rise[674]. BT invites Ofcom to state what alternative analyses or framework might be appropriate to establish the incentive properties of the MNOs or indeed any other CP in such a dispute[675]. BT totally rejects Ofcom's assertion at paragraph 5.166 that its analysis is not comprehensive and robust[676].

2.119 C&W supports BT by saying that it recognises the opportunity a tiered pricing structure provides in achieving Ofcom's stated aim of driving retail origination prices to reflect those of a geographic call[677]. It refers to Ofcom's market research and an Indepen report (commissioned by UKCTA) suggesting that call volumes are currently

[673] MCT April consultation, Figure 15
[674] BT Response, paragraph 83
[675] BT Response, paragraph 62
[676] BT Response, paragraph 85
[677] C&W Response, page 4

artificially depressed on NTS numbers because of the very high tariffs associated with calling from mobile networks[678]. It adds that, were the MNOs to price at a level consistent with Ofcom's preferred policy, benefits in consumer welfare could be considerable. It argues however that Ofcom's analysis of BT's and MNOs' economic evidence has largely been to highlight its failings rather than to construct more robust models through a continuation of the methodology to address the missing data.

2.120 In contrast, T-Mobile/Orange notes and endorses Ofcom's conclusion that BT's analysis of the expected direct effect of NCCNs 985 and 986 is not comprehensive and robust. T-Mobile/Orange argues that the economic evidence supplied by BT is heavily reliant on a number of specific assumptions being valid. It argues further that BT's analysis is far removed from the reality of MNOs selling a bundle of services to customers in an intensely competitive market and in which BT is one of many TCPs. It additionally adds that it has heard that in response to NCCNs 985 and 986, Virgin Mobile has recently announced that it is increasing its charges for 0845/0870 calls to 40ppm.

2.121 Given this comment by T-Mobile/Orange, we asked Virgin Mobile to explain its reasons – it said that the price change was:

> "✄"[679]

2.122 Vodafone also endorses Ofcom's provisional conclusions and argues that given the scale of the new charges, Vodafone will [✄]

2.123 O2 and H3G also agree with Ofcom's assessment of BT's analysis and argue that it cannot be expected that NCCNs 985 and 986 will result in a reduction in retail call prices to 0870 and 0845 numbers.

Our view

2.124 In the Draft Determination we reached the provisional view that BT's analysis of the Direct effect may not be robust or comprehensive. This was based on two principal concerns:

a) First, BT's economic analysis relied on theoretical models of pricing and competition that were based on a number of specific assumptions relating to issues such as the pricing policies of the MNOs, the nature of demand for services supplied by MNOs, and the nature of competitive interactions between MNOs, and BT had not advanced any empirical evidence in relation to these models.

b) Second, there were a number of potentially important considerations not adequately reflected in BT's analysis:

   i. Multiple price points;
   ii. Competitive responses;
   iii. Substitution between 0845/0870 calls and other mobile services;
   iv. Failure to consider BT's profitability; and
   v. No consideration of the implications of adjustments in other mobile prices, which may influence the Direct effect.

[678] C&W Response, page 10
[679] Email from Andrew Wileman, 5th July 2010

2.125 We agree with Professor Dobbs that the modelling in Dobbs 3 is based on the proposed tariffs (NCCNs 985 and 986), and an empirically based assumption that all MNOs' marginal costs lie below 5ppm. We also acknowledge that the Dobbs 3 analysis seeks to illustrate the impact of the proposed tariffs through sensitivity analysis. In this regard, Professor Dobbs states that the analysis makes "maximum use of what quantitative and qualitative information is available"[680]. However, neither BT nor Professor Dobbs have provided supporting empirical evidence in relation to demand elasticity or the structure of MNOs demands, other than some 'stylised facts'. Furthermore, we note that BT's framework and Dobbs 4 is not entirely consistent with the 'stylised facts' as its reconciliation of the evidence of inelastic demand for 0845/0870 calls with profit maximisation by the MNOs relies on the existence of a significant spillover effect, yet (as Dobbs 4 recognises) the available evidence does not support a strong spillover effect.

2.126 Dobbs 4 also suggests that no other party has provided any other significant evidence. We accept that the empirical evidence available on either side of the debate on the Direct effect is limited. We discuss further below the implication of the lack of empirical evidence.

