COMPETITION COMMISSION

References under section 193 of the Communications Act 2003

British Telecommunications Plc v Office of Communications
Case1193/3/3/12

British Sky Broadcasting Limited and TalkTalk Telecom Group Plc v Office of Communications
Case1192/3/3/12

Determinations

27 March 2013

Website: www.competition-commission.org.uk

Members of the Competition Commission who conducted this appeal

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1. Introduction to the Competition Commission's determinations

Introduction

1.1. On 7 March 2012, the Office of Communications (Ofcom) published a statement entitled 'Charge control review for LLU and WLR services' (the 2012 Statement). The 2012 Statement imposed charge controls on British Telecommunications plc (BT) in relation to its supply of Local Loop Unbundling (LLU) and Wholesale Line Rental (WLR) services; the decision to impose the charge controls was taken pursuant to sections 45 and 87 of the Communications Act 2003 (the Act).

1.2. The charge controls for these services are a consequence of Ofcom's 2010 reviews of the wholesale local access (WLA) and wholesale fixed analogue exchange line (WFAEL) markets. In both markets, Ofcom identified that BT (Openreach)[1] has significant market power (SMP) and that charge controls were necessary as a remedy to address Openreach's ability to fix or maintain prices at an excessively high level for LLU and WLR services in the respective markets.

1.3. Following a further examination of the WLA and WFAEL markets within the context of this charge control review, Ofcom found that there had not been a material change in either of those markets. The charge controls therefore set the prices that Openreach can charge communications providers (CPs), including the rest of BT, for LLU and WLR products and various ancillary services. The charge controls apply to the period from 1 April 2012 to 31 March 2014.

1.4. Local loops are the fixed local access connections which run from end-users' premises to their local exchange. LLU is a process by which the local loops belonging to Openreach are physically disconnected from Openreach's network and connected to the network of another CP and used by that CP to provide voice services and data (broadband) services to business and residential retail customers over that connection. CPs can use two types of LLU product: metallic path facility (MPF) (voice and broadband) and shared metallic path facility (SMPF) (broadband only).

1.5. WLR allows CPs to rent an end-to-end service over the copper local loop which runs from a BT exchange to a customer home/premises, so that the CP can offer voice telephony services to business and residential customers (for example, telephone calls, facsimile and dial-up Internet access). If the CP wished to offer its customers broadband as well, it could do so using SMPF (see above) or by using a different wholesale product called Wholesale Broadband Access (WBA), in combination with WLR. WBA is the subject of a separate charge control and a separate appeal and reference to the Competition Commission (CC).[2]

The appeals

1.6. Two separate appeals were brought pursuant to section 192(2) of the Act against certain parts of Ofcom's decision contained in the 2012 Statement.

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[1] Openreach is an operating division of BT. BT said that Openreach is a functionally separate business within BT, which was set up as a result of a number of undertakings in lieu of a reference to the Competition Commission (under section 154 of the Enterprise Act 2002) given to Ofcom by BT on 22 September 2005 as part of measures intended by Ofcom to increase competition in the provision of telecommunications services over fixed lines. Openreach manages BT's copper access network (the 'local loop') so that other BT businesses and competing communications providers (CPs) can access that network on an open and equal basis. Access to the local loop allows CPs to deliver voice and broadband services to homes and businesses over BT's copper network. (BT NoA, ¶2).

[2] Case number 1187/3/3/11.

1.7. On 8 May 2012 the Competition Appeal Tribunal (the Tribunal) gave notice of the receipt of an appeal by BT against Ofcom's decision (the BT Appeal).[3] British Sky Broadcasting Limited (Sky) and TalkTalk Telecom Group (TalkTalk), and Everything Everywhere Limited (EE) (the Interveners) were granted permission to intervene.[4] Sky and TalkTalk have conducted their intervention jointly.

1.8. On 8 May 2012, the Tribunal also gave notice of the receipt of an appeal by Sky and TalkTalk (conducting their appeal jointly) against Ofcom's decision (the Sky/TalkTalk Appeal).[5] BT and EE were both granted permission to intervene.[6]

The appellate framework

1.9. The Act provides for a specific appellate regime for appeals relating to price controls imposed by Ofcom. It provides, in relevant part:

> **192 Appeals against decisions by OFCOM, the Secretary of State etc.**
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> …
>
> (2) A person affected by a decision to which this section applies may appeal against it to the Tribunal.
>
> …
>
> (5) The notice of appeal must set out—
>
> (a) the provision under which the decision appealed against was taken; and
>
> (b) the grounds of appeal.
>
> (6) The grounds of appeal must be set out in sufficient detail to indicate—
>
> (a) to what extent (if any) the appellant contends that the decision appealed against was based on an error of fact or was wrong in law or both; and
>
> (b) to what extent (if any) the appellant is appealing against the exercise of a discretion by OFCOM, by the Secretary of State or by another person.
>
> **193 Reference of price control matters to the Competition Commission**
>
> (1) Tribunal rules must provide in relation to appeals made under section 192(2) relating to price control that the price control matters arising in that appeal, to the extent that they are matters of a description specified in the rules, must be referred by the Tribunal to the Competition Commission for determination.

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[3] Case number 1193/3/3/12.
[4] Orders of the Tribunal made on 31 May 2012 and 26 June 2012 respectively.
[5] Case number 1192/3/3/12.
[6] Order of the Tribunal made on 26 June 2012.

(2) Where a price control matter is referred in accordance with Tribunal rules to the Competition Commission for determination, the Commission is to determine that matter—

(a) in accordance with the provision made by the rules;

(b) in accordance with directions given to them by the Tribunal in exercise of powers conferred by the rules; and

(c) subject to the rules and any such directions, using such procedure as the Commission consider appropriate.

(3) The provision that may be made by Tribunal rules about the determination of a price control matter referred to the Competition Commission in accordance with the rules includes provision about the period within which that matter is to be determined by that Commission.

(4) Where the Competition Commission determines a price control matter in accordance with Tribunal rules, they must notify the Tribunal of the determination they have made.

(5) The notification must be given as soon as practicable after the making of the notified determination.

(6) Where a price control matter arising in an appeal is required to be referred to the Competition Commission under this section, the Tribunal, in deciding the appeal on the merits under section 195, must decide that matter in accordance with the determination of that Commission.

(7) Subsection (6) does not apply to the extent that the Tribunal decides, applying the principles applicable on an application for judicial review, that the determination of the Competition Commission is a determination that would fall to be set aside on such an application.

…

(9) For the purposes of this section an appeal relates to price control if the matters to which the appeal relates are or include price control matters.

(10) In this section 'price control matter' means a matter relating to the imposition of any form of price control by an SMP condition the setting of which is authorised by—

(a) section 87(9);

(b) section 91; or

(c) section 93(3).

…

195 Decisions of the Tribunal

(1) The Tribunal shall dispose of an appeal under section 192(2) in accordance with this section.

(2) The Tribunal shall decide the appeal on the merits and by reference to the grounds of appeal set out in the notice of appeal.

(3) The Tribunal's decision must include a decision as to what (if any) is the appropriate action for the decision-maker to take in relation to the subject-matter of the decision under appeal.

(4) The Tribunal shall then remit the decision under appeal to the decision-maker with such directions (if any) as the Tribunal considers appropriate for giving effect to its decision.

(5) The Tribunal must not direct the decision-maker to take any action which he would not otherwise have power to take in relation to the decision under appeal.

(6) It shall be the duty of the decision-maker to comply with every direction given under subsection (4).

1.10. The Tribunal rules referred to in section 193 are the Competition Appeal Tribunal (Amendment and Communications Act Appeals) Rules 2004 (SI 2004 No 2068) (the 2004 Rules). The 2004 Rules provide, in relevant part:

Reference of price control matters to the Competition Commission

3.—(1) For the purposes of subsection (1) of section 193 of the Act, there is specified every price control matter falling within subsection (10) of that section which is disputed between the parties and which relates to—

(a) the principles applied in setting the condition which imposes the price control in question,

(b) the methods applied or calculations used or data used in determining that price control, or

(c) what the provisions imposing the price control which are contained in that condition should be (including at what level the price controls should be set).

…

(5) The Tribunal shall refer to the Commission for determination in accordance with section 193 of the Act and rule 5 every matter which … it decides is a specified price control matter.

…

Determination by Competition Commission of price control matters

5.—(1) Subject to any directions given by the Tribunal (which may be given at any time before the Commission have made their determination), the Commission shall determine every price control matter within four months of receipt by them of the reference.

(2) The Tribunal may give directions as to the procedure in accordance with which the Commission are to make their determination.

(3) The Tribunal may give directions under this rule of its own motion or upon the application of the Commission or of any party.

1.11. As noted above, the SMP conditions imposed by Ofcom in the 2012 Statement were imposed pursuant to section 87(9) of the Act. In Ofcom's 2010 reviews of the WLA and WFAEL markets, BT was found to have SMP in those markets, and a charge control was found to be necessary. In the 2012 Statement, Ofcom confirmed that there had been no material change in either market since Ofcom's market power determinations in relation to those markets.

1.12. The parties to the BT Appeal and the Sky/TalkTalk Appeal agreed that the price control matters in the Appeals fell to be referred to the CC for determination.

The Tribunal's references

BT Appeal

1.13. By an Order of 24 July 2012, pursuant to Rule 3(5) of the 2004 Rules and section 193 of the Act, the Tribunal referred to the CC for its determination the specified price control questions arising in the BT Appeal.[7]

1.14. That reference required us to determine two questions as to whether Ofcom had erred in setting price controls at an inappropriate level for reasons given by BT in its Notice of Appeal (NoA). The first of these questions related to cost allocation and had seven distinct elements. However, one element (question 1(iii), regarding the valuation of BT's copper assets using standard work activity units) was subsequently withdrawn.[8] The second question related to the use of a Regulatory Asset Value (RAV) for BT's pre-1997 duct assets.

1.15. A third question asked us to include in our determination, if the CC found that Ofcom had erred in relation to any of the preceding questions, clear and precise guidance as to how any such error found should be corrected; and in so far as is reasonably practicable, a determination as to any consequential adjustments to the charge controls.

1.16. A copy of the reference is at Appendix A.

Sky/TalkTalk Appeal

1.17. By an Order made on 28 September 2012, pursuant to Rule 3(5) of the 2004 Rules and section 193 of the Act, the Tribunal referred to the CC for its determination the specified price control questions arising in the Sky/TalkTalk Appeal.[9]

[7] By an Order made on 24 July 2012, the Tribunal granted BT permission to withdraw its appeal in relation to matters arising in the WBA appeal (Case 1187/3/3/11).
[8] Order of the Chairman of the Tribunal, 14 September 2012.
[9] On 12 October 2012, the Tribunal ordered that the deadline for requesting permission to appeal this reference be extended until one month from the date on which the Tribunal makes its final order disposing of the Sky/TalkTalk Appeal.

1.18. That reference required us to determine one question as to whether Ofcom had erred in setting price controls at an inappropriate level for the reasons given by Sky/ TalkTalk in its NoA. The question had five distinct elements and we were required to consider whether Ofcom had erred in one or more of these respects, taken individually or (if appropriate) in combination.

1.19. A second question asked us to include in our determination, if the CC found that Ofcom had erred in relation to any of the preceding questions, clear and precise guidance as to how any such error found should be corrected; and in so far as is reasonably practicable, a determination as to any consequential adjustments to the charge controls.

1.20. A copy of the reference is at Appendix B.

Aligning the two appeals

1.21. Both references gave us a deadline of 29 March 2013 by which to determine the issues that had been put to us.

1.22. We considered that aligning the two appeals would be beneficial due to the common issues of fact and law arising in each appeal and because it would facilitate a coherent and coordinated approach to the question of remedies; we also anticipated that there would be procedural economies and cost savings associated with hearing the appeals together. In line with this, we have concluded that it would also be appropriate to produce a single document setting out answers to the questions that were referred to us in the BT Appeal and the Sky/TalkTalk Appeal.

The structure of our determinations

1.23. Following this introduction we address in subsequent sections each of the elements of the first two Reference Questions in the BT appeal. We then address the elements of the first Reference Question in the Sky/TalkTalk Appeal. Within each section, we summarize the arguments and evidence put to us by the parties and determine whether Ofcom has erred for any of the reasons put to us.

1.24. We then turn to the correction of any errors. We first address the third Reference Question in the BT appeal, and second, we address the second Reference Question in the Sky/TalkTalk Appeal, both of which relate to how any error(s) found should be corrected and the consequential adjustments to the charge controls.

1.25. In the remainder of this introductory section we address the following topics which are intended to provide the legal and broader factual context to this determination:

(a) the legal framework for the regulation of the telecommunications sector in the UK;

(b) our role and the standard of review we applied;

(c) our approach to assessing the materiality of any mistakes;

(d) our consideration of the admissibility of evidence not before Ofcom at the administrative stage; and

(e) the procedure we followed in preparing this determination.

The legal framework

1.26. Regulation of the telecommunications sector takes place across Europe under the Common Regulatory Framework (CRF). The CRF consists of a number of Directives, the most relevant of which are Directive 2002/21/EC on the common regulatory framework for electronic communications networks and services (the Framework Directive, as amended) and Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities (the Access Directive, as amended). The CRF imposes on member states the obligation to designate independent national regulatory authorities (NRAs), sets out objectives and principles that the NRAs are to be guided by in carrying out their functions, obliges them to carry out market reviews, and empowers them to impose certain obligations on undertakings with SMP including price controls. Of particular relevance are Articles 8 and 13 of the Access Directive which provide, in relevant parts:

> *Article 8*
>
> **Imposition, amendment or withdrawal of obligations**
>
> 1. Member States shall ensure that national regulatory authorities are empowered to impose the obligations identified in Articles 9 to 13a.
>
> 2. Where an operator is designated as having significant market power on a specific market as a result of a market analysis carried out in accordance with Article 16 of Directive 2002/21/EC (Framework Directive), national regulatory authorities shall impose the obligations set out in Articles 9 to 13 of this Directive as appropriate.
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> …
>
> *Article 13*
>
> **Price control and cost accounting obligations**
>
> 1. A national regulatory authority may, in accordance with the provisions of Article 8, impose obligations relating to cost recovery and price controls, including obligations for cost orientation of prices and obligations concerning cost accounting systems, for the provision of specific types of interconnection and/or access, in situations where a market analysis indicates that a lack of effective competition means that the operator concerned might sustain prices at an excessively high level, or apply a price squeeze, to the detriment of end-users. To encourage investments by the operator, including in next generation networks, national regulatory authorities shall take into account the investment made by the operator and allow him a reasonable rate of return on adequate capital employed, taking into account the risks specific to a particular new investment network project.
>
> 2. National regulatory authorities shall ensure that any cost recovery mechanism or pricing methodology that is mandated serves to promote efficiency and sustainable competition and maximise consumer benefits. In this regard national regulatory authorities may also take account of prices available in comparable competitive markets.

1.27. The UK's NRA is Ofcom and the CRF was implemented in the UK by the Act, in which the powers and duties set out in the Directives are reflected.

1.28. The Act, in line with the CRF, imposes general duties and objectives upon Ofcom. These include, in section 3, duties to further the interests of citizens in relation to communications matters and to further the interests of consumers in relevant markets, where appropriate by promoting competition. Section 4 imposes certain duties on Ofcom for the purpose of fulfilling EU obligations, which, in so far as are relevant, include a requirement to promote competition in relation to the provision of electronic communications networks and services, an obligation to encourage the provision of network service and interoperability for the purpose of securing efficient investment and innovation, and a requirement to take account of the desirability of it carrying out its functions in a manner which, so far as practicable, does not favour one form of electronic communications network, service or associated facility over another or one means of providing or making available such a network, service or facility over another.

1.29. Section 45 of the Act provides Ofcom with the power to set binding conditions, including SMP conditions. An SMP condition can be applied to a communications provider that Ofcom has determined as having SMP in a specific market (section 46(7)–(8)), but only if Ofcom is satisfied that the following tests (found in section 47) are met:

(a) that the condition is objectively justifiable in relation to the networks, services, facilities, apparatus or directories to which it relates;

(b) that the condition is not such as to discriminate unduly against particular persons or against a particular description of persons;

(c) that the condition is proportionate to what it is intended to achieve; and

(d) that the condition is, in relation to what it is intended to achieve, transparent.

1.30. Section 87(9) gives Ofcom the specific power to set SMP conditions that impose price controls. The imposition of price controls is subject to section 88, which provides, in relevant part:

> **88 Conditions about network access pricing etc.**
>
> (1) OFCOM are not to set an SMP condition falling within section 87(9) except where—
>
> (a) it appears to them from the market analysis carried out for the purpose of setting that condition that there is a relevant risk of adverse effects arising from price distortion; and
>
> (b) it appears to them that the setting of the condition is appropriate for the purposes of—
>
> (i) promoting efficiency;
>
> (ii) promoting sustainable competition; and
>
> (iii) conferring the greatest possible benefits on the end-users of public electronic communications services.

(2) In setting an SMP condition falling within section 87(9), OFCOM must take account of the extent of the investment in the matters to which the condition relates of the person to whom it is to apply.

1.31. Although the specific questions that have been referred to us for determination focus on particular aspects of the price controls, we have had regard, in relation to each of them, to the CRF and the domestic provisions implementing it. We consider our conclusions to be consistent with the legal framework.

Standard of review

1.32. In our determination of the price control references in Mobile Call Termination (MCT)(1),[10] Cable and Wireless,[11] Carphone Warehouse (LLU),[12] Carphone Warehouse (WLR),[13] MCT(2)[14] and WBA,[15] we outlined the nature of our appellate function under the Act. In these determinations, we have followed the same approach as in those cases, in particular as set out in paragraphs 1.30 to 1.33 of the CC Determination in MCT(1), which we have also cited in other cases:

> 1.30 Section 195(2) of the 2003 Act provides for an appeal on the merits. Section 192(6) shows that appeals can be brought on the basis of errors of fact or law or against the exercise of discretion. The Tribunal interpreted its role under a section 192 appeal as being one of a specialist court designed to be able to scrutinize the detail of regulatory decisions in a profound and rigorous manner. In our view, our role in determining the specified price control matters that have been referred to us is similar. We note that this is the role that appears to have been contemplated for us by the Tribunal in its Reference Ruling and in the wording of the Reference itself (Reference Question 8 in particular).
>
> 1.31 We also note that the wording of rule 3 of the 2004 Rules envisages a determination of disputes that relate to the principles or methods applied or the calculations or data used in determining a price control, as well as disputes that relate to what the provisions imposing the price control should be (including at what level the price control should be set). That also suggests a rigorous and detailed examination of the price control matters subject to appeal.
>
> 1.32 We have carried out that examination with the purpose of determining whether Ofcom erred for any of the specific reasons put forward by the parties. In determining whether it did so err, we have not held Ofcom to be wrong simply because we considered there to be some error in its reasoning on a particular point—the error in reasoning must have been of sufficient importance to vitiate Ofcom's decision on the point in whole or in part.

[10] CC determination: *Hutchison 3G UK Limited and BT v Ofcom, consolidated, Cases 1083/3/3/07* and *1085/3/3/07, Mobile Call Termination,* 16 January 2009.
[11] CC determination: *Cable & Wireless v Ofcom, Case 1112/3/3/09 Determination,* 30 June 2010.
[12] CC determination: *Carphone Warehouse v Ofcom*, *Case 1111/3/3/09 Local Loop Unbundling,* 31 August 2010.
[13] CC determination: *Carphone Warehouse v Ofcom*, *Case 1149/3/3/09 Wholesale Line Rental,* 31 August 2010.
[14] CC determination: *BT and others v Ofcom, consolidated Cases 1180–1183/3/3/11 Wholesale Mobile Call Termination,* 9 February 2012.
[15] CC determination: *BT v Ofcom*, Case 1187/3/3/11 *WBA,* 11 June 2012.

> 1.33 We have also kept in mind the point made by the Interveners that Ofcom is a specialist regulator whose judgement should not be readily dismissed. Where a ground of appeal relates to a claim that Ofcom has made a factual error or an error of calculation, it may be relatively straightforward to determine whether it is well founded. Where, on the other hand, a ground of appeal relates to the broader principles adopted or to an alleged error in the exercise of a discretion, the matter may not be so clear. In a case where there were a number of alternative solutions to a regulatory problem with little to choose between them, we do not think it would be right for us to determine that Ofcom erred simply because it took a course other than the one that we would have taken. On the other hand, if, out of the alternative options, some clearly had more merit than others, it may more easily be said that Ofcom erred if it chose an inferior solution. Which category a particular choice falls within can necessarily only be decided on a case-by-case basis.

1.33. In the TalkTalk WBA case,[16] the Tribunal reiterated, by reference to its earlier decision in an appeal brought by H3G against Ofcom,[17] that the appeal was conducted on the merits and not in accordance with the rules that would apply on a judicial review. It cited the statement that the appropriate level of scrutiny in such appeals was 'profound and rigorous' and added that 'the question is whether Ofcom's determination was right, not whether it lies within the range of reasonable responses for a regulator to take'. We think this approach is also consistent with the recent judgment of Moses LJ in *EE v Competition Commission* [2013] *EWCA Civ 154*, CA at [23] and [24].

1.34. In respect of Reference Questions that relate to instances where it can legitimately be said that Ofcom has exercised regulatory judgement and/or discretion, we noted that the Tribunal in the TalkTalk WBA case observed in paragraphs 73 and 74:

> 73. That said, we are mindful of two other important *dicta* regarding the Tribunal's role on a section 192 appeal. First, Jacob LJ in *T-Mobile (UK) Limited v Office of Communications* [2008] EWCA Civ 1373 made absolutely clear that the section 192 appeal process is not intended to duplicate, still less, usurp, the functions of the regulator. In paragraph 31, he stated:
>
>> 'After all it is inconceivable that Article 4 [of the Framework Directive], in requiring an appeal which can duly take into account the merits, requires Member States to have in effect a fully equipped duplicate regulatory body waiting in the wings just for appeals. What is called for is an appeal body and no more, a body which can look into whether the regulator has got something materially wrong. That may be very difficult if all that is impugned is an overall value judgment based upon competing commercial considerations in the context of a public policy decision.'
>
> 74. Secondly, and following on from this point, in *T-Mobile (UK) Limited v Office of Communications* [2008] CAT 12, the Tribunal noted (at paragraph 82):

[16] *Case 1186/3/3/11 TalkTalk v Ofcom [2012] CAT 1 [71–72].*
[17] *Case 1083/3/07 Hutchison 3G v Ofcom [2008] CAT 11 [164].*

'It is also common ground that there may, in relation to any particular dispute, be a number of different approaches which OFCOM could reasonably adopt in arriving at its determination. There may well be no single "right answer" to the dispute. To that extent, the Tribunal may, whilst still conducting a merits review of the decision, be slow to overturn a decision which is arrived at by an appropriate methodology even if the dissatisfied party can suggest other ways of approaching the case which would also have been reasonable and which might have resulted in a resolution more favourable to its cause.'

1.35. In its judgment on the 2011 MCT Appeals, the Tribunal reiterated the role of the CC in this process:

(ii) However [the CC's role] under section 193 is not to exercise an original or investigative jurisdiction. That is OFCOM's role. The Commission's role is to determine, on the merits, the Reference Questions remitted to it. These Reference Questions arise out of the notices of appeal made in respect of OFCOM's decision. Thus, albeit in a somewhat indirect way, the Commission is reviewing on the merits the decision of another administrative body. In short, the Commission is acting as an administrative appeal body.[18]

1.36. The parties to these appeals have made various submissions in relation to the standard of review that should be adopted by us. Generally, the parties accepted the principles laid out above, subject to some debate as to how the principles should be interpreted. There was, however, a difference of opinion between Ofcom and the Appellants over the extent to which Ofcom should be granted a margin of appreciation in respect of its regulatory judgment.

1.37. Ofcom said that it was the clear intention of Parliament to confer a broad measure of discretion on Ofcom in making its decisions.[19] It said that the CC's and Tribunal's roles were not simply to substitute their judgment for Ofcom's; in order to justify intervention at the appellate stage, it was necessary for a material error to have been shown in Ofcom's approach.[20] Ofcom considered that as the expert regulator with specialist sectoral expertise, appointed by Parliament to make policy decisions involving complex economic judgments, its judgment ought not lightly to be interfered with.[21] It said that on matters of regulatory judgment, the CC should accord Ofcom a margin of appreciation in recognition of its status as specialist regulator.[22] It said that case law showed that the CC should not revisit Ofcom's decision on appeal merely because there were other reasonable positions that could be taken on a given matter, particularly in relation to judgments about future events or where it had to rely on estimates or assumptions, and the CC happened to prefer a different position. In order to succeed, the Appellants must show that Ofcom got something wrong.[23] In order to establish that Ofcom had erred in the exercise of its discretion, the Appellants must show that it erred in principle in its approach, failed to take account of relevant considerations, took into account irrelevant considerations, or reached a

[18] *BT and others v Competition Commission [2012] CAT 11, [188(2)(ii)].*
[19] Ofcom Defence (BT Appeal), ¶27.
[20] Ofcom Defence (BT Appeal), ¶28.
[21] Ofcom Defence (BT Appeal), ¶30.
[22] Ofcom Defence (BT Appeal), ¶37.4.
[23] Ofcom Defence (BT Appeal), ¶37.2.

decision in the exercise of its discretion which was wholly wrong because it did not balance the various factors fairly.[24]

1.38. Ofcom said that the approach the CC had previously adopted (see paragraph 1.32) could set the bar too low for appeals against discretionary judgments, only deferring to Ofcom's views where options had little to choose between them. It said that the discretionary power had been conferred on Ofcom and (in the absence of an error of fact or law) Ofcom's discretionary decision should only be disturbed if Ofcom had exceeded the generous ambit of reasonable disagreement. It said that it was not sufficient that the CC's opinion was that Ofcom's decision was 'inferior' or even 'clearly … inferior' to some alternative option.[25]

1.39. In its pleadings and at the hearing,[26] Ofcom referred to recent judgments of the Court of Appeal and the Tribunal in which the point was made, in relation to appeals from Ofcom's determination of disputes pursuant to section 186(4) of the Act, that '… if Ofcom has addressed the right question by reference to relevant material, any value judgement on its part, as between different relevant considerations, must carry great weight'.[27]

1.40. On the other hand, Sky/TalkTalk and BT said that Ofcom's submissions sought to strip out the content of an appeal on the merits. Sky/TalkTalk said that if even demonstrating that Ofcom adopted an approach which was clearly inferior to an alternative that was available to it were insufficient to ground such a merits appeal, Ofcom would leave no effective daylight between a merits appeal against a discretionary decision and a judicial review.[28] Sky/TalkTalk said that while Ofcom relied on the intention of Parliament to give Ofcom a broad measure of discretion, this overlooked that Parliament also expressly provided for a merits appeal against the exercise of such discretion.[29] In relation to the judgments of the Court of Appeal and Tribunal in the context of Ofcom's dispute resolution role, EE and Sky/TalkTalk expressed the view that these judgments were not relevant to the CC and Tribunal's determination of appeals under section 192(2) of the Act because they related to Ofcom's role in determining disputes, which they said was completely different from Ofcom's role in setting charge controls.[30]

1.41. BT said that in its view the judgments of the Court of Appeal and Tribunal in the context of Ofcom's dispute resolution role did not reflect a new and relaxed standard of review, as Ofcom contended. BT also submitted that Ofcom's position left no scope for an appeal on the merits (as the Act provided) in a case where regulatory judgment was involved, and effectively collapsed such an appeal into judicial review proceedings in the Administrative Court, in which a decision must be shown to be irrational, not wrong on the merits.[31] In BT's view, the CC's previously stated guidance on the applicable standard of review struck the correct balance between the competing considerations which were at play.[32] It said that it was still necessary for the CC to consider whether Ofcom conducted its assessment:

[24] Ofcom Defence (BT Appeal), ¶37.3.
[25] Ofcom Defence (Sky/TalkTalk Appeal), ¶34.
[26] For example, Ofcom Core Submission Volume 1 (Sky/TalkTalk Appeal), ¶¶ 9–10, and Ofcom Bilateral Hearing transcript, pp15–17.
[27] *Telefónica v Ofcom [2012] EWCA Civ 1002,* paragraph [67], and *Telefónica v Ofcom [2012] CAT 28,* paragraph [45].
[28] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), ¶6.
[29] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal). ¶8.
[30] Sky/TalkTalk Core Submission, Volume 2 (Sky/TalkTalk Appeal), ¶12; letter dated 4 January 2013 from Towerhouse Consulting on behalf of Sky/TalkTalk; letter dated 4 January 2013 from EE.
[31] BT SoI (Sky/TalkTalk Appeal),¶¶14–15.
[32] BT SoI (Sky/TalkTalk Appeal). ¶16.

> with appropriate care, attention and accuracy so that their results are soundly based and can withstand the profound and rigorous scrutiny that the Tribunal will apply on an appeal on the merits under section 192 of the CA 2003 *(Vodafone v Ofcom* [2008] CAT 22 at paragraph [46]).[33]

1.42. We did not consider that any arguments of the parties, including those by Ofcom in relation to the judgments of the Court of Appeal and Tribunal in the context of Ofcom's dispute resolution role, were cause for us to depart from the approach that we have followed previously and which has been summarized above with reference to the CC's previous determinations. We also consider that this approach has received a broad measure of support from the judgment of the Court of Appeal in *EE v Competition Commission* [2013] *EWCA Civ 154, CA*, at, in particular, [34] and [35]–[39].

1.43. The role of the CC is to establish whether Ofcom erred on the merits. We have therefore assessed whether the decision that Ofcom took was correct on the basis of the material in the 2012 Statement and the parties' pleadings and submissions (including clarifications obtained at the bilateral hearings). In the 2011 MCT Appeals, the Tribunal made it clear that the CC's determination is dependent upon the issues as laid down by the appellant and upon the evidence put before it by the parties:

> … it is important to note that, in Section 192 Appeals:
>
> The grounds of appeal are laid down by the appealing party in its notice of appeal. It is the appealing party which determines the issues that will be examined on appeal.
>
> The evidence in support of those grounds is produced by the appealing party at the time when the notice of appeal is lodged. Naturally, that evidence will be supplemented when—in time—the respondents to the appeal (and any interveners) serve their pleadings in response. The critical point to note, however, is that the evidence before the Tribunal comes from the parties to the appeal.[34]

1.44. The Tribunal went on to add: 'The Commission's role is confined to determining the questions referred to it by the Tribunal. The Commission is not investigating anything—it is determining whether OFCOM erred in its decision for the reasons set out in the notice of appeal.'[35]

1.45. The Act also requires that the grounds of appeal be set out in sufficient detail to indicate:

> *a)* to what extent (if any) the appellant contends that the decision appealed against was based on an error of fact or was wrong in law or both; and
>
> *(b)* to what extent (if any) the appellant is appealing against the exercise of a discretion by OFCOM, by the Secretary of State or by another person.[36]

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[33] BT Core Submission (BT Appeal) Volume 2, ¶4. The same text was referred to by other parties, eg EE SoI (BT Appeal), ¶21.
[34] *BT and others v Competition Commission [2012] CAT 11 [197].*
[35] *BT and others v Competition Commission [2012] CAT 11 [203].*
[36] Section 192(6) of the Act.

1.46. Sky/TalkTalk stated that each of the errors that it alleged in its NoA were generally mixed errors of fact, law and discretion.[37] We would have found it helpful if the NoA had provided more detail as to why the alleged errors were errors of law; in other words, which specific legal obligation(s) Ofcom had breached in committing the alleged error, and why the Appellant considered that those obligations had been breached.

1.47. In its response to the provisional determination, Sky/TalkTalk said that categories of errors of fact, law or discretion were not necessarily mutually exclusive, for example errors of fact may constitute or lead to errors of law, and that it may not be apparent to an appellant precisely what type of error Ofcom has committed.[38] Sky/TalkTalk explained that by errors of law in respect of volume forecasts (see paragraph 9.155), it was referring to its allegation of a failure to promote competition, economic efficiency and consumer benefits in turn as a result of errors of fact or discretion. It confirmed that it was not alleging any further free-standing errors of law and therefore there was no detail to particularize.[39] Sky/TalkTalk also expressed concern with the CC's classification of errors into errors of facts or discretion in the context of its letter regarding the correction of errors that it had provisionally found (the remedies letter), and it expressed concern that different categories of errors would be treated differently for the purpose of correcting them.[40]

1.48. First, we agree with Sky/TalkTalk that the three categories of errors referred to in section 192(6) of the Act are not mutually exclusive. The only point we seek to make is that it is important that, whenever an error of law is alleged, it is particularized with a degree of detail that permits the CC to focus its assessment appropriately. Secondly, we do not consider that the way in which an error is categorized necessarily has consequences in terms of the manner in which it is corrected. The fact that in this case the errors of fact may be relatively straightforward to correct, while errors in the exercise of discretion may be relatively more complex to correct, is due to the nature of the errors rather than their categorization as an error of law, fact or the exercise of discretion.

Models

1.49. In relation to Reference Questions where the Appellant alleged that Ofcom had erred because it had adopted a model that the Appellant considered was deficient, our assessment followed the approach endorsed by the Tribunal in the 2011 MCT Appeals. In that case, the Tribunal noted in paragraph 279:

> (2) The Commission quite rightly accepted that when considering the construction of a model, a model could only ever hope to be an approximation of reality. In short, no model can, ever, perfectly reflect reality. This is important when considering appeals in relation to models. It is *not* enough for an appellant to say that a model is an imperfect reflection of reality. That is a truism that takes the argument no further. An appellant must do more than that and show that the model is *deficient* in the sense that a *different model could better approximate reality*. We doubt very much that such a point can be made good simply by showing (still less, merely by contending) that the model imperfectly reflects reality: we consider an appellant would have to state specifically and in

[37] Sky/TalkTalk NoA, ¶7, ¶42, ¶56, ¶70, ¶99, ¶121A.
[38] Sky/TalkTalk Response to PD, ¶¶1.8–1.16.
[39] Sky/TalkTalk Response to PD, ¶¶1.17–1.23.
[40] Sky/TalkTalk Submission on Remedies, ¶¶1.8–1.12.

good time *how* the model could be rendered a better approximation of reality.

(3) Where an appellant is able to demonstrate this, it *may* be that an appeal can succeed on the merits. However, that will not necessarily be the case. As the Commission recognised, the construction of a model involves *judgment*. Many, many different ways of modelling a situation may suggest themselves, and each may have advantages and dis-advantages. In short, there may be many 'right answers' (or, more particularly, many models that are similarly 'bad' at approximating reality), and a decision-maker like OFCOM will have to choose one out of these many. We consider that the Commission was entirely right in being slow to criticise OFCOM for picking one particular model out of many potential alternatives.[41]

Materiality

1.50. In its defence, Ofcom submitted that any error on its part would need to be shown to be material in order to justify a finding that it had erred. It pointed out that the CC had previously recognized that:

> … Ofcom has made no error if the effort that Ofcom would have had to expend to satisfy CPW's criticisms would have been disproportionate to the likely change that it would make to the price control ….[42] Ofcom did not err in setting the price control where any error of fact or approach did not have a material effect on the price control set. This means that any errors we have found must have been capable of producing some material effect upon the actual price control.[43]

1.51. In relation to each of BT's grounds of appeal, Ofcom expressed BT's estimate of the error (change in per line MPF rental) as a proportion of the total MPF cost stack, and its impact on X (as an element of the RPI–X charge control). It stated that while the first two alleged errors (RAV and the price adjustment for line testing) were more substantial, the remaining errors were of much less, if any, materiality to the level of the price control. [44]

1.52. BT submitted that it was wrong to consider the remaining alleged errors as not material. It noted that the CC stated in the Carphone Warehouse (LLU) case:

> We have concluded that an error will not be a material error where it has only an insignificant or negligible impact in relative terms on the overall level of price control that has been set by Ofcom. Where, for example, the impact of any perceived error would be a 0.1 per cent change in the price control level we have concluded that such an impact is not material. It would fall within an acceptable margin of error for a regulator.[45]

1.53. BT pointed out that all the errors that it had alleged exceeded 0.1 per cent.[46] It referred to copper recovery income where it said this alleged error had a value of

[41] *BT and others v Competition Commission [2012] CAT 11*, [279].
[42] CC determination in Carphone Warehouse (LLU), ¶1.61.
[43] CC determination in Carphone Warehouse (LLU), ¶1.62.
[44] Ofcom Defence (BT Appeal), ¶43.
[45] CC determination in Carphone Warehouse (LLU), ¶1.62.
[46] BT Core Submission (BT Appeal), Volume 2, ¶19.

£0.64p per MPF line or 0.8 per cent of the value of the price control level. It said that if Ofcom's argument that this was not material were accepted, it would mean that errors which underestimated or misallocated costs to the tune of over £10 million would be considered not material.[47] BT also submitted that any error which would have an impact on X, and therefore affected the calculation of the charge control, was material. It said that a 0.2 per cent impact on X (as alleged for copper recovery income) would have an impact of £12 million in total which on any measure was a material sum of money.[48]

1.54. BT also submitted that if materiality should take account of the work it was appropriate to ask a regulator to undertake to investigate or correct its errors, then it was clear that an error of low absolute value that required extensive analysis to be undertaken was qualitatively different from an error which was admitted, where little or no further work had to be carried out and the value of the error was already established. BT stated that it was reasonable for admitted errors to be corrected in the charge control models so that the impact of such errors could be mitigated on a forward-looking basis.[49] BT also argued that it was not consistent for Ofcom to have undertaken detailed analysis of small value items in the price control but then to argue that the same items were not material in relation to an appeal,[50] and it stated the consequence of non-trivial errors not being corrected would result in Openreach being unable fully to recover its efficiently incurred costs.[51]

1.55. BT noted that it had carefully targeted grounds of appeal and that it had not conducted its appeal in a scattergun manner. It suggested that it might be justifiable for us to aggregate non-material errors where they were admitted or not complex and/or there was no risk of a scattergun approach to appeals.[52]

1.56. EE stated that while Ofcom referred to the size of the suggested correction as a proportion of the MPF cost stack and of the value of X for this cost stack, it considered that another relevant consideration was the size of the suggested correction as a proportion of the WLR and SMPF cost stacks and the value of X for these costs stacks. It said that Ofcom had ignored the impact of any errors on these services. It said that correcting for these errors would reduce the cost of SMPF and WLR services as well as increasing the cost of MPF services, and the correction would therefore have a material effect on the relative competitive position of MPF and WLR+ SMPF services.[53]

1.57. Sky/TalkTalk said that they deliberately selected grounds of appeal where they estimated that this would lead to changes of at least £1 per line per year in the controlled charges.[54]

Our assessment

1.58. We considered that our task was to identify whether Ofcom's decision had been shown to be materially in error; in other words, whether any mistakes had a material impact in the context of the price control.

[47] BT Core Submission (BT Appeal), Volume 2, ¶¶9–10.
[48] BT Core Submission (BT Appeal), Volume 2, ¶¶11–12.
[49] BT Core Submission (BT Appeal), 2nd W/S Shurmer, ¶23.
[50] BT Core Submission (BT Appeal), 2nd W/S Shurmer, ¶21.
[51] BT Core Submission (BT Appeal), 2nd W/S Shurmer, ¶25.
[52] BT Core Submission (BT Appeal), Volume 2, ¶¶20–21, 58 & 98.
[53] EE Core Submission (BT Appeal), ¶157.
[54] Sky/TalkTalk SoI (BT Appeal) ,¶11.

1.59. We have not found it possible to set out a general approach to the assessment of materiality; we did not find that such an assessment would be amenable to a formal analytical scheme. Instead, while our approach is broadly similar to that in the CC determinations in Carphone Warehouse (LLU) and Carphone Warehouse (WLR), we considered materiality in the context of the specific facts that arose in these Appeals.

1.60. In each case, we took into account the following factors, none of which we viewed individually as necessarily defining a sufficient condition for materiality:

(a) the impact of the mistake as a percentage of the relevant charge control; in this context, we noted the CC's determination in Carphone Warehouse (LLU) that where the impact is below 0.1 per cent, the mistake is unlikely to be capable of producing a material effect on the charge control; in those circumstances it fell within an acceptable margin of error for a regulator. In our view, this is not, and was not intended to be, a bright-line test for the assessment of materiality. The impact of the mistake as a percentage of the charge control is but one factor in an overall assessment based on all the circumstances of the case;

(b) the effort that Ofcom would have had to expend to consider and address fully appellants' criticisms; we noted that this factor may in some instances overlap with the assessment of whether or not it is proportionate for a material error to be corrected;

(c) persistency, ie whether, if the mistake were not corrected, it would be likely to be repeated or produce effects that persist for longer than the current price control period;

(d) whether the mistake relates to a matter of economic or regulatory principle;

(e) whether the mistake has a distortive effect in that it works in different directions or impacts to a different extent on different products or services, thus potentially distorting competition between them;

(f) the impact of the mistake on any particular companies that are affected if the error is not corrected, and whether this could distort competition between different providers; and

(g) any other factors that may be relevant in the particular context of the issue under consideration.

Aggregation

1.61. BT suggested that it might be justifiable to aggregate non-material errors where they were agreed, or not complex and/or there was no risk of a scattergun approach to appeals.[55]

1.62. We noted that in Carphone Warehouse (WLR and LLU), the CC had stated that it would be cautious about elevating the immaterial into the material and that aggregation might encourage a scattergun approach on the part of appellants in future appeals, with a great number of wholly insignificant points taken by an appellant in the hope that if assessed on a cumulative basis, all such minor points would be remedied. The CC expressed the view in those determinations that it did not think that this was the purpose of the appeal process, which is to carry out an appellate

[55] BT Core Submission (BT Appeal) Volume 2, ¶¶20–21 & 58.

review of Ofcom's decision and not to retake the decision itself. We agreed with these views in the context of these Appeals.

1.63. In the BT Appeal, we found only one mistake by Ofcom that we considered was not material. This related to Corporate Overheads (BT Appeal, Question 1(i)).[56] The question of whether or not mistakes, whether related to or not, should be aggregated therefore did not need to be addressed in the BT Appeal.