2.127 As regards the considerations that we identified in the Draft Determination might not be adequately reflected in BT's analysis:

a) We consider BT has partially addressed our concern with regard to the fact that MNOs generally have *multiple price points* for 0845/0870 calls (see paragraphs 2.60 to 2.66), and in relation to *competitive interactions* and *other mobile prices* (see paragraphs 2.67 and 2.84).

b) We do not consider that BT's response has directly addressed our potential concern regarding *substitution* between 0845/0870 calls and other mobile services. However, the available evidence does not suggest that this is likely to be a large effect (see paragraphs 2.85 to 2.89).

c) We do not consider that BT has addressed our concerns regarding the consistency of its analysis of the Direct effect with *profit maximising behaviour by BT* (see paragraphs 2.90 to 2.99).

2.128 We therefore consider that BT has gone some way to addressing the concerns we identified in the Draft Determination, although some material concerns remain.

2.129 With regard to the submissions of other parties:

a) We noted in the Draft Determination that the MNOs' analysis of the Direct effect generally focused on the increased level of termination charges in NCCNs 985 and 986, but did not seem to take account of the impact of the structure of charges, i.e. the linkage to the OCP's retail price.[681] In our view this remains a weakness of the evidence provided by the MNOs. The MNOs have generally pointed to the importance of bundles and the fact that it will be necessary to recover the increased termination charges through 0845/0870 prices or other prices. But no new compelling explanation has been advanced to explain why the proposed tariffs would necessarily result in an increase in 0845/0870 call prices when it is taken into account that there is an incentive to reduce these prices in order to move down one or more tariff steps (as identified in BT's analysis).

[680] Dobbs 4, paragraphs 5-7
[681] Draft Determination, paragraph 5.164

b) We note that Vodafone considers that it may be necessary to add a 'risk premium' to call charges as other TCPs replicate. As noted at paragraphs 2.115 to 2.117, whilst we do not exclude the possibility that MNOs may seek to self-insure against changes in termination rates, it is not clear that the concern is of the same scale as for the regulation of mobile termination charges.

c) We note Virgin Mobile's reaction to NCCNs 985 and 986, [✂]. The ultimate effect on Virgin Mobile's prices may also depend on the methodology to derive average retail prices and any impact this has on the charges it pays to its host MNO.

d) We note C&W's reference to Ofcom's market research and an Indepen report. Whilst the research referred to is five years old, it is consistent with our analysis that it would be overall beneficial to consumers if OCPs aligned their 0845/0870 prices to geographic rates (despite the negative Mobile tariff package effect). In regard to C&W's suggestion that Ofcom's analysis of the economic evidence has largely been to highlight its failings rather than construct more robust models, we consider this alongside BT's similar argument at paragraphs 2.150 to 2.155 below.

e) As regards IVR's confidential submission of the impact of one MNO increasing the effective price of calls to 0870 call numbers on the call volumes it received as a TCP, our views are set out in paragraph 2.58 .

2.130 In our view it is not just the direction of the Direct effect that is important. The magnitude of any reduction in the prices of 0845/0870 calls is also of importance, as it would need to be sufficiently large for there to be an overall benefit to consumers, given our analysis of the Mobile tariff package effect and the Indirect effect (see below).

2.131 In the Draft Determination we reached the provisional conclusion that we were uncertain about both the direction and the magnitude of the Direct effect. As explained below, in the light of the submissions received in response to the Draft Determination we have revised our view on the direction of the Direct effect. We now consider, on the evidence currently available to us in this Dispute, that 0845/0870 call price reductions are more likely than price increases. However, as discussed below, we remain of the view that the magnitude of the Direct effect is uncertain.

Direction of Direct effect

2.132 In the information available to us there is relatively little substantiated evidence that 0845/0870 prices will increase in response to NCCNs 985 and 986. On the other hand, BT's models provide a coherent economic theory with results suggesting that MNOs will have an incentive to reduce their 0845/0870 prices.

2.133 In this regard, we consider that Dobbs 4, building on BT's previous 080 papers, has identified and, using numerical simulation, quantified an effect that is relevant to the Dispute. Dobbs 4 shows that, in the context of the model used, the incentive of the *structure* of NCCNs 985 and 986[682] to reduce 0845/0870 prices is likely to be larger than the opposing incentive of the increased *level* of termination charges to increase those prices across a range of scenarios.