1.64. Reference Question 1 of the Sky/TalkTalk Appeal required us to determine whether the price controls had been set at a level which was inappropriate because Ofcom erred in a number of respects, taken individually or (if appropriate) in combination. Sky/TalkTalk's NoA did not explain how they considered that it might be appropriate for any errors to be combined. The implication, in paragraph 4 of Sky/TalkTalk's NoA, was that this might be relevant to the assessment of materiality. In the context of the Sky/TalkTalk Appeal, we found no instances of non-material errors, and the question of whether or not errors should be combined therefore did not need to be addressed.

Remedies

1.65. We have indicated in previous determinations (CC determination in Carphone Warehouse (WLR), paragraph 1.67) that we would consider materiality in the context of deciding whether or not it is proportionate for an error to be corrected. We considered that it would be appropriate to adopt that approach in these Appeals. We noted that there may be some overlap between this assessment and factor *(b)* at paragraph 1.60. Where relevant, the issue formed part of our consideration of how any errors found should be corrected and which consequential adjustments should be made to the charge control (Question 3, BT Appeal; Question 2, Sky/TalkTalk Appeal).

Admissibility of new evidence

1.66. In its defence, Ofcom contended that evidence that was not before it at the administrative stage was not admissible in the context of these appeals. This was particularly relevant to two grounds of appeal: Question 1(vi) in the BT Appeal (line testing for copper lines) and Question 1(ii) in the Sky/TalkTalk Appeal (fault rates). In relation to Question 1(iv) of the BT Appeal (copper recovery income), Ofcom also noted that BT had not presented relevant information to it during the administrative stage.[57]

1.67. We set out below our view of the considerations relevant to admissibility of such evidence in appeals under the Act. We then outline our decision on admissibility of evidence in relation to the specific Reference Questions mentioned above.

1.68. The overall test for admissibility applied by the CC is based on Rule 22 of the Tribunal Rules 2003, since those rules are applied by the CC where appropriate as part of its own procedure (pursuant to the CC *Rules of Procedure, CC1*, paragraph 17.3) and, in addition, that would be the test to be applied if we were to insist that parties reverted to the Tribunal on admissibility issues. Rule 22 provides as follows:

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[56] We also provisionally found an unrelated mistake in the context of repair costs/jeopardy management (BT Appeal, Question 1(v)), but the mistake identified did not form part of BT's appeal.
[57] Ofcom Defence (BT Appeal), Annex D, ¶¶14–15.

Evidence

22.—(1) The Tribunal may control the evidence by giving directions as to—

(a) the issues on which it requires evidence;

(b) the nature of the evidence which it requires to decide those issues; and

(c) the way in which the evidence is to be placed before the Tribunal.

(2) The Tribunal may admit or exclude evidence, whether or not the evidence was available to the respondent when the disputed decision was taken.

1.69. In line with judgment of the Court of Appeal in *BT v Ofcom*,[58] the CC will consider whether, in all the circumstances of the case, it is in the interests of justice to admit the evidence. Factors that the CC is likely to take into account include: *(a)* the reasons for the evidence being adduced late; *(b)* the potential probative value of the evidence; *(c)* the ability of the other parties to address the evidence without undue prejudice; *(d)* whether a refusal to admit the evidence would cause the applicant real prejudice or harm; and *(e)* potential prejudice to parties (including consumers) in costs, delay or otherwise.

Consideration of admissibility in relation to specific grounds of appeal

1.70. We now consider the questions of admissibility in relation to the grounds of appeal set out in paragraph 1.66.

Allegation of inadmissibility in relation BT Appeal, Question 1(vi) (line testing copper lines)

1.71. BT has alleged that Ofcom has incorrectly allocated the Line Testing/Test Head costs because it has failed to allocate any of these costs to MPF services, even though the Test Heads are in fact used to carry out testing on MPF lines, and has instead shared these costs between SMPF and WLR lines. According to BT, the effect of this is to double-count these costs for users of WLR plus SMPF, because these two services are provided using the same copper line.[59]

1.72. BT explained that during the information-gathering stage it had provided Ofcom with a model allocating the costs of Line Testing.[60] It said that its model erroneously allocated the costs of the Test Heads to WLR and out-of-scope services. Ofcom made a number of adjustments to the model, with which BT disagreed.[61] It appears to us that BT's appeal in effect seeks to correct mistakes in the model it provided to Ofcom during the administrative phase.

[58] *BT v Ofcom [2011] EWCA Civ 245*, [71–73].
[59] BT Notice of Appeal ,¶157.
[60] BT Notice of Appeal, ¶159.
[61] BT Notice of Appeal ,¶¶160–163.

Ofcom's position

1.73. Ofcom's fundamental objection to this aspect of BT's appeal is that Ofcom's allocation of Line Testing Equipment Cost to SMPF and not to MPF was based on the allocation of costs which BT proposed to it.[62] In its Defence, Ofcom invited us not to make any adjustment to the charge control in circumstances where a regulated entity sought to rely on new information in an appeal, where that information *(a)* directly contradicted the information that that entity in fact provided the regulator in the course of consultation and *(b)* could have been provided in the course of consultation.[63]

1.74. In Ofcom's view, as a matter of principle, BT should not be permitted to resile from a position which it consistently advanced during the administrative stage. Such an approach would ensure that stakeholders were encouraged to supply the right information to Ofcom from the outset; were discouraged from seeking a radical adjustment on the basis of providing exaggerated information at the administrative stage since they knew they could introduce other existing information on appeal in support of a less radical adjustment; and avoiding the need for Ofcom and the CC to undertake complex additional calculations or investigations on appeal, which could and should have been undertaking during the consultation process.[64]

BT's position

1.75. BT disagreed with Ofcom's views. In Volume 2 of its Core Submission, BT stated that Ofcom's objections paid no regard to the fact that this was an appeal on the merits, rather than a challenge by way of judicial review.[65] BT drew a comparison between Ofcom's position in this appeal and the argument it pursued—unsuccessfully—before the Court of Appeal in *BT v Ofcom [2011] EWCA Civ 245*.[66]

1.76. BT accepted that it was essentially oversight on its part that led to the late discovery of the cost allocation error. It did not hold the point back in the interest of a tactical ambush, having no incentive to do so in circumstances where relief in the event of a charge control appeal succeeding had been held not to be retrospective.[67] BT explained that its oversight reflected the complexity of the charge control process.[68]

EE's position

1.77. EE, in its Core Submission, supported BT in relation to admissibility of the material, pointing out that the determination of the level of the charge control was not a bilateral dispute between two parties, Ofcom and BT. Rather it was a matter of significant public importance because almost every household and business in the UK had either a fixed phone line or broadband service, or both. The level of the charge control determined the prices that were paid by these customers. In addition, it affected the intensity and effectiveness of competition in the market, in particular in light of the fact that different operators relied on different wholesale services (ie SMPF or MPF) in offering broadly equivalent broadband services at the retail level.

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[62] Ofcom Defence (BT Appeal), ¶7. Paragraphs 9–21 of Ofcom's Defence describe in detail the interaction between Ofcom and BT on this issue; they are not summarized or reproduced here as they are not crucial to the consideration of admissibility of evidence.
[63] Ofcom Defence (BT Appeal), ¶26.
[64] Ofcom Defence (BT Appeal), ¶27.
[65] BT Core Submission (BT Appeal), Volume 2, ¶26.
[66] BT Core Submission (BT Appeal), Volume 2, ¶28.
[67] BT Core Submission (BT Appeal), Volume 2, ¶29.
[68] BT Core Submission (BT Appeal), Volume 2, ¶30.

EE itself relied on WLR+SMPF services. It said that if Ofcom's view prevailed, then these operators would be penalized.[69]

1.78. In support, EE cited the requirement in Article 4 of the Framework Directive requiring member states to ensure that there were effective appeal mechanisms in place against charge control decisions. Consistent with this, section 192 of the Act provided that such appeals were on the merits. In this context, EE referred to statements by the Tribunal that Ofcom's decisions should be scrutinized in a profound and rigorous manner. It said that the question for the Tribunal was not whether the decision to impose a price control was within the range of reasonable responses but whether the decision was the right one (*Hutchison 3G UK Ltd v Ofcom [2008] CAT 11*, paragraph 164).[70]

Our assessment

1.79. In its Defence, Ofcom invited us not to make any adjustment to the charge control in circumstances where a regulated entity sought to rely on new information by way of appeal, where that information *(a)* directly contradicted the information that that entity in fact provided the regulator in the course of consultation and *(b)* where that information could have been provided in the course of consultation. In our view, if we agreed with Ofcom, this would have the effect of excluding the relevant evidence and, in effect, the ground of appeal would fail. We therefore considered if this would be appropriate in the circumstances; in other words, whether or not it would be in the interests of justice to exclude the evidence in this case.

1.80. First, we noted that the effect of the exclusion of the material would be to dismiss a ground of appeal which would otherwise succeed. The probative value of the fresh evidence was high since Ofcom did not challenge the substance of the point made on the basis of the fresh evidence.

1.81. BT explained that it had not provided the evidence to Ofcom at the administrative stage due to an oversight related to the complexity of the charge controls. Ofcom has not argued that the evidence was deliberately withheld, and we are not persuaded that BT had an interest in doing so.

1.82. We agreed with EE that the correctness of price controls is a matter that is of importance, not just to BT, but also to competitors such as EE, and ultimately to consumers. Excluding the evidence would be prejudicial to these parties, as well as BT.

1.83. The new evidence was provided in BT's pleadings; Ofcom had an opportunity to apply to the Tribunal to have that evidence excluded, but did not do so. Ofcom has also had an opportunity to respond to it. While it is clearly preferable for parties to provide full, relevant and accurate information to Ofcom at the administrative stage, we did not consider that admitting new evidence in these circumstances would be unduly prejudicial to Ofcom.

1.84. Overall, we concluded that it was in the interests of justice to admit the evidence.

[69] EE Core Submission (BT Appeal), ¶61.
[70] EE Core Submission (BT Appeal), ¶64.

Allegation of inadmissibility in relation to Sky/TalkTalk Appeal, Question 1(ii) (fault rates)

1.85. In relation to the Sky/TalkTalk Appeal, Question 1(ii) (fault rates), Ofcom noted that Sky/TalkTalk had introduced new data on fault rates which was not provided to Ofcom during the administrative stage. Ofcom also pointed out that Sky/TalkTalk had not provided an explanation for this material not having been provided to Ofcom.[71]

1.86. At their hearing, Sky/TalkTalk explained that they had not submitted all the relevant data due to time pressure at the point that a response was required by Ofcom. Sky/TalkTalk also expressed the view that if Ofcom had found at the time that the data was not sufficiently robust, it should have requested Sky/TalkTalk to provide further detail.[72]

1.87. At its hearing, Ofcom indicated that it had decided in this case not to pursue the issue of whether this evidence should be admitted.[73]

1.88. Taking into account the high probative value of the evidence; the lack of formal objection from the parties to the Appeal to the admissibility of the evidence; the reason for it being submitted late; and the fact that Ofcom had had an opportunity to respond to the new evidence in the context of the core submissions, we took the view that it was in the interests of justice to admit the evidence.

Allegation of inadmissibility in relation to BT Appeal, Question 1(iv) (copper recovery income)

1.89. In respect of evidence submitted in the context of Question 1(iv) of the BT Appeal (copper recovery income), Ofcom said that BT had not previously suggested that it was appropriate to identify where the copper came from, and that at the administrative phase it had advocated a different indirect allocation basis from the one Ofcom selected.[74] According to Ofcom, it was not appropriate for BT, on appeal, to argue that Ofcom should not have used an indirect rule at all but should actually have investigated the source of the recovered copper. BT could have made that submission at any time, if it thought that was the appropriate method.[75] BT made the point in its NoA that Ofcom had not consulted on its proposed approach to the allocation of copper recovery income and therefore had not obtained information from BT as to how the income should be correctly allocated.[76]

1.90. It was not entirely clear from the pleadings to what extent Ofcom sought to rely on an argument that the fresh evidence from BT as to the source of the copper recovery income was inadmissible. However, we noted that: *(a)* Ofcom had not mounted a formal admissibility challenge; *(b)* the fresh evidence was highly relevant to our determination of this Reference Question; *(c)* it seemed plausible that BT's consideration of the source of copper recovery income was triggered by Ofcom's new methodology, on which it had not consulted; and *(d)* Ofcom had had an opportunity to respond to the fresh evidence in the context of the core submissions. In light of all of the above, we considered that it would be in the interests of justice to admit the fresh evidence.

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[71] Ofcom Defence (Sky/TalkTalk Appeal), Annex B, ¶¶14–15, Ofcom SoI, Volume 1 (Sky/TalkTalk Appeal), ¶19.
[72] Sky/Talk, Bilateral Hearing transcript, p30.
[73] Ofcom, Bilateral Hearing transcript, p13.
[74] Ofcom Defence (BT Appeal), ¶49.
[75] Ofcom Defence (BT Appeal), Annex D, ¶15.
[76] BT NoA, ¶136.

Our procedure

1.91. For these appeals we adopted a procedure which, in our view, was suited to the nature of our task. We informed the parties of the main steps in the procedure that we envisaged in our First Day Letter of 13 August 2012 for the BT Appeal, and 28 September 2012 for the Sky/TalkTalk Appeal.

1.92. Confidentiality rings had been established by the Tribunal in advance of the references being made to the CC.

1.93. We received the financial models used by Ofcom in setting the price control. Ofcom provided an explanation of these models in a meeting, which was attended by representatives from BT, Sky and TalkTalk. We attended a plenary hearing which consisted of a technical introduction to the relevant services, hosted by BT at its Battersea telephone exchange. This was attended by all parties, and the content of the presentations had been agreed between them in advance. We received written arguments and evidence from the parties; held bilateral hearings with each of them; and issued limited requests for clarification (copied to all parties) where we considered we needed further information. All correspondence, submissions and transcripts were copied to all parties; where necessary, confidential information was excised, although unexcised versions were provided to members of the confidentiality ring. Overall, a great deal of material was submitted throughout the process. We have taken very careful account of all the material submitted to us.

1.94. It would not be practicable to refer to or summarize in this determination all the submissions and evidence that we received from each party. Instead, in the sections that follow, we have referred to what we considered to be the key submissions and pieces of evidence in relation to each of the points we considered.

1.95. We provided a provisional determination report to the parties, setting out our provisional conclusions on the first two Reference Questions for the BT Appeal, and the first Reference Question for the Sky/TalkTalk Appeal, on 25 January 2013. We invited responses to the provisional determinations that focused on factual accuracy and errors of reasoning. We received responses from all the main parties, which we considered carefully, and where relevant we refer to these in this final determination.

1.96. At the same time, we sent the parties a remedies letter setting out our initial proposals on remedies and asking for the parties' views on how the errors we provisionally identified should be corrected, the nature and practicability of consequential adjustments to the charge control, and whether it was appropriate for the correction of any errors to be remitted to Ofcom. Again we have considered the parties' responses carefully and issued further requests for clarification where necessary. We held a remedies hearing with all the parties on 5 March 2013.

1.97. In undertaking these determinations, our intention has been, wherever possible, to conduct our investigation in such a manner and to express our determinations in such terms as to make clear what directions the Tribunal should give in respect of the specified price control matters when remitting the decision to Ofcom, so as to settle the question of what the price control should be for the period covered by the charge control. As far as possible, we have sought to ensure that the appeal will result in a revised price control being finalized without delay, and avoid a situation where there are issues which require substantial further work and the exercise of judgement by Ofcom. We consider that this approach is consistent with that adopted in, for example, the *Calls to Mobiles Appeal*[77] and *Carphone Warehouse Group plc v Ofcom.*[78]

[77] *Hutchison 3G UK Limited v Office of Communications* (Case 1083/3/3/07) and *British Telecommunications plc v Office of Communications* (Case 1085/3/3/07), which concerned wholesale voice mobile call termination charges (Calls to Mobiles Appeal).
[78] *The Carphone Warehouse Group plc v Ofcom* (Case 1111/3/3/09 and Case 1149/3/3/09), which concerned LLU and WLR.

2. BT Appeal

Corporate overheads

Reference Question 1(i)

2.1. This section (paragraphs 2.1 to 2.72) sets out our conclusions as to whether the price controls imposed on BT by paragraphs 10, 11 and 14 of, and Condition FAA4(A) in Part I, Schedule 1 to, Annex 12 of the Decision and paragraphs 10, 11, 14 and 15 of, and Condition AAAA4(WLR) in Part IV, Schedule 1 to, Annex 12 of the Decision have been set at a level which is inappropriate because Ofcom erred in forecasting BT's corporate overhead costs, for the reasons set out in paragraphs 96 to 109 of BT's NoA.

2.2. The essence of BT's appeal is that Ofcom's approach has resulted in it double-counting efficiency savings from Corporate Overheads in its model and that the consequence of this is to prevent Openreach from recovering its efficiently incurred costs.[1]

2.3. Our determination is that Ofcom did not err in forecasting BT's Corporate Overhead costs.

Summary of Ofcom's rationale and methodology

2.4. BT Group performs a range of corporate functions including Finance, HR, Legal and Regulatory. The costs incurred in providing these functions are referred to as Corporate Overheads. These costs are partly allocated to Openreach in the form of a transfer charge. Corporate Overheads were one of the significant categories of transfer charges, making up £141 million out of a total transfer charge of £1,216 million in 2009/10.[2] In 2009/10, £141 million of BT Group Corporate Overheads were allocated to Openreach, and Ofcom estimated that these charges would fall to £103 million in 2013/14.[3]

2.5. Ofcom's cost allocation is performed in two stages:[4]

(a) First, costs are forecast at an Openreach level in the cost forecast model. These are calculated using data based on historically observed activity levels and inputs together with estimates of future level of demand. As part of this process, costs from BT Group are allocated to Openreach. These are referred to as transfer charges.

(b) Second, these costs are allocated to individual products to derive unit cost estimates in the cost allocation model.

2.6. We understand that the transfer charges in the base year (2009/10) are based on actual cost information supplied by BT based on its management accounts. This actual data is adjusted by BT to be consistent with the 2009/10 Regulatory Financial

[1] BT Core Submission (BT Appeal), v1, ¶13.
[2] Ofcom Defence (BT Appeal), ¶A7.
[3] 2012 Statement, ¶A4.114.
[4] Ofcom Defence (BT Appeal), ¶A3.

Statements (RFS), which are prepared on a different basis from the management accounts. Such adjustments are described by BT as regulatory adjustments.[5]

2.7. Ofcom's general approach to the modelling of transfer charges was to use BT's data for 2009/10 and 2010/11. However, for 2011/12 to 2013/14 it considered that some of the assumptions used by BT to forecast transfer charges might have overstated future cost levels and therefore it revised BT's estimates of transfer charges by using its own efficiency and inflation assumptions. These assumptions are referred to as the forecasting formula. The formula's annual inflation assumption is a 2.5 per cent increase in most non-pay cash costs and the efficiency assumption is a 5 per cent gross (4.5 per cent net of implementation costs[6]) annual saving.[7]

Inflation rate

2.8. Ofcom said that forecasting inflation remained difficult and that based on HM Treasury forecasts, it considered that an assumption that Retail Price Index (RPI) inflation might average around 3 per cent in 2012/13 and 2013/14 was reasonable. After stripping out an estimate of the impact of expected changes in interest rates, it estimated that BT's underlying rate of inflation would be around 2.5 per cent (on the assumption that Openreach's costs would increase at a rate below forecast RPI).[8]

Efficiency assumption

Overall efficiency assumptions

2.9. Ofcom said that with regard to the overall efficiency assumption applied to transfer charges, it concluded that the appropriate gross efficiency rate should be 5.0 per cent, equivalent to a net annual efficiency rate of 4.5 per cent.[9]

2.10. During its consultations and in setting its overall efficiency assumption, Ofcom used a number of data sources that were both internal and external to Openreach. These included:

(a) Openreach historical trend;

(b) Openreach planning documents;

(c) independent business review (IBR) report (supplied by BT and benchmarking BT Group costs against a selection of comparable European operators);

(d) KPMG cost review;

(e) NERA/Deloitte statistical analysis (an econometric analysis conducted in 2009 which benchmarked Openreach's costs against US LECs[10]); and

(f) 2009 LLU appeal.[11]

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[5] Ofcom Defence (BT Appeal), ¶A5, & NoA WS Dolling/EXD, ¶41.
[6] We understand these are mainly redundancy costs.
[7] Ofcom Defence (BT Appeal), ¶A6.
[8] 2012 Statement, ¶6.54, p147.
[9] 2012 Statement, ¶6.42, p147.
[10] LECs are US Local Exchange Carriers, also known as Baby Bells.
[11] 2012 Statement, Figure A3.1.

2.11. Ofcom said that (in considering the efficiency target) the most reliable data sources were those based on Openreach specific data, specifically Openreach's historical performance and its plans. It considered that this data was the most reliable as it was directly applicable to Openreach and because of the limitations of the other data.[12]

2.12. Ofcom said that it sought an efficiency target that balanced its objectives of reflecting Openreach's ability to reduce costs whilst maintaining incentives for efficiency improvements. It stated that this was a matter of judgement. It said that the risk of not adopting a higher value, and so potentially allowing Openreach to gain from efficiency savings made beyond those assumed within its charge control, was lessened by the relatively short duration of the charge control. It said that as a result, it considered that adopting 5 per cent as the gross efficiency target for Openreach was appropriate.[13]

2.13. We summarize below what the 2012 Statement said with regard to the two sources of data which Ofcom considered most reliable in setting the efficiency assumption, that is:

(a) Openreach historical efficiencies; and

(b) Openreach forecast efficiencies.