[682] i.e. the linkage of the termination charge to the OCP's retail price, the steepness of the termination rate schedule and the breadth of the tiers

2.134 We also consider that the MNOs have not provided any specific explanation of the impact of the proposed tariffs on 0845/0870 call prices that takes into account the effect identified by BT of the structure of NCCNs 985 and 986, i.e. the incentive to reduce call prices in order to move down to a lower tariff step. We note that Vodafone and T-Mobile/Orange have made submissions that uncertainty in termination charges could have an adverse effect on the development of new pricing propositions for non-geographic number ranges or that BT's NCCNs will set a price floor deterring lower-priced tariffs – see paragraphs 2.61 to 2.62. Our views on their arguments are set out in paragraphs 2.64 to 2.65.

2.135 BT has argued that any concerns with its analysis must be sufficiently material. In terms of the direction of the Direct effect, we accept that possible incentives to increase prices would need to be sufficiently large to more than offset the incentive to reduce prices analysed in BT's models. In this context, we consider that BT has partially addressed three of the concerns we identified in the Draft Determination (see paragraph 2.127a) above). Although we consider that BT has failed to address three of our concerns relating to empirical evidence, profit maximisation by BT and substitution, we recognise that we have not demonstrated that the implications of these concerns would necessarily be to reverse the direction of the Direct effect.

2.136 In summary, whilst we cannot exclude the possibility that the proposed tariffs could result in an increase in 0845/0870 call prices, we consider that the balance of the available evidence suggests that it is more likely that the MNOs have an incentive to reduce these prices than to increase them. Therefore our revised provisional conclusion is that it is more likely that the Direct effect has a positive rather than a negative impact on consumers.

Magnitude of Direct effect

2.137 As noted in paragraph 5.126 of the Draft Determination, BT's framework suggests that the magnitude of the Direct effect depends on the level of the existing retail price, the nature of call demand, and the level of marginal costs. This framework was applied to NCCNs 985 and 986 by us in Annex 5 of the Draft Determination and in BT's Response in Dobbs 4. However, we do not consider that BT's models are sufficiently comprehensive or reflective of real-world pricing decisions to yield robust predictions on the size of the reductions in 0845/0870 prices by the MNOs in response to NCCNs 985 and 986. The fact that the BT Response has only partially addressed our concerns is especially relevant in this context.

2.138 First, even on the concerns that have been partially addressed, we do not consider that the BT Response has fully addressed them. For example, Dobbs 4, whilst partially addressing our concerns on the implications of multi-product competition, is based on a reduced form approach which abstracts from the underlying details of demand and competition. In the absence of explicit or rigorous analysis of multi-product competition it is difficult to impose *a priori* restrictions on either the shape or the size of the spillover effect. This introduces a degree of uncertainty over the Direct effect, especially its magnitude. In addition, we consider that there is uncertainty over the extent of the feedback effect identified in Dobbs 4.

2.139 Second, some of our concerns set out in the Draft Determination remain and have not been addressed by BT:

a) BT's models, including Dobbs 4, still lack supporting empirical evidence.

b) The possibility of substitution between 0845/0870 calls and geographic calls may not be a large effect, given the available evidence, but it could influence the magnitude of the Direct effect.

c) The failure of BT's models to reconcile BT's decision to implement NCCNs 985 and 986 with profit maximisation by BT points to important considerations that they do not fully capture.

2.140 We accept that BT's theoretical models are based on orthodox underpinnings in economic theory. But in our view the models are not complete (e.g. the absence of real-world considerations that the MNOs may take into account in their pricing decisions, or analysis of profit-maximisation by the TCP – see paragraphs 2.91 to 2.99). Theoretical models rarely are complete, because of the complexity of real-world situations and decision-making. That, however, is an important point and it is the reason why we consider that the magnitude of the Direct effect predicted by BT's theoretical models is insufficiently robust in the absence of greater supporting empirical evidence.

2.141 Therefore, we do not consider that BT's models are sufficiently comprehensive or reflective of real-world pricing decisions to make accurate quantitative predictions of the true incentives of the MNOs to change their 0845/0870 prices. So we maintain our provisional conclusion that the magnitude of the Direct effect is uncertain.

2.142 As set out above, our revised provisional conclusions now vary as between the direction and magnitude of the Direct effect, i.e. we consider that the Direct effect is more likely to be positive for consumers, but the magnitude remains uncertain. In essence, the reason for this variation is that we partially accept BT's arguments:

a) We agree that BT and its advisers have identified a relevant effect and that it would require strong opposing effect(s) to reverse the incentive on MNOs to reduce their 0845/0870 prices. Whilst we cannot exclude the possibility that the proposed tariffs could result in an increase in 0845/0870 call prices, we consider that the balance of the available evidence suggests that it is more likely that the MNOs have an incentive to reduce these prices than to increase them. These considerations underpin our revised provisional conclusion on the direction of the Direct effect.

b) However, we do not accept that BT's models are sufficiently comprehensive or reflective of real-world pricing decisions or that their predictions on the magnitude of the Direct effect are robust. The various possibilities we have identified about both opposing effects and considerations missing from BT's analysis are likely to influence the magnitude of the pricing responses to NCCNs 985 and 986. These considerations underpin our provisional conclusion that the magnitude of the Direct effect remains uncertain.

Revised provisional conclusion on consumer effects

2.143 In the Draft Determination we included Table 2.2 shown below to summarise our analysis (this was Table 5.12 in the Draft Determination). Our provisional conclusions are unchanged from the Draft Determination on the Mobile tariff package effect and the Indirect effect. On the Mobile tariff package effect we maintain the provisional conclusion that an adverse impact on mobile customers is likely through higher prices for other mobile services and we expect this effect to be significant, although its precise speed and scale is uncertain (see paragraphs 5.189 and 6.24 of the Draft Determination). On the Indirect effect there may be sufficient competitive pressure on

BT to ensure that some benefits are passed on over time to SPs, but it is unclear that callers to 0845/0870 numbers will necessarily benefit (see paragraphs 5.229 and 6.25 of the Draft Determination).

Table 2.2: Summary of direction of effects on consumers

		0845/0870 prices fall	0845/0870 prices unchanged	0845/0870 prices rise
(i)	Direct effect	Positive for consumers	No effect	Negative for consumers
(ii)	Mobile tariff package effect	Negative	Negative	Negative
(i) & (ii)	Overall effect at originating end	Positive, if the Direct effect is sufficiently large	Negative	Negative
(iii)	Indirect effect	Positive for SPs, but uncertain for callers	Positive for SPs, but uncertain for callers	Positive for SPs, but uncertain for callers
(i), (ii) & (iii)	Overall across both originating and terminating ends	Positive, if the Direct effect is sufficiently large	Negative	Negative

Implication of our modified conclusion on the Direct effect

2.144 As set out above, we have revised our provisional conclusion on the direction of the Direct effect compared to the Draft Determination, i.e. our conclusion now is that it is more likely to be positive for consumers (i.e. that 0845/0870 prices will fall) than negative for consumers. This change means that we now place greater weight on the left hand column in Table 2.2.

2.145 However, we maintain our provisional conclusion that the magnitude of the Direct effect is uncertain. This is important to our overall provisional conclusion, especially as our provisional conclusions on the Mobile tariff package effect and the Indirect effect are unchanged from the Draft Determination. For example, if instead we concluded that the Direct effect was sufficiently large to bring MNOs' 0845/0870 prices down to below 12.5ppm (i.e. the bottom tier of BT's termination charges), it would imply that there was an overall benefit to consumers (see the discussion of the 'reference case' at paragraphs 5.194-5.198 of the Draft Determination for further details).

2.146 We also note the important contrast between:

- MNOs rebalancing their prices to have lower 0845/0870 prices and higher prices for other mobile services (either voluntarily or as a consequence of possible future regulation); and

- MNOs rebalancing their prices in response to NCCNs 985 and 986 with lower 0845/0870 prices through the Direct effect and higher prices for other mobile services through the Mobile tariff package effect.

2.147 In the former case, we have a clear preference for the rebalanced structure of prices which involve 0845/0870 prices more closely aligned with our policy preference – see paragraph 4.32 of the Draft Determination.

2.148 But the latter case is different because the rebalancing arises in the context of the higher termination charges above the bottom tier in NCCNs 985 and 986, which will result in a loss of profit for the MNOs (see paragraph 5.168) - all they can do is minimise their loss of profit.

2.149 The two cases are only similar if the MNOs reduce their prices down to the bottom tier, since at this level the MNOs do not pay higher termination charges to BT. Although that is the theoretical prediction in Dobbs 4, we do not consider that this is a result on which we should rely as accurately reflecting all of the MNOs' important real-world considerations. Therefore, there are offsetting effects: the Direct effect which is likely to be beneficial for consumers; the Indirect effect which is likely to benefit SPs but it is uncertain whether it will benefit callers to 0845/0870 numbers; and the Mobile tariff package effect which in our view is likely to be detrimental to consumers. Our overall conclusion on the impact on consumers therefore depends on the relative sizes of these effects and these are uncertain.