- *Openreach historical efficiencies*

2.14. Following receipt of 2010/11 data, Ofcom estimated Openreach's 2010/11 efficiency improvement to be [✂] which was lower than its previous estimate of 9 per cent. In considering the applicability of this out-turn to a future efficiency target, Ofcom made the following further observations:

(a) prior to 2010/11, it estimated that Openreach's efficiency gains were actually at around 4 per cent (for the period 2007/08 to 2009/10); and

(b) the change in value year on year to 2010/11 was predominantly driven by a step change in BT's cumulo bill (and the corresponding cost allocation to Openreach).[14]

2.15. Ofcom said that although it considered that 'one-off' costs should generally be included within the efficiency benchmark, it concluded that the 2010/11 change in BT's cumulo bill should be excluded from its calculation of an appropriate benchmark of Openreach's efficiency. It said that the step change in cumulo liability had arisen due to the switch from one ratings assessment (the 2005 assessment) to another (the 2010 assessment) and that the 2010 assessment was due to remain in place until 2015, ie for the duration of the charge control period. As a result, it did not envisage that another step change would occur within this charge control period. It believed that the 2010 decrease in cumulo costs was not an appropriate indicator of future cost efficiencies and that excluding the change in cumulo costs would reduce the 2010/11 figure of [✂] per cent to 5 per cent.[15]

2.16. Ofcom said that Openreach's historical efficiency rates (2007/08 to 2009/10) had actually been at around 4 per cent and it estimated that the most recent out-turn (2010/11) was higher at 5 per cent (following adjustments described above). It said

[12] 2012 Statement, ¶A3.71.
[13] 2012 Statement, ¶A3.78.
[14] 2012 Statement, ¶A3.21.
[15] 2012 Statement, ¶A3.24.

that linear extrapolation of the out-turn estimates would result in a forecast for 2011/12 of 5 per cent but that it had chosen not to extrapolate the data beyond one year due to the limited number of observations (four data points) on which the projection was based. It concluded that the historical data implied an efficiency target range of between 4 and 5 per cent (gross).[16]

- *Openreach forecast efficiencies*

2.17. Ofcom obtained updated financial forecasts of the level of efficiency assumed within Openreach's medium term plan (MTP) which showed budget efficiency savings of around [✂] per cent for 2011/12, reducing to around [✂] per cent for 2012/13 to 2014/15.[17] Openreach told Ofcom that the 2011/12 budget and MTP were challenging and included significant execution risk. [✂][18]

2.18. Ofcom believed that Openreach management's view of potential efficiency gains, as contained within their internal planning documents, provided a highly relevant benchmark. It said that the data was Openreach specific, recent, and having being produced in the context of internal planning, rather than regulatory submissions, was unlikely to be influenced by downward bias.[19]

2.19. Ofcom considered that Openreach's internal planning targets, when adjusted for latest out-turns, implied an efficiency target of around [✂] per cent (gross).[20]

Summary of BT's arguments

2.20. In its NoA, BT contended that Ofcom erred in forecasting its Corporate Overheads because it failed to apply its own stated methodology in respect of the efficiency assumption that it applied to these costs.[21] BT alleged that Ofcom erred in fact and/or in the exercise of its discretion.[22]

2.21. For the purposes of the 2012 Statement, Ofcom's forecasting formula was comprised of an inflation assumption of 2.5 per cent and an efficiency assumption of 4.5 per cent net, calculated on the basis of BT's total cash costs base. Mr Dolling said that this net efficiency assumption (calculated based on a gross efficiency of 5 per cent less 0.5 per cent for the increase in leaver payments)[23] was then to be applied by Ofcom to all cost lines, with the exception of a small number of cost categories which Ofcom decided to treat differently.[24]

2.22. BT stated that in August 2010, as part of a section 135 response, it provided Ofcom with its own forecasts of Corporate Overheads for the period of the charge control. It said that these forecasts were based on BT's own inflation and efficiency assumptions for each particular cost category, ie BT applied a different efficiency rate to Corporate Overheads than to other transfer charges. It said that it then applied a regulatory adjustment to these values, which is outlined in Table 2.1 below.[25] It said

[16] 2012 Statement, ¶A3.26.
[17] 2012 Statement, ¶A3.27.
[18] 2012 Statement, ¶A3.29.
[19] 2012 Statement, ¶A3.30.
[20] 2012 Statement, ¶A3.31.
[21] BT NoA, ¶96.
[22] BT NoA, ¶12.
[23] BT NoA, W/S Dolling/EXD, ¶67.
[24] BT NoA, ¶98.
[25] BT NoA, ¶100.

that the efficiencies in these forecasts were different from, and higher than, the general efficiency rate which Ofcom assumed in relation to most other costs.[26]

TABLE 2.1 **BT forecasts of Corporate Overheads**

£ million

	2009/10	*2010/11*	*2011/12*	*2012/13*	*2013/14*
Management accounts	197	171	159	151	149
Regulatory adjustment	–56	–49	–46	–43	–42
Total corporate overheads per Consultation Doc	141	122	113	108	107

Source: BT NoA, W/S Dolling/EXD, Table 5, p20.

2.23. BT stated that in its first consultation Ofcom did not adopt BT's individualized approach to forecasting. It said that instead, Ofcom adopted the forecasting formula (as described in paragraph 2.21), which encompassed Ofcom's net efficiency assumption of 4.5 per cent.[27]

2.24. BT said that in paragraph A8.11 of the first consultation, Ofcom stated that it would apply its forecasting formula to all transfer charges except Corporate Overheads. BT said that Ofcom stated without explanation that for Corporate Overheads it would use BT's forecasts (which are outlined in Table 2.1 above).[28]

2.25. BT said that in response to the first consultation it argued that although Ofcom had applied a single efficiency rate to all its costs, it appeared that Ofcom had inadvertently treated Corporate Overheads inconsistently. It said that the effect of this error was that:

(a) Ofcom had applied a higher efficiency rate to Corporate Overheads than to the other group transfer charges, which had resulted in it understating BT's Corporate Overheads cost by £8 million in 2011/12; £12 million in 2012/13; and £12 million in 2013/14.

(b) It had applied a net efficiency rate to the rest of BT's cash cost base which was too high. It said that this was because the net 4.5 per cent efficiency assumption was calculated on the basis that Corporate Overheads were included in the cost base.[29]

2.26. BT submitted that Ofcom could remedy this forecasting error by: *(a)* continuing to apply a different efficiency assumption to Corporate Overheads if it reduced the net efficiency rate to be applied across the rest of the cash costs base; or by *(b)* treating Corporate Overheads consistently with other group transfer charges (and other cost categories) by applying the 4.5 per cent net efficiency assumption. It said that if Ofcom chose the second of these options, it would have to:

(a) apply its forecasting formula to Corporate Overheads in its model, ie apply its net efficiency assumption to the cost category, as opposed to using the hardcoded values contained in BT's forecasts; and

[26] BT Core Submission (BT Appeal), v1, ¶10.
[27] BT NoA, ¶101.
[28] BT NoA, ¶102.
[29] BT NoA, ¶103.

(b) update the regulatory adjustment so that it reflected its change in approach to efficiency.[30]

2.27. BT said that the effect this would have on the forecast for Corporate Overheads was as follows (see Table 2.2 below).

TABLE 2.2 **BT forecast of Corporate Overheads using Ofcom's methodology**

£ million

	2010/11 Base year	*2011/12*	*2012/13*	*2013/14*
Corporate Overheads	122	120	117	115

Source: NoA, W/S Dolling/EXD, Table 7, p23.

2.28. BT said that in its 2012 Statement, Ofcom stated that had it applied its own forecasting formula to all transfer charges, with the only exception being cumulo rates, and that no reference was made to treating Corporate Overheads differently.[31] It submitted that the 2012 Statement indicated that Ofcom intended to forecast corporate overheads by applying the forecasting formula it applied to most other elements of BT's cost base to derive forecasts for future years.[32]

2.29. BT stated that in its final model Ofcom had not applied the forecasting formula to Corporate Overheads. It said that neither had it used BT's forecasts in the manner set out in its First Consultation. It said that instead, Ofcom had sought to correct its error in the First Consultation, but in trying to do so it had committed a further error. It said that it had:

(a) failed to take the first step outlined above in paragraph 2.26*(a)*, namely to apply its forecasting formula including the 4.5 per cent net efficiency assumption. Instead Ofcom had inserted BT's forecast Corporate Overheads into the model unaltered, but nevertheless

(b) taken the second step outlined above in paragraph 2.26*(b)*. That is, Ofcom had applied a regulatory adjustment to BT's Corporate Overhead forecasts which had been calculated as if Ofcom had used its forecasting formula to generate those forecasts.[33]

2.30. BT said that Ofcom's position was confused and its modelling was internally inconsistent.[34] It stated that Ofcom's failure to make this reduction had resulted in inappropriate double counting of efficiencies on corporate overheads—once on the corporate overheads themselves, and again as part of the 4.5 per cent net rate applied to various other cost lines. It said that the result was to prevent Openreach from recovering its efficiently incurred costs.[35]

2.31. BT said that it did not deny that Ofcom was entitled to use the BT data in principle. It submitted that what Ofcom could not properly do was use the BT forecasts for Corporate Overheads (incorporating BT's own efficiency assumptions), and at the same time continue also to apply the general efficiency assumption of 4.5 per cent net without any reduction. It said that this was because the 4.5 per cent assumption

[30] BT NoA, ¶104.
[31] BT NoA, ¶106.
[32] BT Core Submission (BT Appeal), v1, ¶9.
[33] BT NoA, ¶¶107 & 108.
[34] BT Core Submission (BT Appeal), v1, ¶12.
[35] BT Core Submission (BT Appeal), v1, ¶13.

already reflected the higher than average expected efficiencies on corporate overheads, as well as the lower than average expected efficiencies on other costs. It argued that whatever approach Ofcom chose to take, it should not double-count the projected efficiencies on corporate overheads.[36]

2.32. BT submitted that if Ofcom intended to use BT's forecasts for Corporate Overheads, it should have based its assessment of efficiency on data that excluded the higher efficiency achievement for Corporate Overheads.[37]

2.33. It said that Ofcom's view, as expressed in its Defence, that the gap in efficiency (between BT's own forecast and the overall efficiency assumption) was narrow reflected a fundamental misunderstanding of BT data.[38] The figures which Ofcom treated as efficiency values for Corporate Overheads were in fact expected movements in total cost year on year, which it said was not equivalent to efficiency.[39]

2.34. BT submitted that Ofcom's claim that removing higher than expected gains on Corporate Overheads would not be material was based on a significant underestimate of the level of efficiency contained in BT's Corporate Overheads data.[40] Mr Dolling said that he had derived efficiency forecasts specifically for Corporate Overheads by using the inflation data BT provided to Ofcom together with the movements in total costs which could be derived from Ofcom's model. As a result, it was possible to compare the efficiency rate for corporate overheads reflected in the section 135 request with the efficiency rate used by Ofcom and the assumption made in Ofcom's Defence.[41] His comparison is set out as Table 2.3 below.

TABLE 2.3 **Efficiency rates comparison**

per cent

	2011/12	*2012/13*	*2013/14*	*Total*
BT's section 135 data	–9.8	–8.0	–5.0	–21.1
Global Efficiency Target	–4.5	–4.5	–4.5	–12.9
Ofcom's defence	–8.0	–5.0	–2.0	–14.3

Source: BT Core Submission, 2nd WS Dolling, Table 3.

2.35. Mr Dolling said that, properly calculated, the difference between the efficiency targeted by BT on corporate overheads and the overall efficiency rate was around 8 per cent higher (the difference between 21.1 and 12.9 per cent in Table 2.3). He argued that as a result, Ofcom was incorrect to state that the difference was only about 1 per cent (the difference between 14.3 and 12.9 per cent in Table 2.3).[42]

2.36. Mr Dolling said that this led to a cumulative difference of £10.2 million over the three-year forecast period, as set out in Table 2.4 below. He said that taking an annual efficiency difference of £3.4 million (that is, the cumulative difference of £10.2 million divided by three years) over the £3.48 billion average total cash costs gave an efficiency adjustment of 0.1 per cent.[43]

[36] BT Core Submission (BT Appeal), v2, ¶¶49 & 50.
[37] BT Core Submission (BT Appeal), 2nd W/S Dolling, ¶12.
[38] BT Core Submission (BT Appeal), v2, ¶¶52 & 53.
[39] BT Core Submission (BT Appeal), v2, ¶54.
[40] BT Core Submission (BT Appeal), v2, ¶55.
[41] BT Core Submission (BT Appeal), 2nd W/S Dolling, ¶¶38 & 39.
[42] BT Core Submission (BT Appeal), 2nd W/S Dolling, ¶41.
[43] BT Core Submission (BT Appeal), 2nd W/S Dolling, ¶50.

TABLE 2.4 **BT revised calculation of impact**

	2010/11	*2011/12*	*2012/13*	*2013/14*
BT assumed efficiency (%)		–9.8	–8.0	–5.0
Corporate Overheads (BT) (£m)	123	110.9	102.1	97.0
Global Efficiency Rate (%)		–4.5	–4.5	–4.5
Corporate Overheads (GER) (£m)	123	117.5	112.2	107.1
Difference (£)				–10.2

Source: BT Core Submission, W/S Dolling, Table 5.

2.37. BT said that Ofcom's efficiency assumption (which it said was stated to one decimal place) should be reduced by 0.1 per cent to 4.4 per cent net to remove the current element of double counting. It stated that this gave rise to an increase in Openreach's costs of £10 million, or approximately £0.25 per line on MPF and WLR rentals per year which Openreach was currently unable to recover.[44]

2.38. Mr Dolling said that should the CC find Ofcom in error on this point, it was BT's position that the necessary correction could most easily be made by aligning the forecast methodology for Corporate Overheads to that explained in Ofcom's 2012 Statement. He stated that this would be consistent with *(a)* the global and pragmatic approach generally taken by Ofcom to setting the efficiency assumption and *(b)* the CC's 2009 LLU Appeal Determination. He said that applying the overall efficiency assumption to all costs, ie including Corporate Overheads, would avoid the need to make complex adjustments to the efficiency assumption.[45]

2.39. Table 2.5 below sets out the corrections which were proposed by BT, which amount to £8 million in 2011/12 and £12 million in years 2012/13 and 2013/14.[46] BT stated that this equated to +£0.26 per line for WLR Rental, +£0.24 for MPF Rentals and £0.03 for SMPF Rentals.[47]

TABLE 2.5 **BT's proposed correction**

£ million

	2010/11 Base year	*2011/12*	*2012/13*	*2013/14*
BT forecast	122	120	117	115
Ofcom forecast	122	112	105	103
BT proposed correction		+8	+12	+12

Source: NoA, W/S Dolling/EXD, Table 8, p25, & ¶84.

Summary of Ofcom's arguments

2.40. Ofcom stated in its Defence that:

(a) it did not err in using BT's own assumptions for Corporate Overheads;

(b) the use of BT's assumptions for Corporate Overheads did not require any corresponding adjustment to the forecasting formula; and

[44] BT Core Submission (BT Appeal), v2, ¶56.
[45] BT Core Submission (BT Appeal), 2nd W/S Dolling, ¶56.
[46] BT NoA, ¶109.
[47] BT NoA, W/S Dolling/EXD, Table 8, p25, & ¶84.

(c) it accepted that it had made an error in applying the regulatory adjustment to Corporate Overheads as if the forecasting formula had been used.[48]

2.41. We summarize Ofcom's case on each point in turn below.

Argument that Ofcom did not err in using BT's assumptions for Corporate Overheads

2.42. Ofcom said that it was appropriate to make clear that it did intend to use BT's assumptions as a matter of deliberate decision. It said that the decision about what assumptions to use in the modelling exercise was a matter of judgement for Ofcom.[49]

2.43. Ofcom said that its decision that it was appropriate to use BT's own assumptions for the modelling of Corporate Overheads was correct, or at any rate it was well within the range of permissible options. It said that:

(a) Ofcom was entitled to take the view that BT's forecasts of Corporate Overheads were likely to be more reliable than the general assumptions in the forecasting formula (which necessarily took no account of any specific factors relating to Corporate Overheads).

(b) BT appeared to acknowledge that the approach adopted by Ofcom was one of two possible approaches (see paragraph 2.26).

(c) BT's forecasts included a large efficiency gain in 2011/12 for Corporate Overheads which appeared to be a one-off and was not evident in other transfer charges. It therefore appeared that BT expected to deliver a significant one-off costing saving in that year. There was no reason why such a gain should not be reflected in the charge control.

(d) BT also considered that Corporate Overheads would be subject to relatively low inflationary pressure. There was nothing wrong in principle with using specific inflation rates for specific kinds of cost. If BT made specific inflation assumptions relating to the kinds of costs involved in Corporate Overheads that was likely to be preferable to a general economy-wide assumption.

(e) It was perfectly sensible and appropriate to scrutinize cost estimates provided by BT to inform Ofcom's estimates of future costs and adjust downwards those estimates which appeared to be excessively high. It did not follow that Ofcom should have allowed BT to recover higher Corporate Overheads costs than BT was predicting that it would actually incur.

(f) Over the period of the cost forecast, the efficiency assumptions reflected in Ofcom's forecasting formula delivered savings (of approximately 13 per cent) that were close to BT's own estimate of the savings it expected to deliver over the same period (approximately 14 per cent). These are illustrated in Table 2.6 below.[50]

(g) The narrow gap between the efficiency gains expected by BT and the efficiency assumption in Ofcom's forecasting formula meant that any reduction in the over-

[48] Ofcom Defence (BT Appeal), ¶A9.
[49] Ofcom Defence (BT Appeal), ¶A10.
[50] Ofcom Defence (BT Appeal), ¶A11–11.6.

all efficiency rate would have been too small to reflect sensibly in a revised overall efficiency assumption.[51]

2.44. The main difference between Ofcom's forecasting formula and the specific charges in Corporate Overheads forecast by BT was due to differences in the expected rate of inflation. The inflation assumptions reflected in Ofcom's forecasting formula (approximately 8 per cent) were higher than BT's own estimate of the specific rate of inflation affecting Corporate Overheads (approximately 1 per cent), as illustrated in Table 2.7 below.[52]

TABLE 2.6 **Ofcom comparison of efficiency in forecasting formula compared to BT estimated savings in Corporate Overheads**

per cent

	2011/12	*2012/13*	*2013/14*	*Total*
Efficiency in Ofcom's forecasting formula	–4.5	–4.5	–4.5	–12.9
BT's estimated cost saving	–8.0	–5.0	–2.0	–14.3

Source: Ofcom Defence, ¶A11–11.6.

TABLE 2.7 **Ofcom comparison of inflation in forecasting formula compared with BT inflation in Corporate Overheads**

per cent

	2011/12	*2012/13*	*2013/14*	*Total*
Ofcom non-pay inflation	+2.5	+2.5	+2.5	+7.7
BT's estimated change due to inflation	+1.2	0.0	0.0	+1.2

Source: Ofcom Defence, ¶A11.8.

Argument that there is no need to adjust the efficiency rate applied to other costs

2.45. Ofcom said that it chose to take an approach similar to that described by BT as option *(a)* in paragraph 2.26. It said that having decided to use BT's efficiency and inflation assumptions, it was not necessary or appropriate for it to make any corresponding reduction in the overall efficiency rate to account for the higher level of efficiency applied to Corporate Overheads.[53]

2.46. It argued that the forecasting of efficiency gains was difficult and inevitably somewhat imprecise. It said that its estimate of the average net efficiency rate of 4.5 per cent used in the forecasting formula was stated to the nearest 0.5 per cent. It told us that it anticipated that it would continue to adopt the approach of rounding efficiency assumptions to 0.5 per cent in future charge controls.[54] The potential impact of excluding Corporate Overheads from the overall average efficiency rate would have been very small (less than 0.05 per cent), which would not begin to justify altering the chosen average efficiency rate of 4.5 per cent.[55] Ofcom said that the overall efficiency rate was necessarily only a broad estimate, and the effect that excluding Corporate Overheads would have on the overall rate was so small that it was immaterial.[56]

[51] Ofcom Defence (BT Appeal), ¶A11.7.
[52] Ofcom Defence (BT Appeal), ¶A11.8.
[53] Ofcom Defence (BT Appeal), ¶A12.
[54] Ofcom letter to CC, 17 December 2012.
[55] Ofcom Defence (BT Appeal), ¶A13.
[56] Ofcom Core Submission (BT Appeal), ¶33.

2.47. It said that BT did not appear to be arguing that the use of BT's inflation assumptions for Corporate Overheads required any change to be made to the inflation assumption in the forecasting formula. It said that any such argument would be misconceived: the average inflation rate of 2.5 per cent used by Ofcom in the forecasting formula was an economy-wide figure which would not be affected at all by applying a different rate to individual items.[57]

Admitted error in applying regulatory adjustment on inconsistent basis

2.48. Ofcom accepted that it was in error to apply a regulatory adjustment as if Ofcom's forecasting formula had been used (paragraph 2.29*(b)*). It said that this was a simple administrative error as Ofcom had been investigating the impact of applying the forecasting formula, rather than BT's assumptions, to the transfer charge and the regulatory adjustment, and inadvertently failed to reverse this change for the regulatory adjustment element of the model.[58]

Impact

2.49. Ofcom said that, as explained in paragraphs 2.42 to 2.44 above, most of the difference between BT's estimate of its Corporate Overheads and the estimate that would have been derived had Ofcom applied its forecasting formula was due to the difference between the rate of inflation that BT expected would apply to its Corporate Overheads (around 1 per cent over three years) and that used in Ofcom's forecasting formula (around 8 per cent). It said that, as explained in paragraph 2.47 above, it did not follow that, having decided to use BT's forecast, Ofcom should have changed its inflation assumption that was based on an economy-wide rate.[59]

2.50. It said that the impact of the different approaches in respect of efficiency was much smaller than the differences in respect of inflation. It said that BT's expected cost savings (around 14 per cent over three years) were similar to the efficiency savings anticipated in Ofcom's forecasting formula (around 13 per cent). It said that even if (which it denied) Ofcom should have adjusted its approximate average efficiency rate of 4.5 per cent in light of its decision to reflect BT's expected cost savings rather than use the forecasting formula , it did not consider that the impact of such an adjustment would have been material.[60]

2.51. Ofcom said that it accepted that the inconsistent treatment of the regulatory adjustment referred to in paragraph 2.48 above led to an overstated negative adjustment of £4.1 million. It said that it estimated that the impact on MPF in 2013/14 would be to increase the cost stack by 8p per line. However, it said that such a change would not have had a material impact on the individual charge controls due to the fact that the charge control X was rounded to one decimal place. It said that, for example, the impact on the MPF price control would have been to change the estimate of the X from 5.913 per cent (rounded in its decision to 5.9 per cent) to 5.882 per cent (which it said would also have been rounded to 5.9 per cent).[61]

[57] Ofcom Defence (BT Appeal), ¶A14.
[58] Ofcom Defence (BT Appeal), ¶A15.
[59] Ofcom Defence (BT Appeal), ¶A16.
[60] Ofcom Defence (BT Appeal), ¶A17.
[61] Ofcom Defence (BT Appeal), ¶A18.

Summary of Sky/TalkTalk's Intervention

2.52. In their Statement of Intervention (SoI), Sky and TalkTalk stated that they supported and adopted Ofcom's submissions at Annex A of its Defence.[62]

Assessment

2.53. This Reference Question requires us to consider whether Ofcom erred in forecasting BT's corporate overheads costs, for the reasons set out in paragraphs 96 to 109 of BT's NoA.

2.54. In summary, BT identified two issues with regard to forecasting of Corporate Overheads, which it submitted meant that Ofcom's approach was internally inconsistent and in error:[63]

(a) First, Ofcom had used BT's own forecasts for Corporate Overheads and not made a corresponding adjustment (downwards) to the net efficiency rate in the forecasting formula. BT submitted that, as a result, corporate overhead efficiencies were captured twice in the model—once in the overall efficiency rate and then again using BT's own forecasts of corporate overheads.

(b) Second, Ofcom had applied an incorrect and inconsistent regulatory adjustment to Corporate Overheads. That is, it applied the regulatory adjustment as if it had used the forecasting formula in its model, rather than the regulatory adjustment relevant to BT's own forecasts.

We consider each issue in turn.

Use of BT's own forecasts for Corporate Overheads without adjusting the net efficiency rate in the forecasting formula (double-counting)

2.55. It seems to us that BT and Ofcom agree that it is only the efficiency element of the forecasting formula to which an adjustment could be considered. With regard to the inflation element, Ofcom stated that the average inflation rate of 2.5 per cent it used in the forecasting formula was an economy-wide figure (RPI) which would not be affected at all by applying a different rate to individual items.[64] BT made no representations that the inflation rate should be adjusted. However, for the avoidance of doubt, we note that in our view any such argument would be misplaced because an economy-wide inflation rate would not be affected by the separate application of a discrete inflation rate to specific forecast lines.

2.56. In contrast to inflation, the data sources used by Ofcom in forecasting efficiency[65] are all specific to Openreach costs and a summary of Ofcom's approach to forecasting efficiency is described above in paragraphs 2.9 to 2.19. We noted that the March 2011 consultation data sources (see paragraph 2.10) contained efficiency estimates which varied from 2 per cent gross (statistical analysis) to 6 per cent gross (Openreach historical trend, high end) and that in this consultation Ofcom proposed a gross efficiency target range of between 4 and 6 per cent.[66] Following further review and stakeholder responses (including other evidence), Ofcom then concluded that

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[62] SKY/TT SoI (BT Appeal), ¶13, & SKY/TT Intervention (BT Appeal), ¶4.
[63] BT NoA, ¶109.
[64] Ofcom Defence (BT Appeal), ¶A14.
[65] 2012 Statement, Figure A3.1. These sources were: Openreach historical trend; Openreach planning documents; IBR; KPMG cost review; NERA/Deloitte statistical analysis; 2009 LLU appeal.
[66] 2012 Statement, ¶A3.9.

the most reliable data was Openreach specific (that is, the Openreach historical trend and forecasts) and it narrowed its original range to between 5 and [✂] per cent gross before settling on its final target (5 per cent gross, 4.5 per cent net).[67]

2.57. In our view, the effect of Ofcom's method will be to capture Corporate Overhead efficiencies twice—once within the Corporate Overhead forecast itself and then again within the forecast efficiency data point, which is then used as an input to set the overall efficiency target applied to transfer charges more generally.

2.58. However, in considering whether this effect is of sufficient importance to lead to the price control being set at an inappropriate level, we need to consider the overall approach which Ofcom took in setting its efficiency target, and in particular how the two Openreach data points (historic and forecast efficiency) fed into this assessment.

2.59. In setting the overall efficiency target of 5 per cent gross, Ofcom considered a range of different data sources and then applied its judgement in:

(a) considering the evidence available to it, including placing more weight on certain data sources than others (ie Openreach historical and forecast efficiencies were treated as more reliable); and

(b) balancing the ability of Openreach to reduce costs against the need to maintain incentives.[68]

2.60. Given the range of efficiency data points with which Ofcom was dealing and the balancing exercise described above, it seems to us that there is necessarily a significant element of judgement in setting the efficiency target. We have no reason to believe that the efficiency figure of 5 per cent gross was intended to be accurate to 0.1 per cent (which is the implication of BT's argument), nor that the two key inputs (Openreach historical and forecast efficiencies) were used with a degree of precision greater than 0.5 per cent.

2.61. We judged that any double counting of efficiencies in this context would not have made a difference to the overall efficiency assumption chosen by Ofcom because the efficiency assumption was not derived from an arithmetical calculation accurate to 0.1 per cent; instead Ofcom adopted a broad-brush approach, exercising its regulatory judgement (as described in paragraph 2.59), to which BT appears to have no objections per se. The 0.1 per cent difference in efficiency which BT said was due to double counting would not have been sufficiently large to lead Ofcom to change its decision with respect to the efficiency target. The change proposed by BT would introduce spurious accuracy to a number which the evidence indicates was never intended to be accurate to 0.1 per cent.

2.62. We do not agree with BT's argument that because in another context the CC settled on an annual efficiency rate of 3.7 per cent an adjustment of 0.1 per cent should be made in this case. It does not indicate that in these circumstances a 0.1 per cent adjustment would be appropriate.[69] The circumstances of this case relate to data points being considered and judgement exercised as part of an overall assessment of efficiency and not simply an arithmetically-derived calculation accurate to 0.1 per cent.

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[67] 2012 Statement, ¶¶A3.70–3.78.
[68] As described in ¶A3.78 of the 2012 Statement.
[69] BT Core Submission (BT Appeal), W/S Dolling, ¶50.

2.63. In response to the CC's provisional determination, BT submitted that the CC's approach gave rise to an arbitrary and unfair outcome. It said that this was because it was open to Ofcom to avoid double counting either: by using BT's corporate overhead forecast and adjusting the efficiency rate; or by applying its general forecasting formula to corporate overheads. Had Ofcom adopted the latter approach, then it would have affected the level of the charge control and the 'X'. BT's view was that on that analysis the error was material.[70]

2.64. BT further submitted that Ofcom had been able to resist the identification of an error on the basis that it treated corporate overheads differently from all other cost items, and in such a way that efficiencies were double counted, but the unfair consequences of its approach happen to be lost in the rounding. If Ofcom had approached corporate overheads in the same way as it did other costs, then the charge control would have been set at a materially different level.[71]

2.65. In our view, Ofcom was entitled to use BT's own forecasts rather than the forecasting formula, and BT has acknowledged this in its Core Submission and its response to the provisional determination.[72] That the charge control may have been set at a different level if the forecasting formula had been used rather than BT's own forecasts for corporate overheads is therefore not a relevant consideration.

Regulatory adjustment applied to Corporate Overheads

2.66. Ofcom accepted that it was in error to apply a regulatory adjustment as if its forecasting formula had been used.[73]

2.67. In our view (and in light of Ofcom's acceptance of this error), once Ofcom used BT's own forecasts for Corporate Overheads, it should have applied the regulatory adjustment which was consistent with this forecast. Instead it applied the regulatory adjustment as if it had used the forecasting formula.

Materiality

2.68. In this section, we consider the materiality of the mistake we have identified in relation to the regulatory adjustment (see paragraph 2.67) based on the approach set out in paragraph 1.60.

2.69. Ofcom stated that the impact of this mistake was £4.1 million, which equated to 8p per line for MPF in 2013/14. It submitted that this was not material for the individual charge controls due to the fact that the charge control X was rounded to one decimal place, and in this case the X in the MPF price control would have been unchanged at 5.9 per cent (paragraph 2.51). We noted that 8p equated to 0.09 per cent of the MPF cost stack for 2013/14 (£84.89).[74]

2.70. BT argued that if the CC did not accept BT's primary argument (that is, the reduction in the rate of efficiency in the forecasting formula), the mistaken application of the regulatory adjustment should not be dismissed on grounds of immateriality. Instead

[70] BT response to CC's provisional determination, 11 February 2013, ¶5.
[71] BT response to CC's provisional determination, 11 February 2013, ¶¶6–7.
[72] BT Core Submission (BT Appeal), v2, ¶49, and BT response to CC's provisional determination, 11 February 2013, ¶5.
[73] Ofcom Defence (BT Appeal), ¶A15.
[74] 2012 Statement, Figure 6.2.

the CC should consider whether, in the final analysis, that admitted error may, in conjunction with other matters, materially affect the level of the charge control.[75]

2.71. We noted that this was a simple error of fact and that the additional effort which Ofcom would have been required to expend to consider the relevant criticisms would not have been significant. However, we found that this mistake amounted to less than 0.1 per cent of the charge control (see paragraph 1.60) and that due to rounding its correction would have no impact on the X in the RPI–X formula. We did not find that any other of the other factors listed in paragraph 1.60 were relevant. Therefore, we concluded that this mistake is not material.

Determination

2.72. Accordingly, we find that Ofcom did not err in forecasting BT's Corporate Overheads costs.

[75] BT Core Submission (BT Appeal) v2, ¶58.

3. BT Appeal

Cumulo rates

Reference Question 1(ii)

Introduction

3.1. This section (paragraphs 3.1 to 3.64) sets out our conclusions as to whether the price controls imposed on BT by paragraphs 10, 11 and 14 of, and Condition FAA4(A) in Part I, Schedule 1 to, Annex 12 of the Decision and paragraphs 10, 11, 14 and 15 of, and Condition AAAA4(WLR) in Part IV, Schedule 1 to, Annex 12 of the Decision have been set at a level which is inappropriate because Ofcom erred in calculating the costs of BT's cumulo rates, for the reasons set out in paragraphs 110 to 118 of BT's NoA.

3.2. BT's appeal is on the ground that Ofcom did not make a correction in its calculation of the charge control to reflect the company's revised estimate of Openreach's cumulo rates costs for 2010/11. BT contended that such a correction should have substituted a base figure of £110 million for the figure of £101 million that Ofcom actually adopted as the basis of Openreach's cumulo rates costs in the charge control period.[1]

3.3. Our determination is that Ofcom erred in calculating the costs of BT's cumulo rates.

Summary of Ofcom's rationale and methodology

3.4. Cumulo rates are the non-domestic (business) rates that BT Group pays on the rateable assets within its UK network. The rateable assets consist primarily of duct, fibre, copper and exchange buildings.[2] For regulatory accounting purposes and to calculate the charge controls, a proportion of BT's cumulo rates is allocated to Openreach.

3.5. In its 2012 Statement, Ofcom said that within the March 2011 consultation it had taken Openreach's estimate of actual cumulo rates costs applicable to Openreach for 2009/10 and 2010/11.[3] It had used this as the basis for forecasting Openreach's cumulo rates costs for the period of the charge control, by applying growth rates resulting from inflation and efficiency.[4] It said that for the determination, it changed its forecast approach to calculate the implicit Cumulo 2010/11 £/line for the principal LLU and WLR services within the charge control model, and then forecast these forward.[5] These figures were as presented in Table 3.1 below.

[1] BT NoA, ¶¶110–118.
[2] 2012 Statement, ¶A.4.42.
[3] BT plc is the rateable entity and the cumulo rates costs are calculated at this level. Cumulo rates costs need therefore to be allocated from BT Group to Openreach for the purposes of regulatory calculations.
[4] 2012 Statement, ¶A.4.57.
[5] 2012 Statement, ¶A.4.83.

TABLE 3.1 **Ofcom forecast of transfer of cumulo rates to Openreach in Ofcom Statement**

					£ million
	2009/10 out-turn	*2010/11*	*2011/12*	*2012/13*	*2013/14*
Openreach rates	178	101	99	96	92

Source: Ofcom, 2012 Statement, Figure A4.7, p77.

3.6. These cumulo rates costs for Openreach were then allocated to activities and products.[6]

3.7. In its 2012 Statement, Ofcom said that it expected 'material changes in circumstances' to arise during the charge control period as a result of LLU unbundling, as well as from other factors.[7] It did not consider such 'material changes in circumstances' to be applicable to the charge control and so did not assume them in its projections.[8]

3.8. In the Statement, Ofcom explained that it had obtained details of the actual cumulo rates costs paid by BT in 2010/11. However, it had decided not to revise its estimated apportionment of £101 million to Openreach on the basis of this actual figure.[9]

Summary of BT's arguments

3.9. BT alleged that Ofcom made an error of fact and/or calculation in determining the charge control. It said that if and in so far as Ofcom argued that such apparent errors were in fact exercises of its judgement or discretion, then it challenged that exercise of judgement or discretion.[10]

3.10. BT said that at the administrative stage of the charge control it had mistakenly provided Ofcom with an incorrect base year forecast for Openreach's cumulo rates. It had provided Ofcom with a figure of £101 million rather than what it said was the correct figure of £110 million.[11]

3.11. BT had notified Ofcom of this mistake orally at a meeting on 25 August 2011. It ascribed the mistake to the application of a regulatory adjustment,[12] which had been made in error. At the time, and in its NoA, BT had wrongly described the regulatory adjustment as relating to some of Openreach's network assets that had been excluded from the forecast.[13] In Mr Dolling's first witness statement[14] and subsequently in its Core Submission[15] and Mr Dolling's second witness statement,[16] BT explained that the erroneous regulatory adjustment related to a non-repeating rebate which had been applied in the previous year, but was not relevant for 2010/11.

3.12. BT said that it had told Ofcom about the mistake and had provided the correct figure in slides presented at a meeting with Ofcom on 25 August 2011; the information was

[6] 2012 Statement, ¶A.4.58.
[7] 2012 Statement, ¶¶A.4.50–A.4.52.
[8] 2012 Statement, ¶¶A.4.94.
[9] 2012 Statement, ¶A.4.60.
[10] BT NoA, ¶12.
[11] BT NoA, ¶¶113–114.
[12] See paragraph 6 of Section 2 (Corporate Overheads) for an explanation of regulatory adjustments.
[13] BT NoA, ¶115.
[14] 1st W/S Dolling, ¶91.
[15] BT Core Submission (BT Appeal), Volume1, ¶17.
[16] 2nd W/S Dolling, ¶63.

also provided to Ofcom in a formal section 135 response, although Ofcom told us that the information was only provided orally and was not referenced in any of BT's statutory information request responses.[17] However, BT said that Ofcom had not corrected the mistake in its 2012 Statement. The effect of this was to understate the forecast cumulo rates in the base year of 2010/11 by £10 million.[18] BT calculated that this error would incorrectly reduce WLR and MPF rental unit costs by 28p in 2013/14.[19]

Summary of Ofcom's Defence

3.13. In the course of this appeal, Ofcom recognized that BT had informed it of the mistake in BT's forecasts on 25 August 2011.[20] However, Ofcom contended that there were good reasons why the figure used by Ofcom was appropriate.[21]

3.14. Ofcom made a number of points about the slides presented at the meeting:[22]

- They showed that the actual overall BT Group cumulo payments, as recorded in the RFS, were around £10 million lower than had been estimated (taking into account rebates received).
- Ofcom understood from BT's submission, in response to Ofcom's information request in December 2010, that the management accounting figure of £110 million was to be adjusted downwards to £101 million to reflect cumulo rates rebates.
- One slide still presented a regulatory adjustment of £10 million, which appeared consistent with previous information received.
- One slide stated that current BT forecasts remained 'reasonable' and Ofcom had understood this to mean that BT's previous figures still stood.

3.15. Ofcom also stated that when sending the slides to Ofcom, BT had noted that the figures might be subject to change and should be treated with caution. Ofcom said that whilst BT had told Ofcom orally that the appropriate figure was now £110 million and not £101 million, this message had not been reflected in the slides.[23]

3.16. Ofcom explained that in September 2011, BT's March 2011 RFS were published. These presented the actual figure for BT's cumulo rates costs in 2010/11. Ofcom had to decide how (if at all) to modify the March 2011 Consultation model (which used 2010/11 estimates as the base year). Ofcom decided not to replace the base year estimates with a 2010/11 actual figure (which process it referred to as a 'full model refresh'). Instead it undertook to check that the forecast 2010/11 data was consistent with the 2010/11 RFS, only making changes to the forecasts if there were significant inconsistencies.[24]

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[17] Ofcom, response to provisional determination, Annex 2.
[18] The difference between the £110 million and £101 million quoted in the text actually approximates to £10 million due to rounding in the presentation of the numbers. To the nearest £10,000, the 'gross' figure of £110.47 million was reduced by £9.65 million, to give a 'net' figure of £100.82 million.
[19] BT NoA, ¶¶116–118.
[20] Ofcom Defence (BT Appeal), Annex B, ¶¶15–16 as amended during the course of the appeal.
[21] Ofcom Defence (BT Appeal), Annex B, ¶3.
[22] Ofcom Defence (BT Appeal), Annex B, ¶16.
[23] Ofcom Defence (BT Appeal), Annex B, ¶¶17–18.
[24] Ofcom Defence (BT Appeal), ¶19.

3.17. Ofcom reported that BT's actual cumulo rates costs for 2010/11 were revealed in the RFS as £[✂] million. This compared with the figure of £[✂] million that BT had provided as an estimate.[25]

3.18. Ofcom said that it had performed a pro rata allocation of the £[✂] million actual figure from the RFS to calculate an equivalent share for Openreach. This had given it an equivalent actual figure for Openreach of £102 million.[26] It had compared this with the £101 million that it planned to use as an estimate and had found that the difference was not significant. On this basis it had decided not to update its calculation for the actual cumulo rates costs in 2010/11.[27]

3.19. On the subject of BT's corrected estimate of £110 million, Ofcom said in the hearing that it did not follow that, just because BT had changed its estimates, Ofcom needed to change its own figures. The sense check on the basis of the actual figures presented in the RFS also led Ofcom to retain its estimate.[28]

3.20. Ofcom said that even if it had considered that the updated estimate of £110 million was correct, which it did not, the change would not necessarily have been sufficiently important to have justified a change to Ofcom's forecasts.[29]

3.21. In any event, Ofcom considered that the figure of £101 million for 2010/11 remained valid. The fact that it emerged that BT's overall actual cumulo rates costs were £[✂] million (compared with BT's estimate of £[✂] million) suggested that Openreach's estimated allocation of £110 million needed to be reduced.[30]

3.22. Ofcom considered that there were several reasons, such as rebates, why the final bill would differ from forecasts. It said that Mr Dolling, BT's expert witness, had suggested that rebates had already been taken into account in the forecast. Ofcom contended that this could not be correct since they would not have been known at the time of the forecasting of the £110 million figure (late 2009). On this basis, Ofcom anticipated that a downward adjustment to the figure of £110 million would have been required.[31] Ofcom therefore contended that because of these anticipated rebates and the lower actual cumulo rates for BT overall, the figure of £101 million remained appropriate.[32]

3.23. At its hearing, Ofcom confirmed that it did not consider that it should apply rebates to Openreach's cumulo rates payments during the current charge control period.[33]

3.24. Ofcom also noted that BT was confused about the reasons for the regulatory adjustment. It said that Mr Dolling's witness statement and the NoA contradicted each other on whether BT's mistake was to due to rebates or the exclusion of some Openreach assets.[34]

3.25. According to Ofcom, the reason for the alleged error was irrelevant because in light of the further information received, the adjusted figure was appropriate now, even if it had not been in late 2009 (when BT first made the mistake). Ofcom considered that the most important piece of information was BT's actual overall cumulo rates costs. It

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[25] Ofcom Defence (BT Appeal), ¶24.
[26] Ofcom Defence (BT Appeal), ¶25.
[27] Ofcom, Bilateral Hearing transcript, pp29–31.
[28] Ofcom, Bilateral Hearing transcript, pp29–30.
[29] Ofcom Defence (BT Appeal), Annex B, ¶¶19–21.
[30] Ofcom Defence (BT Appeal), Annex B, ¶24.
[31] Ofcom Defence (BT Appeal), Annex B, ¶¶26–27.
[32] Ofcom Defence (BT Appeal), Annex B, ¶28.
[33] Ofcom, Bilateral Hearing transcript, p40.
[34] Ofcom Defence (BT Appeal), Annex B, ¶29.

concluded that the figure of £101 million was a very close approximation to Openreach's actual cumulo rates costs and was therefore appropriate.[35]

Sky/TalkTalk's interventions

3.26. In their Statement of Intervention, Sky/TalkTalk noted that their own appeal on these grounds rendered BT's appeal irrelevant. However, should it be necessary to consider BT's pleadings on these points, they supported Ofcom in its Defence.[36] We deal with Sky/TalkTalk's Appeal on this subject separately in Section 11.