Available evidence

2.150 BT advances a further argument in its response to the Draft Determination. It contends that it has done all the analysis it can and it places an unreasonable burden on BT to expect it to do more.[683] There are limitations on the empirical analysis that BT can conduct, given that the Direct effect concerns the response of MNOs to NCCNs 985 and 986 and BT is not a MNO.

2.151 We note that there may be limits to the amount of empirical analysis that BT could have undertaken (although we do not accept that it could not have undertaken any).[684] We do not accept that we have placed an unreasonable burden on BT. In the context of a dispute it is Ofcom, as regulator, that ultimately has to make a decision to determine the dispute based on the evidence before it. Where feasible, we carry out our own analysis. However, in the context and timeframe of this Dispute, we do not consider that it was possible to initiate our own empirical analysis (e.g. into consumer behaviour or attitudes, and the nature of demand or price-setting decisions for 0845/0870 calls).

2.152 We have looked at all of the voluminous evidence provided to us by the six Parties to the Dispute (and by the interested stakeholders). We have sought to interrogate it both from the point of view of its strengths and weaknesses in theory and in practice. We have used our information-gathering powers to obtain more information and have assessed the resulting evidence. For the reasons set out at paragraphs 2.5 to 2.14

[683] BT Response, paragraph 65

[684] It is not clear that BT has exhausted all of the possible analysis. For example, empirical analysis of the calls that BT originates could provide evidence to support the relevance to real-world pricing decisions of BT's theoretical economic models, including the proposition that profit maximisation implies elastic demand (or a significant spillover effect). We note that BT relied on its theoretical models in its initial submission to us in this Dispute – it was open to BT at that stage, or in advance of that date, to undertake such empirical analysis.

above, the inherent constraints in the dispute resolution process place some practical limits on the scope and extent of our analysis, and that of the Parties.

2.153 We note it was BT's choice to initiate NCCNs 985 and 986 in the [✂],[685] rather than waiting to prepare its evidence more fully or to seek to influence the outcome of our current policy project, the NGCS Review, such as by submitting its analysis into that process of regulatory policy development.[686] That was clearly a choice that was entirely open to BT to take. But it did so in the knowledge of the nature and limitations of the dispute resolution process.

2.154 In this Dispute we must exercise our discretion to make a reasoned, proportionate decision. That involves making a judgement on the evidence before us in the time available and that includes limited empirical evidence on some of the important issues (e.g. to support the accuracy of BT's theoretical models to the MNOs' real-world pricing decisions and their predictions on the magnitude of the Direct effect, or to support alternative models of price-setting and quantitative predictions).

2.155 Whilst BT has been able to show us certain things in theory (such as that a Direct effect that is positive for consumers is more likely than a negative effect), we consider that the following considerations mean that the appropriate provisional conclusion now is for us to find that Principle 2 is not met:

a) First, the lack of sufficient empirical evidence on the relative magnitude of the Direct, Mobile tariff package and Indirect effects to allow us to reach a more definitive conclusion on the overall effect on consumers.

b) Second, implementation of NCCNs 985 and 986 raises complicated matters which may have unintended, unforeseen or wider implications. We consider this in greater detail below under Principle 3 where it is also of relevance, It has not been feasible for us fully to explore these concerns in the time available.

c) Third, many of the issues related to NCCNs 985/986 and alternative approaches to achieve desirable outcomes for consumers fall within the scope of our current policy project, the NGCS Review. Without the same constraints as apply to dispute resolution, we expect in the NGCS review to be capable of reaching a clearer view of the desired outcomes and the appropriate policy option(s) to achieve them.

Provisional conclusion on Principle 2

2.156 In these circumstances, although we recognise the possibility that consumers could benefit from NCCNs 985 and 986, we also recognise the risk of harm to consumers from changing the industry arrangements from those in place before these NCCNs, particularly in light of our provisional conclusions on the Mobile tariff package effect. Given the uncertainty which we have identified as to whether BT's NCCNs would result in a net benefit, or a net harm to consumers, we consider it reasonable, in light of our overriding statutory duties to further the interests of consumers, to place greater weight on this potential risk. Our provisional conclusion, therefore, is that Principle 2 is not sufficiently likely to be met.