3.27. Sky/TalkTalk also raised two points on the subject of rebates in the 'fact check' that their expert witnesses, Messrs Johnson and Stevens, performed on the transcripts of BT's and Ofcom's bilateral hearings.[37]

3.28. First, Messrs Johnson and Stevens said that BT was wrong in its hearing to state that it did not expect rebates during the charge control period, and that Ofcom was wrong in its hearing not to make it clear that such rebates would continue. They said that BT was likely to have already received rebates in the course of 2012 and that these would continue during the charge control period. These would result, at least in part, from WLR lines migrating to MPF; such migration caused rebates because WLR lines contributed more to BT's cumulo rates liability than did MPF lines.

3.29. Second, Messrs Johnson and Stevens noted that Ofcom had said in its hearing that it had not modelled any rebates in its forecast of cumulo rates. They said that this position was inconsistent with the profit weighted net replacement cost (PWNRC) method which Ofcom had adopted for the allocation of the forecast cumulo rates to WLR and MPF lines. The PWNRC approach is the subject of Sky/TalkTalk's Appeal and is dealt with separately (Section 11). Here Messrs Johnson and Stevens argued that it was inappropriate for Ofcom not to model rebates because PWNRC allocated equal amounts of cumulo rates per line to WLR and MPF. This meant that when WLR lines migrated to MPF, the cumulo allocation would not adjust to reflect the consequent rebates. Therefore, Messrs Johnson and Stevens argued, under the PWNRC approach Ofcom should have accounted for rebates in its forecast.

3.30. In our view, Sky/TalkTalk went further in making these points than simply to observe factual inaccuracies in the hearing transcripts. In particular, we note the following:

- Sky/TalkTalk had the opportunity and occasion to set out their views on the likelihood of rebates in its pleadings, since the issue was raised by BT at the time of its NoA (see paragraph 3.11); and

- the argument they developed about the interrelationship between the treatment of cumulo rebates and the allocation method for apportioning cumulo rates to products was one that had not been raised in Sky/TalkTalk's pleadings.

3.31. On this basis, we consider that Sky/TalkTalk inappropriately took the opportunity to introduce new arguments, considerably after the time of the main pleadings, in the form of a letter that purported to comment on the factual accuracy of statements made in BT's and Ofcom's hearings.

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[35] Ofcom Defence (BT Appeal), Annex B, ¶¶30–32.
[36] Sky/TalkTalk SoI (BT Appeal), ¶¶15–16.
[37] Sky/TalkTalk letter to CC, 4 January 2013, Annex A, pp1–2.

3.32. In this case, however, we chose to consider the points raised because, and as far as, they raised issues that were particularly important to our assessment of this ground. We therefore gave BT and Ofcom the opportunity to answer some specific questions raised by the two points on rebates made by Sky/TalkTalk. Their responses are summarized at paragraphs 3.42 to 3.47.

Summary of BT's response to Ofcom and Sky/TalkTalk

3.33. In its Core Submission, BT noted that Ofcom now accepted that it had received notice of the corrected figure from BT on 25 August 2011. However, Ofcom had not explained why in that case it had not used the corrected forecast in its model. BT said that it appeared that Ofcom had simply forgotten to do so. On this basis, BT said that this ground now appeared to be an issue of simple oversight by Ofcom and that Ofcom's other points in its Defence should now be read differently in this light.[38]

3.34. BT then addressed the four points that it considered Ofcom had made in its Defence.[39]

3.35. First, Ofcom had argued that the slides from 25 August 2011 had suggested that the incorrect figures remained reasonable. BT said that this point could be understood at the time when Ofcom had argued that it had not been told of the error orally. But now that it had accepted that it had been informed of the error in the meeting, this point was hard to understand.[40]

3.36. Second, Ofcom had pointed out the contradiction between Mr Dolling's description of the reason for the error and that of BT in its NoA. BT now apologized for the NoA's lack of clarity and said that Mr Dolling's explanation was correct, ie that the mistake had related to the previous year's rebates (see paragraph 3.11). BT agreed with Ofcom that the reason for the error was irrelevant.[41]

3.37. Third, Ofcom had argued that it was appropriate to use the incorrect forecasts because they better matched data that subsequently became available to it. BT said that if Ofcom had decided to refresh the model, some values would have increased and some decreased. It argued that, having decided not to do so, Ofcom would have been 'cherry picking' to have reduced the cumulo rates forecast for actual data. Further, said BT, Ofcom's calculations were incorrect and a correct calculation confirmed BT's higher number.[42]

3.38. In his second witness statement, Mr Dolling went on to argue that even if Ofcom were to apply actual cumulo rates costs in establishing a base year, this would not support the use of £101 million. He said that the actual figure of £[✂] million for BT as a whole (see paragraph 3.21) benefited from £6 million of prior year rebates. Given that these would not affect Openreach's cumulo rates costs in future, their effect should be removed in establishing the base year estimate. On this basis, he argued, Ofcom's pro rata calculation should be performed on a figure of £[✂] million, not £[✂] million. He calculated that this gave a figure of £107 million for Openreach which, he said, was much closer to the figure of £110 million than it was to £101 million.[43]

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[38] BT Core Submission (BT Appeal), Volume 2, ¶¶61–63.
[39] BT Core Submission (BT Appeal), Volume 2, ¶64.
[40] BT Core Submission (BT Appeal), Volume 2, ¶¶65–66.
[41] BT Core Submission (BT Appeal), Volume 2, ¶¶67–68.
[42] BT Core Submission (BT Appeal), Volume2, ¶69.
[43] BT Core Submission (BT Appeal), 2nd W/S Dolling, ¶72.

3.39. Fourth, Ofcom had argued that it was likely that further adjustments would have been required to the forecasts. BT said that this assertion lacked particulars and contradicted its 2012 Statement in which Ofcom had said that adjustments did not need to be made. BT also argued that the rebate in the previous year had been a one-off.[44] In its hearing at the CC on 30 November, BT said that it did not anticipate the receipt of rebates in the current charge control period.[45]

3.40. Mr Dolling said that Ofcom had misinterpreted his statement in arguing that Mr Dolling had claimed that the figure of £110 million had taken rebates into account. He said that no rebates had been assumed in the calculation of the figure because it was assumed that all such rebates would have been settled in 2009/10.[46]

3.41. In conclusion, BT said that now that Ofcom had admitted that it had been informed of the error, Ofcom did not have a substantive defence on this ground.[47]

3.42. We gave BT the opportunity to respond to a number of questions we put to it on the points Sky/TalkTalk made about rebates in its 'fact check' (see paragraphs 3.27 to 3.29).

3.43. In its response,[48] BT told us that it considered it likely that it would receive rebates (it said that they should correctly be described as alterations to the rateable value) during the charge control period and that such discussions were continuing with the Valuation Office Agency but were as yet unresolved.

3.44. BT initially told us that such rebates were not in relation to Openreach's cumulo rates liability but rather related to a direct reduction in the assets deployed by the rest of BT 'downstream' of Openreach. Therefore any such rebates were irrelevant for the purposes of this Appeal.

3.45. BT subsequently told us that its initial position was mistaken. It said that a proportion of rebates arising from an increase in the number of MPF lines *would* flow through to Openreach.[49]

Summary of Ofcom's response to Sky/TalkTalk

3.46. We also gave Ofcom the opportunity to respond to the same questions on rebates (see paragraphs 3.27 to 3.29).

3.47. In its response,[50] Ofcom also confirmed that BT was likely to receive rebates. It understood that rebates resulting from MPF would largely arise from the loss of revenues 'downstream' from Openreach. On this basis, and as a result of its position on 'material changes in circumstances' (see paragraph 3.7), it explained that it no longer considered that such rebates were relevant in this context.

3.48. In a subsequent letter, Ofcom confirmed that neither rebates of this kind, nor rebates related to prior years, were considered relevant under its approach to the charge control.[51]

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[44] BT Core Submission (BT Appeal), Volume 2, ¶70.
[45] BT, Bilateral Hearing transcript, pp6–7.
[46] BT Core Submission (BT Appeal), 2nd W/S Dolling, ¶73.
[47] BT Core Submission (BT Appeal), Volume 2, ¶71.
[48] BT letter to CC, 14 January 2013.
[49] BT letter to CC, 15 February 2013.
[50] Ofcom letter to CC, 14 January 2013.
[51] Ofcom letter to CC, 27 February 2013.

Assessment

3.49. This Reference Question requires us to consider whether Ofcom erred in calculating the costs of BT's cumulo rates, for the reasons set out in paragraphs 110 to 118 of BT's NoA.

3.50. In our view, this ground of appeal alleges errors of fact.

3.51. It is clear from the pleadings that BT and Ofcom now agree that BT did inform Ofcom at the meeting on 25 August 2011 that it had originally provided incorrect information on cumulo rates. Whilst Ofcom has argued that BT may not have reflected the change in figure in the slides used as clearly as it might have done (paragraph 3.14 above), it does not now dispute that it was informed of the change (paragraph 3.13 above).

3.52. It is clear from the pleadings that it was in itself inappropriate to apply the regulatory adjustment to the base year since it related to a prior year rebate (see paragraph 3.11). It is also clear from the pleadings that BT's ground in some large part relates to the question of whether the base-year figure should take account of rebates arising over the charge control period. BT's correction was made in order to remove rebates from this base-year figure (see paragraph 3.11) and the arguments put forward by Ofcom and BT on the respective merits of adopting the £101 million figure or the £110 million figure also appear to turn on this question (see paragraphs 3.22 and 3.38).

3.53. Ofcom sought to justify why the figure of £101 million should now be left in place. Ofcom argued that the appropriate figure could end up close to the incorrectly adopted figure of £101 million for two reasons:

- because, on the basis of a pro rata allocation of the actual figure of £[✂] million paid by BT plc for 2010/11, the cumulo rates figure that would have been allocated to Openreach for that year would have been £102 million; or

- because rebates would have been likely to have arisen requiring a deduction from the £110 million estimate that might also give a figure closer to £101 million.

3.54. Both of these calculations are premised on a view that rebates would need to be accounted for in the forecast of Openreach's cumulo rates costs. This is self-evident in the second argument. It is also the case in the first argument because BT stated that the actual figure of £[✂] million used by Ofcom in its analysis was net of a one-off rebate received (see paragraphs 3.38 and 3.39). On this basis, such a figure would not be suitable for projections of costs in a period in which rebates were not to be taken account of. Therefore, for either of these arguments to be accepted, it is necessary to take into account rebates in forecasting Openreach's cumulo rates for the current charge control period.

3.55. It is now common ground between BT and Ofcom that under Ofcom's approach to the charge control no rebates are taken into account by Ofcom in respect of Openreach's cumulo rates bill during the current charge control period. Ofcom confirmed in its hearing that it was not going to account for rebates within its forecast (see paragraph 3.23).

3.56. Initially BT and Ofcom both provided the same explanation as to why such rebates did not need to be taken into account in the charge control period (see paragraphs 3.44 and 3.47). They both told us that such rebates were likely to arise as a result of reductions in cumulo rates relating to activities 'downstream' of Openreach. In our provisional determination we accepted this explanation and therefore agreed that such rebates should not be accounted for in the forecast of Openreach's cumulo rates costs.

3.57. However, since the provisional determination, BT has corrected its position and Ofcom has clarified its response (see paragraphs 3.45 and 3.48). All the parties now appear to accept that some proportion of rebates receivable by BT in relation to WLR lines migrating to MPF would flow through to Openreach.

3.58. Ofcom also explained, though, that in its approach to material changes in circumstances it had recognized the prospect of rebates being received in the charge control period, but Ofcom had determined that these should not be included in the forecast of Openreach's cumulo rates costs (see paragraphs 3.7 and 3.48). On this basis, we remain persuaded that, consistent with Ofcom's approach to material changes in circumstances as outlined in the 2012 Statement, rebates should not be accounted for in the forecast of Openreach's cumulo rates costs.

3.59. Therefore, having addressed the issue of rebates, we are of the view that Ofcom cannot justify the use of its original estimates for the base year and subsequent years.

3.60. We are not persuaded that there is a correct figure so close to the erroneous £101 million that would lead us to conclude that the £101 million figure adopted in the Statement is correct. We concluded that the correct approach would have been to use the estimated figure of £110 million in the base year for the purpose of calculating the charge control.

Materiality

3.61. In this section, we consider the materiality of the mistake identified above based on the approach set out in paragraph 1.60.

3.62. In its Core Submission, BT calculated the effect of Ofcom's use of the £101 million figure as a 0.31 per cent reduction in both WLR and MPF rental prices. It assessed the impact on revenues as being an £8.7 million under-recovery in revenues.[52] We noted this was a simple error of fact, and we did not consider that the effort which Ofcom would have been required to expend to consider the relevant criticisms would have been significant. This one-off error in the calculation of the price control could be simply rectified through correcting the mistake in the calculation. We did not find that any of the other factors listed in paragraph 1.60 were relevant.

3.63. It is our judgement that this mistake is material.

Determination

3.64. Accordingly, we find that Ofcom erred in calculating the costs of BT's cumulo rates, for the reasons set out in paragraphs 110 to 118 of BT's NoA.

[52] BT Core Submission (BT Appeal), Volume 1, ¶89, and Annexes A & B.

4. BT appeal

Copper recovery income

Reference Question 1(iv)

4.1. This section (paragraphs 4.1 to 4.73) sets out our conclusions as to whether the price controls imposed on BT by paragraphs 10, 11 and 14 of, and Condition FAA4(A) in Part I, Schedule 1 to, Annex 12 of the Decision and paragraphs 10, 11, 14 and 15 of, and Condition AAAA4(WLR) in Part IV, Schedule 1 to, Annex 12 of the Decision have been set at a level which is inappropriate because Ofcom erred in allocating the income received by BT from the recovery of copper cable to the Core Rental Services (CRS), namely MPF, SMPF and WLR, for the reasons set out in paragraphs 133 to 138 of the NoA.

4.2. The essence of BT's appeal is that Ofcom has incorrectly allocated the majority of the income from recovered copper scrap to the local access network, while the vast majority of this income is actually derived from the main underground trunk network and the cables junction network (MUCJ), which is beyond the scope of this charge control.

4.3. Our determination is that Ofcom erred in allocating the income received by BT from the recovery of copper cable to the CRS (MPF, SMPF and WLR).

Summary of Ofcom's rationale and methodology

4.4. Copper recovery income (CRI) is income generated from the sale of copper and optical fibre cables recovered from BT's network as part of its ongoing programme of replacing parts of its network and other day-to-day activities.[1]

4.5. We understand that BT's network consists of the following:[2]

(a) the local network, which connects each customer to the telephone exchange;

(b) the cables junction (CJ) network, which connects local exchanges to each other and to their parent trunk exchange for long-distance calls; and

(c) the main underground (MU) trunk network, which connects trunk exchanges to each other.

4.6. In today's network there is little distinction between the MU and CJ networks. The terms 'core network' and 'MUCJ network' are used to describe the entire network which is not the local network.[3]

4.7. When a copper cable reaches the end of its life, there are several options for its recovery:

(a) the cable may be removed immediately, usually in order to obtain some spare duct space for future work;

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[1] BT NoA, ¶134.
[2] Sky/TalkTalk SoI (BT Appeal), W/S Walker, ¶4.1.
[3] Sky/TalkTalk SoI (BT Appeal), W/S Walker, ¶4.1.

(b) the cable may be removed when there is an opportune time, either because manpower is available or because the price of scrap copper makes it profitable to do so; or

(c) the cable may be removed only when a new requirement for the duct space has been identified.[4]

4.8. CRI is the biggest recurring element of income in the category Other Operating Income (OOI).[5] OOI is applied in Ofcom's model to reduce Openreach's (net) cost of particular products.

4.9. During this charge control review, Ofcom changed the basis on which OOI was allocated.[6] The allocation basis for CRI previously used by Ofcom was the Dynamic Operations Base methodology. This allocated CRI against engineers' time, which included time spent on repair and building assets for fibre and next generation access (NGA) products as well as copper products. Ofcom considered that this allocation basis was at odds with the principle of cost causality and that a more appropriate methodology would be to allocate CRI against copper costs so that the users of copper-based products received the benefit of CRI. It therefore changed the basis of allocation to copper depreciation, so that CRI was allocated according to the copper depreciation charges in the local access network. This had the effect of allocating most of the CRI to services that use the local network, that is CRS, whereas previously it was split approximately 50/50 between the CRS and MUCJ network.[7]

Summary of BT's arguments

4.10. According to BT, Ofcom erred in its allocation of CRI to the CRS, the effect of which was to reduce the net costs of providing the services, and hence reduce the level of the charge control.[8] BT said that Ofcom had erred in fact.[9]

4.11. In its first section 135 response, BT had recommended that CRI should be allocated to activities on the basis of engineers' pay costs. It said that the aim of this allocation approach was to spread the income from recovered cabling across many different services similar to the way that overheads such as corporate overhead costs are allocated.[10]

4.12. According to BT, Ofcom did not mention income from recovered cabling in either its first or second consultation; did not propose any changes to the method it had used previously; and did not consult on any proposed changes.[11] Mr Dolling said that Openreach could not have predicted the change to the allocation basis that Ofcom would adopt in the 2012 Statement.[12]

4.13. BT said that CRI had previously been allocated on an indirect basis (dynamic operations base) and this changed in the 2012 Statement to copper depreciation (see paragraphs 4.7*(c)* and 4.9 above).[13] Ofcom arrived at this conclusion without consultation with BT or other third parties. BT's reading of the 2012 Statement was that:

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[4] Sky/TalkTalk SoI (BT Appeal), W/S Walker, ¶7.1.
[5] BT Core Submission (BT Appeal), Volume1, ¶21.
[6] 2012 Statement, ¶A4.229–230.
[7] 2012 Statement, ¶A4.231 & Table 1.
[8] BT NoA, ¶133.
[9] BT NoA, ¶12.
[10] BT NoA, W/S Dolling, ¶129.
[11] BT NoA, W/S Dolling, ¶132–134.
[12] BT Core Submission (BT Appeal), W/S Dolling, ¶103.
[13] BT Core Submission (BT Appeal), Volume 1, ¶22.

(a) Ofcom wanted to allocate CRI in a cost causal way; and *(b)* in order to do that, it intended to allocate CRI to the products which used the assets from which the income was derived. Although Ofcom arrived at this view without consultation, BT agreed in principle with what it understood to be Ofcom's stated approach.[14]

4.14. BT explained that the practical effect of allocating CRI on the basis of copper depreciation was that a large majority was now allocated to CRS.[15] The impact of the change for 2013/14 is set out in Table 4.1.

TABLE 4.1 **Impact of changing CRI allocation**

	2013/14 Original £m	*2013/14 New £m*	*2013/14 Original %*	*2013/14 New %*
WLR rentals	5.4	10.9	34	68
MPF rentals	2.3	4.5	14	28
SMPF rentals	0.3	-	2	-
Total CRS	8.0	15.4	50	96
Other out-of-scope services	8.0	0.6	50	4
Total Openreach	16.0	16.0	100	100

Source: BT NoA, W/S Dolling, Table 12, p38.

Note: 'Original' shows the allocation under the previous method—the Dynamic Operations Base methodology; 'New' shows the allocation under the method adopted by Ofcom in the current review—copper depreciation.

4.15. BT submitted that Ofcom must implicitly have assumed that the vast majority of the copper was being recovered from the local network, ie the network used by the CRS. Ofcom made this assumption without having obtained information from BT as to how the income should be allocated.[16]

4.16. BT said that when applied to copper depreciation costs, the methodology adopted by Ofcom allocated a cost which related entirely to the provision of the local network. It was therefore appropriate only for allocating costs (or income) that are relevant to the local network.[17]

4.17. In order to apply the same approach to CRI, it was necessary first to identify what proportion of CRI should be allocated, as a matter of cost causation, to the local network, before, in a second step, that income would be further allocated between the products which use the local network. This first step necessarily involves consideration of which assets the income has been derived from, and whether those assets form part of the local network or the core network.[18]

4.18. According to BT, cost causation does not mean that cost (or income) should be allocated to particular products or services regardless of whether that cost (or income) has any causal connection with the use of the assets in question.[19] It said that its objection was to the application of a methodology to income which was unconnected with the assets and services in question, not its use in principle as a means of allocating the relevant proportion of CRI to the relevant products and services.[20]

[14] BT Core Submission (BT Appeal), Volume 1, ¶23.
[15] BT NoA, W/S Dolling, ¶136.
[16] BT NoA, ¶136.
[17] BT Core Submission (BT Appeal), Volume 1, ¶25.
[18] BT Core Submission (BT Appeal), Volume 1, ¶26.
[19] BT Core Submission (BT Appeal), Volume 2, ¶78.
[20] BT Core Submission (BT Appeal), Volume 2, ¶79.