[685] [✂]

[686] We referred to this review in advance of BT's notification of NCCNs 985 and 986 in the Statement in the Review of the fixed narrowband services wholesale markets, 15 September 2009, paragraph 15.21, http://www.ofcom.org.uk/consult/condocs/wnmr_statement_consultation/main.pdf

Principle 3: unintended, unforeseen or wider implications

2.157 In the Draft Determination (at paragraphs 1.18, 5.336 to 5.339 and 6.44) we discussed the risk of unintended, unforeseen or wider implications in the context of NCCNs 985 and 986 representing a break with industry convention and previous regulatory practice.

2.158 First, a number of respondents have recognised that NCCNs 985 and 986 represent a substantial change in the approach to termination charges for NTS numbers or more generally, because the TCP's termination charge varies with the OCP's retail call price. BT itself recognises that it is a "radical departure from the existing pricing practice"[687]. T-Mobile/Orange considers that Ofcom has failed to give sufficient weight to the fact (recognised in the Draft Determination) that BT's approach is a break with industry convention and previous regulatory practice[688]. Vodafone suggests that BT's charging arrangements may frustrate the realisation of Ofcom's policy preference because they diverge so fundamentally from the established regulatory model for termination of calls to geographic numbers[689]. Virgin Media refers to recent exploitation of regulatory and contractual loopholes that has caused considerable disruption and uncertainty[690].

2.159 Second, in the Draft Determination we identified a number of practical difficulties of implementation that remain unresolved, such as the implications of porting at the OCP end and the cost to OCPs of calculating their average prices. Although some respondents, such as BT and C&W, consider that the practical difficulties can be addressed including through commercial negotiation, no specific solutions are identified in their responses. The details of the methodology to derive each OCP's average retail price are also not yet defined and would be matters for commercial negotiation. The MNOs and Virgin Media consider that we have significantly underestimated the practical difficulties of implementation, e.g. to derive average retail prices and implement wholesale billing either with TCPs or MVNOs.

2.160 Third, we recognise that NCCNs 985 and 986 would introduce significant additional complexity (in part reflecting the implementation issues). For example, different TCPs have already set different termination charge schedules linked to the OCP's retail price (i.e. BT, IV Response, Gamma and C&W). OCPs are likely therefore to be charged different termination rates by different TCPs. The OCPs will therefore have to consider their response, e.g. how to vary their prices, taking this variation in termination charge schedules into account. These termination charge schedules may also be changed by each TCP at different times. Further complexity arises because some calls to 0845/0870 numbers involve MVNOs and transit operators. We have also commented above on the complexity of real-world pricing decisions by the MNOs (and the limitations in any model of economic theory in capturing them adequately). These complexities and the inherent difficulty in analysing operators' pricing responses and their implications might lead to unintended and unforeseen consequences. The unintended consequences may include: increases in 0845/0870 prices, or reductions that are smaller than the increases in the prices of other mobile services (through the Mobile tariff package effect); incomplete pass-on by TCPs of higher termination charges into better deals offered to SPs; no or limited benefit to callers to 0845/0870 numbers from any pass-on that occurs; deterrence to tariff

[687] Paragraph 110, BT Response
[688] Page 24, T-Mobile/Orange Response
[689] Paragraph 2.3, Vodafone Response
[690] Page 1, Virgin Media Response

innovation by OCPs; or competitive distortions between OCPs, transit operators or TCPs.

2.161 Fourth, we are aware of the potential for significant wider implications of our decision in the Dispute. BT has introduced NCCNs for tiered termination charges in relation to 080 calls as well as 0845 and 0870 calls. We note that another TCP, IV Response, has introduced tiered termination charges in relation to other 08 numbers, such as 0844 and 0871. In addition, O2 has raised the question of tiered mobile termination charges being introduced in relation to fixed-to-mobile calls (see paragraph 4.102 of the Draft Determination). Some respondents have also questioned whether such a fundamental change of a move to termination charges linked to retail prices should be introduced through the process of dispute resolution rather than the process of regulatory policy development, taking a broad perspective of issues and policy options, allowing more time for analysis and including full consultation with all affected stakeholders that is not feasible in the context of a dispute. The constraints on the dispute resolution process compared to policy development are discussed at paragraphs 2.5 to 2.14 above.

2.162 Given a free choice, we agree that such a policy development process (for example our ongoing NGCS Review) would represent a more desirable approach to such a substantial and important change with wide-ranging implications. However, we must resolve this dispute now. In this context it is important to note that we do not consider that it would be appropriate for us to wait until the outcome of the NGCS Review to resolve this Dispute, as this would entail a significant delay, during which time the MNOs would continue to have to pay BT's new charges.

2.163 Fifth, we have been clear that our analysis in the Dispute takes existing regulatory policy as given. If we ultimately decide in the NGCS Review to change regulatory policy or obligations (such as direct regulation of OCPs' prices or other measures), this is therefore not bound by, and would supercede, the analysis in the Dispute. Given this, we have considered the desirability of the changes that NCCNs 985 and 986 would bring as a radical change to existing termination charging arrangements with complex issues of practical implementation, wide-ranging implications, the potential for unforeseen or unintended consequences and material disruption to the sector as the knock-on effects of all these changes are worked through. Without fettering our discretion, the NGCS Review may decide within a year to introduce significant changes to the regulatory regime for 0845/0870 numbers, which might have important implications for the costs and benefits of termination charges linked to OCPs' retail prices, or might implement a further set of changes in industry arrangements, including policy options that are beyond the scope of this Dispute. We are therefore concerned about the potential for a major and potentially disruptive set of changes in industry arrangements to implement NCCNs 985 and 986, which may subsequently be rolled back or substantially affected within one year. Such changes may include: the development of methodologies to derive average retail prices with an associated cost; modifications to wholesale billing systems for OCPs, TCPs and transit operators; changes to retail billing systems for OCPs; revised contracts between TCPs and SPs; and adjustments to tariff packages for mobile customers.

2.164 If we were in a position to conclude that there would be clear and unequivocal benefits to consumers from NCCNs 985 and 986, we might place less weight on these concerns. However, given our provisional view that Principle 2 continues not to be met, we consider that these concerns are relevant.

Provisional conclusion on Principle 3

2.165 In light of the above, and the uncertainty which we have identified as to the practical effects of BT's NCCNs, we provisionally conclude that Principle 3 is not satisfied.

Provisional conclusion: Are the termination charges in NCCN 985 and NCCN 986 fair and reasonable?

2.166 Taking into consideration our revised provisional assessment across the three Principles, our provisional conclusion is that it is not fair and reasonable for BT to apply new termination charges for calls to 0845 and 0870 numbers hosted on its network, which are based on the level of the retail charge made by OCPs for calls to these numbers, as specifically set out in BT's NCCNs 985 and 986 dated 2 October 2009. We have reached this provisional conclusion on the basis that the charges do not satisfy Principle 2 and Principle 3 on the evidence currently available to us.

2.167 We invite comments on the matters set out in this Section, and any other matters which stakeholders consider to be relevant. The supplementary consultation closes at 5pm on Wednesday 21 July 2010.

Annex 5

Comment by Professor Valletti on the analysis of Multiple Price Points in Reid 1

A5.1 Below I address the question of whether the analysis by Reid[691] provides a sufficient or reliable basis for the reliance placed on it by Professor Dobbs, which is set out in paragraph 9 of Dobbs 4

A5.2 Below I address the question of whether the analysis by Reid[692] provides a sufficient or reliable basis for the reliance placed on it by Professor Dobbs, which is set out in paragraph 9 of Dobbs 4:

> "In fact the Dobbs-3 (and also Dobbs-1, Dobbs-2) approaches effectively focus on the relation between the WTS and the average retail price. The fact that the latter is often disaggregated (in complex ways to facilitate price discrimination) turns out to be of no significance. This point is proved mathematically in the analysis presented in Reid-1. In that paper it was shown that complex (but profit maximising) tariff bundle design does not affect the relationship between the average price at the retail level and the price charged at the wholesale level – essentially because the WTS defines a link between wholesale price and the average retail price. The MNO may choose to disaggregate the latter in various ways through price discrimination but this does not affect the incentive created by the WTS to incentivise reductions in the average retail price. This point is acknowledged by Ofcom (see for example, para A3.24). The Reid-1 more detailed analysis thus explains why it is acceptable to simply focus on the relation between wholesale price and average retail price, as in the Dobbs analysis. Indeed, Reid-1 shows that the consideration on each and every price point within a MNOs use of price discrimination is actually a test on the average price, exactly as is carried out by the Dobbs 3 approach. Establishing this point was one of the major reasons for the additional analysis presented in Reid-1."