4.19. BT stated that the vast majority of the cabling ([✂] per cent) was in fact being recovered from Openreach's MUCJ network. It said that this was not the local network that was used by the CRS.[21] It said that the services that were currently being carried over the MUCJ network were mainly analogue private circuits and kilostream/megastream digital line systems, which were outside the scope of the WLR/LLU charge control and the 2012 Statement.[22]

4.20. Mr Dolling explained that the MUCJ network had never been used to carry LLU/WLR services.[23] He said that historically it carried a wide range of traffic and that it was therefore not right to compare the current market size of private circuits to the value of the copper being recovered as this took no account of the other traffic carried over this network over the years.[24]

4.21. BT said that there was a simple reason for the stark difference in the levels of copper being recovered from the two networks. It said that the copper cables being recovered from the MUCJ network were being replaced by fibre and in contrast, the copper cables in the local network used to provide WLR/LLU rental services were still in full use. It said that apart from scrap (recovered cables through normal maintenance and repair activities), there was no surplus cable to be recovered from the local network.[25]

4.22. BT said that the remainder of the income not recovered from the MUCJ network was called Business As Usual (BAU) scrap. This could be used copper or fibre cables that were being replaced with new cables, or it could be 'cable cut-offs' where excess cable length was recovered. The majority of BAU scrap income is from recovered copper and the value of BAU scrap income was £[✂] million in 2010/11, representing [✂] per cent of the £[✂] million total income from copper recovery in that year. Table 4.2 summarizes CRI drivers for 2010/11.

TABLE 4.2 **Drivers of copper recovery income**

	2010/11 income £m	*Proportion %*	*Tonnage recovered*	*Network*	*Relevant services*
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total	[✂]	[✂]	[✂]		

Source: BT NoA, W/S Dolling /EXD, Table 13, p39.

4.23. BT explained that Table 4.2 was produced from analysis of the drivers of CRI reported in 2010/11. BT network planners identify copper cables within the MUCJ network that are redundant or underutilized and suitable for recovery; this is part of a BT programme to upgrade the core network. The majority of the cable recovery is outsourced to Carillion Telent (CT). Having extracted these cables, CT delivers them to BT's recycling contractors who split out the copper from its lead/poly covering and the recycling contractors' payments are the source of BT's CRI.[26]

4.24. BT's engineers (referred to as 'Direct Labour MUCJ' in Table 4.2 above) also recover copper as part of their day-to-day operations. This copper is taken to a central skip

[21] BT NoA, ¶137.
[22] BT NoA, W/S Dolling, ¶140.
[23] BT Core Submission (BT Appeal), 2nd W/S Dolling, ¶79.
[24] BT Core Submission (BT Appeal), 2nd W/S Dolling, ¶105.
[25] BT Core Submission (BT Appeal), Volume 1, ¶28.
[26] BT NoA, W/S Dolling, ¶142.

which is delivered to BT's recycling contractor. Finally, BAU scrap is scrap (mostly copper) that comes from day-to-day operations outside the MUCJ network, for example from the replacement of faulty cables.[27]

4.25. BT contended that just as costs relating to the MUCJ Network were not relevant to, and were not allowed by, Ofcom in the WLR and MPF rental cost stacks, CRI generated from this core network should not be taken into account when calculating the WLR and MPF cost stacks.[28] Accordingly, the majority of CRI should not be allocated to the CRS but to products outside the scope of the 2012 Statement.[29] Mr Dolling proposed a correction as follows:

(a) Step 1: allocate CRI correctly between different networks, ie [✂] per cent to BAU scrap and [✂] per cent to the MUCJ network.

(b) Step 2: allocate this income between the relevant services. MUCJ income is out of scope, whilst the income from BAU scrap uses the existing copper deprecation methodology.[30]

4.26. BT said that the impact of Step 1 and Step 2 above for 2013/14 was as shown in Table 4.3.

TABLE 4.3 **Impact of changing CRI allocation**

	2013/14 original £m	*2013/14 new £m*	[✂]	*2013/14 original %*	*2013/14 new %*	[✂]
WLR rentals	5.4	10.9	[✂]	34	68	[✂]
MPF rentals	2.3	4.5	[✂]	14	28	[✂]
SMPF rentals	0.3	-	[✂]	2	-	[✂]
Total CRS	8.0	15.4	[✂]	50	96	[✂]
Other out-of-scope services	8.0	0.6	[✂]	50	4	[✂]
Total Openreach	16.0	16.0	[✂]	100	100	[✂]

Source: BT NoA, W/S Dolling/EXD, Table 14, p41.

4.27. Mr Dolling said that BT's ground of appeal was not that Ofcom could not or should not apply the copper depreciation methodology. He said that the ground of appeal was that Ofcom incorrectly applied the methodology because it failed to take an essential, logical prior step. That is, before Ofcom could apply the copper depreciation methodology (or any other allocation methodology based on cost causation or use), it had to determine what proportion of the income was derived from the local network.[31] The copper depreciation methodology started from the proposition that the relevant costs were all attributable to the copper network. He said that the essential flaw in Ofcom's reasoning was that most of the copper recovered from the MUCJ network was not used in products relevant to this appeal at all.[32]

4.28. In response to Sky/TalkTalk's intervention (see paragraphs 4.44 to 4.51 below), BT said that copper assets could not be depreciated to their scrap values unless that value was known at the beginning of their lives, which it was not. It was also unclear why Sky/TalkTalk should be entitled to get the benefit of a windfall cost reduction as

[27] BT NoA, W/S Dolling, ¶¶143 & 144.
[28] BT NoA, W/S Dolling, ¶127.
[29] BT NoA, ¶138.
[30] BT NoA, W/S Dolling, ¶146.
[31] BT Core Submission (BT Appeal), W/S Dolling, ¶94.
[32] BT Core Submission (BT Appeal), W/S Dolling, ¶95.

a result of income received elsewhere in BT's business which was unrelated to the provision of the local network services.[33]

4.29. Mr Dolling said that Sky/TalkTalk's proposed alternative approach to depreciation was theoretical and impractical.[34] It was possible to match CRI within the local network to the services that used that network. He said that the income generated by the sale of scrap copper from the local network could be offset against the services that used the local network, and BT's appeal did not therefore raise any matching problem of the type that Sky/TalkTalk suggested.[35]

4.30. BT accepted Sky/TalkTalk's point that the income figure should be based on steady state data.[36] Mr Dolling said that, given Ofcom's error, the point did not have the significance that Sky/TalkTalk suggested.[37] Table 4.4 shows the level of CRI in the three years to 2011/12.

TABLE 4.4 **CRI split last three years**

CRI	*Network*	*2009/10 £m*	*2010/11 £m*	*2011/12 £m*	*3-year average £m*
[✂]	[✂]	[✂]	[✂]	[✂]	87.4
[✂]	[✂]	[✂]	[✂]	[✂]	3.2
[✂]	[✂]	[✂]	[✂]	[✂]	3.2
[✂]		[✂]	[✂]	[✂]	93.7
[✂]		[✂]	[✂]	[✂]	3.4

Source: BT Core Submission, 2nd W/S Dolling, Table 7.

4.31. Mr Dolling said that the information in the table above had been taken from standard management reports that had been used to generate the Openreach and BT Group profit and loss. He said that both of these sources were reported externally and were subject to external audit and scrutiny.[38] In his first witness statement, Mr Dolling argued that [✂] per cent of the income should be allocated to in-scope services, with the remainder being allocated to out-of-scope services. He said that this was consistent with the average value calculated above and showed that BT was not 'gaming' the process, which was a fear expressed by Sky/TalkTalk in their SoI.[39]

4.32. BT noted that to deal with Sky/TalkTalk's point, it would be content for its appeal to be decided on the basis that CRI should be forecast based on the average level of CRI obtained from the local network in recent years. Sky/TalkTalk's steady state point would be met by forecasting the in-scope CRI at £[✂] million a year for the duration of the charge control. He said that taking the average of the CRI for the last three years appeared to be a logical and appropriate response.[40]

Summary of Ofcom's arguments

4.33. Ofcom said that Openreach benefited from the net proceeds from the sale of copper cabling for scrap. This income had to be allocated between CRS on the one hand, and all other Openreach services on the other hand. This ground of appeal concerns

[33] BT Core Submission (BT Appeal), Volume 2, ¶88.
[34] BT Core Submission (BT Appeal), W/S Dolling, ¶118.
[35] BT Core Submission (BT Appeal), W/S Dolling, ¶119.
[36] BT Core Submission (BT Appeal), Volume 2, ¶90.
[37] BT Core Submission (BT Appeal), W/S Dolling, ¶108.
[38] BT Core Submission (BT Appeal), W/S Dolling, ¶110.
[39] BT Core Submission (BT Appeal), W/S Dolling, ¶112.
[40] BT Core Submission (BT Appeal), W/S Dolling, ¶113.

the way in which Ofcom allocated that income.[41] The evolution of Ofcom's approach to CRI is described in the 2012 Statement and has been summarized in paragraphs 4.7*(c)* and 4.9 above.

4.34. Ofcom said that choosing the appropriate basis for allocating OOI was a matter of judgement. When allocating costs (rather than income), Ofcom would typically consider the factors that caused the costs to be incurred when deciding how those costs should be allocated to services. For some costs, there might be a relatively obvious allocation method; for example, pay costs for engineers might be allocated to services in a way that reflected how those engineers spent their time. Where there was such a link, the basis for allocating costs to the services that caused those costs might be described as a 'direct' basis. For other costs, such as head office costs, for example, the link between the costs and the services to which they needed to be allocated was less direct, and it was necessary for the regulator to make a decision regarding the appropriate indirect basis for allocating costs.[42]

4.35. Ofcom said that the copper depreciation methodology was a static allocation basis where the percentages allocated to particular activities did not change over the forecast period. It allocated 100 per cent of the cost to the activity 'Use of D side Copper and Duct' (D side means distribution side, that is from the exchange to the customer). That activity was, in turn, allocated to the products that used D side copper and duct (CRS and the local end of partial private circuits (PPCs)).[43]

4.36. Neither Ofcom, nor, it appeared at the time, BT, considered there to be an appropriate direct basis for allocating the OOI to services.[44] Ofcom used the Dynamic Operations Base methodology in its March 2011 Consultation in the absence of any direct allocation basis. At the time, this indirect allocation basis was advocated by BT.[45]

4.37. Following the March 2011 consultation, in light of the responses received, Ofcom considered that the copper depreciation methodology provided a more appropriate method of allocation. This method was the same as that used by BT for allocating other copper-specific charges.[46]

4.38. According to Ofcom, BT agreed in principle with its use of the copper depreciation methodology. Ofcom submitted that it was wholly unclear how this position could be reconciled with this ground of appeal. Like the Dynamic Operations Base methodology, copper depreciation was an indirect allocation rule that depended on which services used the copper network as a whole: it did not depend on attempting to identify the services that used the particular pieces of copper that were recovered during the charge control period.[47]

4.39. Ofcom said that BT's appeal was premised on the submission that it 'implicitly assumed that the vast majority of the copper is being recovered from the copper access network i.e. the network used by the CRS', and that it should not have 'assumed' that without consultation. This was a false premise in that Ofcom did not assume anything about the source of the recovered copper. It chose, in the exercise of its modelling judgement, to use a particular indirect allocation basis for allocating copper-related costs. This methodology did not depend on the source of recovered

[41] Ofcom Defence (BT Appeal), Annex D, ¶2.
[42] Ofcom Defence (BT Appeal), Annex D, ¶8.
[43] Ofcom Defence (BT Appeal), Annex D, ¶6.
[44] Ofcom Defence (BT Appeal), Annex D, ¶9.
[45] Ofcom Defence (BT Appeal), Annex D, ¶10.
[46] Ofcom Defence (BT Appeal), Annex D, ¶11.
[47] Ofcom Defence (BT Appeal), Annex D, ¶12.

copper, and it did not believe that it did. It was therefore under no obligation to seek information from BT about the source of recovered copper.[48]

4.40. According to Ofcom, BT never argued during the administrative process that it was necessary to investigate the source of the copper actually recovered. As noted above, BT had, until its Appeal, advocated use of the Dynamic Operations Base, which was also an indirect allocation rule which did not depend on the source of recovered copper. Ofcom said that it simply chose a better indirect rule than the one proposed by BT and that it was clearly justified in doing so.[49]

4.41. Ofcom said that it was not appropriate for BT, on appeal, to argue that Ofcom should not have used an indirect rule at all but should actually have investigated the source of the recovered copper. BT could have made that submission at any time, if it thought that that was the appropriate method.[50] Information now produced by BT would not have been sufficient to cause Ofcom to take the position that BT now advocated, and what would be required was a detailed investigation showing that it was systematically the case that recovery of copper should be made on a different basis. Ofcom did not consider that it would be proportionate to undertake such an investigation and its assumption was wholly reasonable.[51]

Comment on BT's revised allocation

4.42. Ofcom said that BT's revised allocation could not be accepted without further investigation, for the following reasons:

(a) Ofcom had limited information about the MUCJ network and which parts of it Openreach was responsible for (Ofcom would not expect Openreach to be responsible for trunk or core elements of retail PPC, for example).

(b) The absolute amount of CRI being allocated to out-of-scope services seemed high in circumstances where it was said that MUCJ was used mainly for analogue private circuits and digital line systems. The figure claimed was a significant proportion of the total value of the retail PPC market in 2010/11.[52]

4.43. Ofcom said that it had not had the opportunity to undertake such investigation.[53]

Summary of Sky/TalkTalk's Intervention

4.44. Sky/TalkTalk supported and adopted Ofcom's submissions and submitted that, taken as a whole, Ofcom's approach to identifying and allocating CRI was robust, save for the distinct error that it identified in Sky/TalkTalk's NoA (this is addressed separately).[54]

4.45. Mr Duckworth said that copper depreciation allocated CRI to services in proportion to their use of the copper cable network. He said that to the extent that CRI was effec-

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[48] Ofcom Defence (BT Appeal), Annex D, ¶13.
[49] Ofcom Defence (BT Appeal), Annex D, ¶14.
[50] Ofcom Defence (BT Appeal), Annex D, ¶15.
[51] Ofcom Core Submission (BT Appeal), Volume1, ¶44.
[52] Ofcom Defence (BT Appeal), Annex D, ¶18.
[53] Ofcom Defence (BT Appeal), Annex D, ¶19.
[54] Sky/TalkTalk SoI (BT Appeal), ¶22.

tively an adjustment for an inflated depreciation charge for copper cable, this was an appropriate approach.[55]

4.46. If, contrary to Ofcom's primary case, it were justifiable to seek to apportion CRI on a direct basis as suggested by BT, it would be necessary to take account of significant consequential issues, which BT failed to address, as well as to ensure that the approach taken was robust and consistent.[56]

4.47. First, Sky/TalkTalk considered that it would be important to verify that the data used for the apportionment was: *(a)* accurate and robust; and *(b)* based on a 'steady state' reflective of recovery in 2013/14, ie that the proportion of CRI deriving from different parts of BT's network was representative of the average amount of copper removed from those parts of the network over time and not distorted by particular factors unique to the years chosen by BT. Moreover, the apportionment should be representative of an 'efficient' level of recovery.

4.48. Sky/TalkTalk contended that:

(a) Applying an apportionment based on an unrepresentative year with low relative recovery from the local network would be likely to lead to an underestimate of the potential income and in turn a future windfall for BT as and when it recovered copper from the local network. BT had failed to demonstrate that its data was robust and/or indicative of such a steady state and could be relied upon for calculating CRI in 2013/14.

(b) Moreover, if recovery for the purpose of the charge control were based purely on BT's actual or predicted recovery for different parts of the network (rather than the recovery anticipated of an efficient operator), it would expose Ofcom to potential gaming by BT in relation to its choices as to where it planned to recover, and did recover, scrap copper. This risk may be particularly real in light of the 'matching' problem explained below.[57]

4.49. According to Sky/TalkTalk, adopting BT's direct attribution approach would cause a particular temporal matching problem, which meant that it would not always be possible to match copper recovery from individual elements of the network with the services that used (or in the past used) that part of the network. Although this problem was technically inherent in Ofcom's method of not taking account of the residual value of scrap copper, it became particularly problematic as a matter of practice in light of BT's direct attribution approach because:

(a) Ofcom's income approach involved depreciating copper assets towards a zero residual value over an assumed 18-year economic life, and realizing scrap value as income. An alternative approach, which would be preferable as a matter of principle, would be to depreciate copper assets towards a residual value which reflected the value realized on their disposal. In Ofcom's model, CRI was therefore effectively an adjustment for an otherwise inflated depreciation charge for copper cable.

(b) Copper cable was likely ultimately to be recovered at the end of its working life, in particular when it might be replaced by optical fibre. However, because copper cable was durable, it was likely in reality to remain in use after the end of its current book life of 18 years, and may only be removed in large-scale quantities

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[55] Sky/TalkTalk SoI (BT Appeal), W/S Duckworth, ¶5.6.
[56] Sky/TalkTalk SoI (BT Appeal), ¶23.
[57] Sky/TalkTalk SoI (BT Appeal), ¶24.

when the relevant copper network was no longer required for the provision of services.

(c) If income from copper cable in the local network was attributed on a direct basis, its residual value would therefore only be taken into account when the cable was actually sold, at which time it might not be possible to attribute it properly to the individual services that used it. For example, the CRI from the MUCJ network reflected the over-recovery of copper costs from the services that previously used this network (through excessive depreciation charges during the lifetime of the network). Since the majority of copper was only recovered once most services had been migrated from this network, it was not possible to compensate the former users of the MUCJ network, thereby leading to windfall gains to BT.

(d) As a result, even in the light of the new information provided by BT, it would be reasonable for Ofcom to continue with its current pragmatic approach of allocating CRI across BT's whole network on the basis of the services that currently used copper cables in order to offset the inflated depreciation charges.[58]

4.50. Mr Duckworth said that the apparently low level of CRI from the local network, where copper was still heavily used, and the relatively high level of CRI from the MUCJ network, which was now effectively obsolete, reflected the matching problem under the income approach to the treatment of copper scrap.[59] He said that the CRI from the MUCJ network reflected the over-recovery of copper costs from the services that previously used that network through the excessive depreciation charges during the lifetime of that network. As the copper was only recovered once most services had been migrated from this network, it was not now possible to compensate the former users of the MUCJ for this over-recovery.[60] He said that a similar effect was likely in the local network, with inflated depreciation charges currently, and the offsetting copper income only being realized when the network was being retired.[61]

4.51. Overall, Sky/TalkTalk contended that BT's appeal should be dismissed. Alternatively, even if we were to conclude that BT had demonstrated a material error in Ofcom's approach, then the matter should be remitted to Ofcom for further consideration in order to address the issues identified above in paragraphs 4.47 and 4.49.[62]

Assessment

4.52. Our assessment is split as follows:

(a) first, we consider the allocation basis for CRI used by Ofcom;

(b) second, we consider the consequential issues identified by Ofcom and Sky/ TalkTalk; and

(c) third, we consider materiality.

4.53. We did not consider that BT was challenging Ofcom's modelling judgement but rather the inputs to that model. Therefore in our view, this ground of appeal alleges an error of fact.

[58] Sky/TalkTalk SoI (BT Appeal), ¶25–25.4.
[59] Sky/TalkTalk SoI (BT Appeal), W/S Duckworth, ¶5.9.
[60] Sky/TalkTalk SoI (BT Appeal), W/S Duckworth, ¶5.10.
[61] Sky/TalkTalk SoI (BT Appeal), W/S Duckworth, ¶5.10.
[62] Sky/TalkTalk SoI (BT Appeal), ¶27.

Allocation basis for CRI

4.54. BT's ground of appeal here is that Ofcom has not correctly applied the principle of cost causation to CRI. It submitted that applying cost causation correctly would require Ofcom first to identify what proportion of CRI should be allocated to the local network, before then allocating this between the products which used the local network. BT's view is that the first step necessarily involves consideration of which assets generate CRI.[63]

4.55. In our view, if most or all of the CRI arises due to copper being recovered from CRS and the local end of PPC (that is, where it has been allocated under the copper depreciation methodology), then the methodology used by Ofcom would be the most appropriate way in which to implement cost causality in this case. However, if a significant proportion of the CRI is in fact not recovered from these services, then the effect of Ofcom's methodology would be at odds with cost causality. In that scenario, Ofcom would be allocating the proceeds of CRI to users that neither caused this income to occur, nor incurred the original costs of the recovered copper (as depreciation charges).