A5.3 In general, I find it a bit difficult to read the analysis conducted by Reid. In particular, I could not find in Reid fully-specified utility functions, and therefore how demand functions are derived, which typically provide the basis for price discrimination. Also, I could not find any first-order conditions in the analysis of profit maximisation, rather some Taylor expansions with second-order approximations. While this approach may give correct results, I simply note that this method is a bit "unorthodox", as it makes it cumbersome to follow the derivations.

[691] See section H.2, paragraphs 90-145 in Reid 1 and the further explanation in Annex 1 to BT's Response of 21 July 2010 to the Supplementary Consultation.
[692] See section H.2, paragraphs 90-145 in Reid 1 and the further explanation in Annex 1 to BT's Response of 21 July 2010 to the Supplementary Consultation.

A5.4 Still at a general level, the analysis of Reid carried out in paragraphs 90-145 is valid for local (infinitesimal) changes of wholesale prices, and not for steps. The analysis about steps contained in Section I is inconclusive.

A5.5 A last criticism to the general approach of Reid concerns the endogeneity of most of the expressions derived. For instance, eq. (48) attempts to provide an expression for the profit maximising price. However, this is defined as a function of a newly-introduced variable α_{Ji} which is then defined in eq. (49), and in eq. (50) for a simpler case with no cross-price elasticity. This variable is defined in terms of the very same profit maximised price. The same applies, for instance, to the variables defined as β_{Ji} in eq. (52), α'_{Ji} in eq. (55), σ^{J}_{ii} in eq. (83), or the term ζ in the "further explanation" at page 7, and so forth. Since the price therefore appears both on the left-hand side, and on the right-hand side of each inequality on the "gradient", I cannot tell if an increase in the price will make the inequality more or less likely to hold, as both sides of the inequality will be affected by the change of the price.

A5.6 Moreover, these additional terms can hardly be signed. For instance, it is incorrect to say that, in general, the term α'_{Ji} in eq. (55) is always positive. With multi-product firms, the margins on some products may even be negative if they expand the demand for some complementary products. Thus α'_{Ji} can be, in general, either positive or negative, and Reid is incorrect when stating his "necessary" and "sufficient" conditions, for instance at page 27, as no such claim can be made.

A5.7 It is important to distinguish between first-, second- and third-degree price discrimination, each of which Reid 1 claims to address.

A5.8 As regards third-degree price discrimination, the results of Reid, subject to the comments made above, seem however economically sensible.

A5.9 For second degree price discrimination, it is very difficult for me to follow the analysis of Reid. In microeconomics, 2nd degree price discrimination means looking at incentive-compatible menus, whereby different types of customer select among all available offers. The seller is not able to differentiate between different types of consumers, and will instead have to provide incentives for the consumers to differentiate themselves according to their preferences. This is very different from 3rd degree price discrimination where a customer cannot choose the option of another customer, while it can move only along its own market segment. Nowhere does Reid draw this distinction. He considers some quantity discounts in Section H.2.4, but he does not perform any proper analysis of 2nd degree price discrimination. Instead, he relies on an analysis of 2nd degree price discrimination which is analogous to 3rd degree price discrimination, an approach which is not warranted. Since Reid does not specify utility functions (see my general point at paragraph A5.3 above), I do not know what the source of heterogeneity and asymmetric information is in this context, which could generate a sensible analysis of 2nd degree price discrimination. I should add that a general, and proper, analysis of 2nd degree price discrimination, with a non-concave profit function after the introduction of the WTS, would be in my view extremely hard to carry out.

A5.10 For first-degree price discrimination, Reid is wrong when claiming, at paragraph 86 that "[w]hile the practicalities of first degree price discrimination are different to third degree price discrimination, the analyses are essentially the same". On the contrary, under 1st degree price discrimination (i.e., every 08 call is charged differently to every customer) the analysis of Reid and his results would not apply. Under 1st degree price discrimination, in fact, essentially the supplier sets the price equal to the willingness-to-pay of each customer, i.e., it moves along the demand function, and will supply until the willingness to pay of the last customer is exactly equal to marginal cost. Since the WTS unambiguously increases marginal costs, clearly there will be less 08 calls: while infra-marginal prices will not change (i.e., to these customers that are served both with and without WTS), there will be less "marginal" customers after the introduction of the WTS.

A5.11 For the reasons set out above, my conclusion is that Reid 1 does not provide a sufficient or reliable basis for the reliance placed on it by Dobbs in only modelling the average price and not multiple price points, especially in cases other than third-degree price discrimination.

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