4.56. The evidence we have seen shows that:

(a) BT can identify the value of copper that is recovered from the different parts of its network and it has shown that the vast majority of CRI is in fact recovered from Openreach's MUCJ network. This is not the local network that is used by the CRS.[64] This fact was not disputed by Ofcom or Sky/TalkTalk (although they both raised consequential issues which we consider below).

(b) Yet, under Ofcom's methodology, the vast majority of CRI is not being allocated to the services which incurred the cost of that recovered copper (depreciation).

4.57. In our view, based on this evidence, Ofcom's method of CRI allocation is incorrect because it results in income which is mostly generated from services outside the scope of CRS (ie from the MUCJ network) being allocated to CRS so as to reduce the CRS cost stack. This is at odds with the principle of cost causation which Ofcom had sought to apply and we therefore find that it made a mistake in its CRI allocation.

Consequential issues raised by Ofcom and Sky/TalkTalk

- *Issues raised by Ofcom*

4.58. We considered three consequential issues raised by Ofcom:

(a) For Ofcom to take the position that BT now advocated would require a detailed investigation showing that it was systematically the case that allocation of CRI should be made on a different basis. It did not consider that it would be proportionate to undertake such an investigation.

(b) It has limited information about the MUCJ network.

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[63] BT Core Submission (BT Appeal), Volume 1, ¶26.
[64] BT NoA, ¶137.

(c) The absolute amount of CRI being allocated to out-of-scope services seems high—the figure claimed is a significant proportion of the total value of the retail PPC market in 2010/11.[65]

4.59. In our view, these issues were not relevant to the question of whether Ofcom made a mistake in allocating CRI. BT said that that the vast majority of CRI was recovered from the MUCJ network; that data on volumes of recovered copper was reliable and subject to external scrutiny. We have no reason to doubt the reliability of this information and it has not been challenged. We did not consider that it would be necessary for Ofcom to gather significantly more information or to conduct a detailed investigation of the MUCJ network because the MUCJ services are out of scope for the purpose of this charge control. The same argument applies with regard to point *(c)* above; the only relevant issue to consider here is the source of the CRI and the extent to which the data can be verified.

- *Issues raised by Sky/TalkTalk*

4.60. We also considered two issues raised by Sky/TalkTalk:

(a) CRI is effectively an adjustment for an inflated depreciation charge. By the time copper is removed it will not always be possible to match it to the services with which it is associated.

(b) It is important to verify that the data is accurate, robust and based on a steady state (and efficient) recovery of CRI.[66]

- *CRI is an adjustment for an inflated depreciation charge*

4.61. As copper is depreciated to a residual value of zero but currently has a realizable scrap value in excess of zero, Sky/TalkTalk were in our view correct to suggest that CRI represents an over-recovery of costs during the lifetime of the copper. We found that income associated with copper currently being removed from the MUCJ network can be regarded as a windfall gain. We also found that it may not be possible to compensate the former users of the MUCJ network, but we considered that it did not follow that the windfall gain should be allocated to CRS.

4.62. We were not presented with evidence that Ofcom regards CRI as an adjustment for an inflated depreciation charge. It is our view that in moving to copper depreciation, Ofcom intended to adopt a cost causal approach to CRI rather than a pragmatic solution to the problems of an inflated depreciation charge (as Sky/TalkTalk described). As such, we found this line of argument to have little force.

4.63. We considered that CRI from the MUCJ network was a windfall gain which could not have been predicted at the time. We judged that windfall gains from a separate network should not be connected in any way to the current copper depreciation charges for CRS.

[65] Ofcom Defence (BT Appeal), Annex D, ¶18.
[66] Sky/TalkTalk SoI (BT Appeal), ¶24.

- *It is important to verify that the data is accurate, robust and based on a steady state (and efficient) recovery of CRI*

4.64. In our view, it is important that the data is accurate, robust and based on a steady state recovery of CRI (for CRS). BT confirmed that the data was accurate, robust and externally audited.[67]

4.65. We were persuaded that the BT data is sufficiently accurate, robust and externally verified. We would expect the CRI forecast to be based on a steady state recovery from the relevant in-scope network. We have seen no evidence to suggest that the recovery of copper from the local network is inefficient. As such, this point did not change our assessment of whether Ofcom had incorrectly allocated CRI.

Summary

4.66. In summary, we believe that BT's methodology for allocating CRI is correct because it better reflects the principle of cost causation, which was the main driver for the change implemented by Ofcom. We did not find that any of the consequential issues raised by Ofcom and Sky/TalkTalk were sufficiently compelling to change this assessment. We accepted BT's argument that the majority of the CRI should not be allocated to the CRS but instead it should be allocated to products outside the scope of the 2012 Statement.[68] As Ofcom has in fact allocated the majority of CRI to CRS, we believe that this is a mistake which has resulted in the charge control being set at a level which is too low.

Materiality

4.67. In this section, we consider the materiality of the mistake identified above based on the approach set out in paragraph 1.60.

4.68. BT proposed two alternative corrections:

(a) The allocation of CRI is changed to [✂] per cent of that income which is then allocated on the basis of copper depreciation. The impact of this correction was said to be +£0.64 for MPF line rental and +£0.65 for WLR line rental.[69]

(b) The allocation of CRI is changed to use the average of in-scope CRI for the last three years. That is £[✂] million a year. This impact was said to be +£0.52 for MPF line rental and +£0.53 for WLR line rental.[70]

4.69. The first correction proposed above amounts to 0.7 per cent (rounded) of both the 2012/13 MPF and WLR charge control. The second correction amounts to 0.6 per cent (rounded) of the 2012/13 MPF charge control and 0.5 per cent of the 2012/13 WLR charge control.

4.70. We agreed with Sky/TalkTalk that the data should be based on a steady state rate of recovery. Given the large fluctuations in the CRI from the MUCJ network, the use of a percentage correction, as originally proposed by BT, would not be appropriate. BT seemed to agree with this point. In our view, any correction should be on the second

[67] BT Core Submission (BT Appeal), Volume 2, ¶90.
[68] BT NoA, ¶138.
[69] BT NoA, ¶138.
[70] BT Core Submission (BT Appeal), W/S Dolling, ¶127 & Table 8.

basis proposed by BT, using an average of in-scope CRI over a number of years (potentially over three years, as BT proposed).

4.71. We have considered the factors set out in paragraph 1.60. First, the error represents 0.5 to 0.6 per cent of the cost stack. Second, we did not consider that the additional effort which Ofcom would have been required to expend to consider the relevant criticisms would have been significant, and the error could have been simply rectified, since the required information is readily available from BT. Third, CRI will be an ongoing feature of the charge control so it is important that it is based on correct information. We did not find that any of the other factors listed in paragraph 1.60 were relevant.

4.72. It is therefore our judgement that the mistake is material.

Determination

4.73. For the reasons given above, we find that Ofcom erred in allocating the income received by BT from the recovery of copper cable to the CRS (MPF, SMPF and WLR).

5. BT Appeal

Migration

Reference Question 1(vii)

5.1. This section (paragraphs 5.1 to 5.35) sets out our conclusions as to whether the price controls imposed on BT by paragraphs 10, 11 and 14 of, and Condition FAA4(A) in Part I, Schedule 1 to, Annex 12 of the Decision and paragraphs 10, 11, 14 and 15 of, and Condition AAAA4(WLR) in Part IV, Schedule 1 to, Annex 12 of the Decision have been set at a level which is inappropriate because Ofcom erred in calculating BT's costs of MPF Single Migration, SMPF New Provide and SMPF Single Migration services, for the reasons set out in paragraphs 139 to 142 of BT's NoA.

5.2. BT appeals on the ground that Ofcom made a simple clerical error in calculating the cost of the relevant services. This error was said to apply to both 2012/13 and 2013/14.

5.3. For the reasons given below, our determination is that Ofcom erred in calculating BT's costs of MPF Single Migration, SMPF New Provide and SMPF Single Migration services.

Summary of Ofcom's rationale and methodology

5.4. CPs can buy from Openreach the MPF Single Migration or the SMPF Single Migration/New Provide product where an end-user, with an existing Openreach copper line, wants to switch its broadband service to that CP or start a broadband service with that CP using, respectively, MPF (which supports voice and broadband) or SMPF (which supports broadband only but may be used in conjunction with WLR to support voice and broadband).[1]

5.5. In its Statement, Ofcom noted that these migration services had a direct impact on the cost of acquiring a customer for a CP, and that their relative charge size affected competition between those CPs using MPF and those using WLR and SMPF.[2]

5.6. Previously MPF Single Migration and SMPF Single Migration/New Provide were subject to separate charge controls.[3] In the 2012 Statement Ofcom decided to set MPF Single Migration and SMPF Single Migration/New Provide prices at the start of the control (the Starting Charge) at the same level on the basis that they have similar underlying costs. The Starting Charges (in 2010/11) were set at £38.64.[4] Ofcom decided to glide from these Starting Charges to a volume weighted average of the 2013/14 costs for the MPF Single Migration and SMPF Single Migration/New Provide (the Target Charge).[5]

5.7. Ofcom decided that the aligned charge control should be set at an indexation of RPI–11.3 per cent. It said that on this basis the first year aligned charges for 2012/13 were £33.54 and that it expected prices to glide to £30.67 by the end of the charge

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[1] 2012 Statement, ¶4.25.
[2] 2012 Statement, ¶4.29.
[3] 2012 Statement, ¶4.28.
[4] 2012 Statement, Fig 4.1.
[5] 2012 Statement, ¶¶4.33 & 4.86.

control.[6] These charges were set out in the 2012 Statement and are repeated in Table 5.1 below.[7]

TABLE 5.1 **MPF Single Migration, SMPF Single Migration/New Provide charges**

	Ofcom charges (£)	
	2012/13	*2013/14 FAC costs*
MPF Single Migration	33.54	30.67
SMPF Single Migration/New Provide	33.54	30.67

Source: 2012 Statement, Fig 4.4.

5.8. As set out in paragraph 5.18 below, Ofcom subsequently said that the Target Charge for 2013/14 had actually been calculated as £31.03, not £30.67 as set out in the 2012 Statement.

Summary of BT's arguments

5.9. BT said that Ofcom had made a simple calculation error in its modelling of MPF Single Migration, SMPF New Provide and SMPF Single Migration which had resulted in Ofcom setting a glide path for these costs which was too steep and therefore prevented BT from fully recovering its efficiently-incurred costs for these services.[8] BT alleged that Ofcom had made an error of fact.

5.10. In its NoA, BT said that Ofcom had incorrectly calculated the volume-weighted cost of the MPF Single Migration, SMPF New Provide and SMPF Single Migration products in 2013/14 as £30.67 rather than £31.03.[9]

5.11. Having seen Ofcom's Defence and understood the mistake that Ofcom accepted it had made (see paragraphs 5.16 to 5.19 below), BT said that in 2012/13 the calculation error meant that the cost had been understated by £0.35 in 2012/13, or 1 per cent of the price control level for 2012/13. It said that the total financial value of this error was some £1.3 million in 2012/13.[10]

5.12. BT submitted that this mistake also had an impact in 2013/14 because the 'X' value calculated for these services (11.3 per cent), although correct in itself, would be applied to the wrong base price (that for 2012/13). It said that the incorrect (and erroneously low) 2012/13 price therefore resulted in a price in 2013/14 which would also be incorrect and too low. It said that the correct price in 2013/14 should be £31.08, which would mean that the price would be understated by £0.32 in 2013/14. This was also approximately 1 per cent of the price control level in 2013/14, with a financial impact in 2013/14 of £1.2 million.[11]

5.13. Mr Dolling said that using the RPI (+3 per cent) for 2013/14 quoted by Ofcom in the 2012 Statement and the X (11.3 per cent), the final year price should be £31.08. He said that this price aligned with the forecast weighted average FAC (fully allocated costs) of £31.03 for 2013/14.[12] His summary is set out in Table 5.2 below.

[6] 2012 Statement, ¶4.87.
[7] 2012 Statement, Fig 4.4.
[8] BT NoA, ¶¶139–142.
[9] BT NoA, ¶141.
[10] BT Core Submission (BT Appeal), Volume 1, ¶31.
[11] BT Core Submission (BT Appeal), Volume 1, ¶32.
[12] The difference between Target Charge for 2013/14 of £31.03 and correction proposed by BT of £31.08 is caused by rounding differences when applying the RPI–X calculation (which is rounded to one decimal place).

TABLE 5.2 **BT summary of errors**

	2010/11	*2011/12*	*2012/13*	*2013/14*
Ofcom RPI (%)	-	4.5	5.4%	3.0%
X (%)	-	–11.3	-11.3%	-11.3%
Formulae (£)	-	38.64*(1+4.5%–11.3%)	36.01*(1+5.4%-11.3%)	33.89*(1+3%-11.3%)
Corrected price (£)	38.64	36.01	33.89	31.08
Ofcom determination (£)	38.64	N/A	33.54	30.76
[✂]			[✂]	[✂]
Volume			3,850,000	3,670,000
[✂]			[✂]	[✂]

Source: BT Core Submission (BT Appeal), W/S Dolling, Table 9.

Notes:
1. In practice, when the RPI–X formula is applied to the Starting Charge, rounding differences lead to the 2013/14 actual charges being very slightly different from those which were targeted in the Target Charge. This occurs as the X is rounded to one decimal place.
2. N/A = not applicable.

5.14. Mr Dolling contended that in total, taking the two errors as outlined above, the impact was to deprive BT of £2.5 million of revenue over the two-year period.[13]

5.15. BT said that the error was a technical, arithmetic one and correction of the error required no effort at all.[14] It argued that this was not an issue which required the expenditure of any further legal costs, or judicial or regulatory time. It said that this was a matter which could be corrected instantly, leading to a 1 per cent increase in the value of the price control level.[15]

Summary of Ofcom's arguments

5.16. Ofcom accepted that it had made a computational error in calculating the cost of Single Migration and New Provide services. However, it said that it did not accept that the error was material.[16]

5.17. Ofcom said that its calculation of the new control could be considered in four stages, as follows:

(a) calculation of the blended Starting Charge;

(b) calculation of the blended Target Charge (based on the underlying costs);

(c) calculation of the RPI–X control required to allow the Starting Charge to glide towards the Target Charge over the duration of the control; and

(d) calculation of the price that would be charged in the first year of the control by applying the RPI–X control to the Starting Charge.

5.18. Ofcom said that in the 2012 Statement it had:

(a) calculated the blended Starting Charge to be £38.64;

(b) calculated the blended Target Charge to be £31.03;

(c) calculated the RPI–X control to be RPI–11.3 per cent; and

[13] BT Core Submission (BT Appeal), W/S Dolling, ¶135.
[14] BT Core Submission (BT Appeal), Volume 2, ¶97.
[15] BT Core Submission (BT Appeal), Volume 2, ¶98.
[16] Ofcom Defence (BT Appeal), ¶50, & Ofcom Core Submission (BT Appeal) Volume 1, ¶45.

(d) made a computational error in calculating the price that would be charged in the first year of the control (ie 2012/13).[17]

5.19. It said that the effect of its computational error was that the charge in 2012/13 was stated as £33.54 (see Table 5.1). It said that the correct figure was £33.89. The effect of this error was to reduce revenues in 2012/13 by approximately £1.3 million. It said this had no effect on the X (ie RPI–X), which remained correct.[18]

5.20. Ofcom said that it did not propose to make any adjustment in relation to Migration Services to correct for this computational error because it was not material.[19]

Statement of Intervention by Sky/TalkTalk

5.21. Sky and TalkTalk supported the submissions made by Ofcom.[20]

Assessment

5.22. In our view, this ground of appeal alleges an error of fact.

5.23. There is agreement between BT and Ofcom that a mistake was made in calculating the costs of MPF Single Migration, SMPF New Provide and SMPF Single Migration. BT and Ofcom are also in agreement as to the effect of the mistake in 2012/13 but not as to the effect in 2013/14:

(a) Ofcom accepted a calculation error in the price for 2012/13 due to its incorrect application of the glide-path formula. It accepted that the correct price for 2012/13 was £33.89 rather than £33.54. It did not explicitly accept an error in its calculation of the charge for 2013/14.

(b) BT alleged an error in the calculation of the price for both 2012/13 and 2013/14. It alleged that:

(i) Ofcom correctly calculated 'X' in the RPI–X formula at 11.3 per cent;

(ii) Ofcom incorrectly calculated the price in 2012/13 at £33.54 rather than £33.89; and

(iii) applying the correct RPI–X formula to the incorrect price for 2012/13 of £33.54 would result in an incorrect price in 2013/14.

5.24. We consider in turn the accepted mistake for 2012/13 and the mistake alleged by BT for 2013/14.

2012/13

5.25. The mistake in the calculation of the 2012/13 price is accepted by Ofcom. The correct price in 2012/13 should be £33.89 rather than £33.54. BT agreed with the size of the error and the correct price for 2012/13.

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[17] Ofcom Defence (BT Appeal), ¶E.4.
[18] Ofcom Defence (BT Appeal), ¶E.5.
[19] Ofcom Defence (BT Appeal), ¶E.6.
[20] Sky/TalkTalk SoI (BT Appeal), ¶28 and Sky/TalkTalk Core Submission (BT Appeal), ¶13.

5.26. We have concluded that Ofcom made a mistake in calculating the price of MPF Single Migration, SMPF New Provide and SMPF Single Migration for 2012/13.

2013/14

5.27. The mistake in 2013/14 is alleged by BT to result from Ofcom applying the correct RPI–X formula to its incorrectly calculated price for 2012/13. That is the RPI–11.3 per cent formula was applied to a price in 2012/13 of £33.54 rather than £33.89.

5.28. In its Defence, Ofcom did not comment on the charge for 2013/14, covering only its mistake in the price for 2012/13. Ofcom said that it used £31.03 as the Target Charge in deriving its RPI–X formula rather than the Target Charge of £30.67 actually contained in the 2012 Statement.[21]

5.29. Our assessment is that, based on an RPI of 3 per cent (as assumed by Ofcom in its 2012 Statement) and applying the RPI–X formula (with an X of 11.3 per cent) to the corrected price in 2012/13 of £33.89, the price for 2013/14 should be £31.08. This compares to a price of £30.76 implied by Ofcom's determination, an underestimate of £0.32.

5.30. We therefore concluded that the mistake Ofcom has made in 2012/13 also affects the price in 2013/14 for MPF Single Migration, SMPF New Provide and SMPF Single Migration. The mistake will result in a price in 2013/14 for each service that is too low. We concluded that this is an error of fact.

Materiality

5.31. In this section, we consider the materiality of the 2012/13 and the 2013/14 mistakes identified above based on the approach set out in paragraph 1.60.

5.32. Based on the charge for 2012/13 being incorrectly stated as £33.54 rather than £33.89 (see paragraph 5.25), the mistake amounts to £0.35 or 1 per cent of the relevant charge for that year. As set out in paragraph 5.29, the mistake in 2013/14 amounted to £0.32 or 1 per cent of the anticipated price in 2013/14. Ofcom commented that this was not material but it did not provide any reasons to substantiate this.

5.33. First, we note the error amounts to 1 per cent of the MPF Single Migration, SMPF New Provide and SMPF Single Migration charge control for both 2012/13 and 2013/14. Second, we did not consider that the additional effort which Ofcom would have been required to expend to consider the relevant criticisms would have been significant, and the error could be simply rectified, since both the mistakes identified are simple computational ones, with one (2013/14) being a direct consequence of the other (2012/13). We did not find that any other of the other factors listed in paragraph 1.60 were relevant.

5.34. It is therefore our judgement that the mistake is material.

Determination

5.35. Accordingly, we find that Ofcom erred in calculating BT's costs of MPF Single Migration, SMPF New Provide and SMPF Single Migration services.

[21] Ofcom Defence (BT Appeal), ¶E.4.

6. BT Appeal

Service levels and fault rates

Reference Question 1(v)

6.1. This section (paragraphs 6.1 to 6.74) sets out our conclusions as to whether the price controls imposed on BT by paragraphs 10, 11 and 14 of, and Condition FAA4(A) in Part I, Schedule 1 to, Annex 12 of the Decision and paragraphs 10, 11, 14 and 15 of, and Condition AAAA4(WLR) in Part IV, Schedule 1 to, Annex 12 of the Decision have been set at a level which is inappropriate because Ofcom erred in its allocation of the cost of repairing faults on WLR, MPF and SMPF lines, for the reasons set out in paragraphs 143 to 154 of BT's NoA.

6.2. The essence of BT's appeal is that Ofcom has used an incorrect method in calculating the additional cost to Openreach of providing faster fault response times for MPF lines.

6.3. For the reasons given below, our determination is that Ofcom did not err in its allocation of the cost of repairing faults on WLR, MPF and SMPF lines.

Summary of Ofcom's rationale and methodology

6.4. Openreach repairs faults on LLU lines and this cost needs to be allocated to the different types of LLU services in the Ofcom model. This is done by combining service levels (the subject of this Reference Question) with actual fault rates to derive a usage factor, which is then used to allocate repair costs between different services. This can be seen in Table 6.1 below (the method is identical for distribution-side and exchange-side repair costs).[1]

TABLE 6.1 **Usage factor calculations for WLR, MPF and SMPF**

	Actual fault rate	*Service level usage*	*Usage factor*
WLR Basic	1.0	1.0	1.0
MPF	1.04	1.057	1.10
SMPF	0.15	1.057	0.16

Source: Ofcom 2012 Statement, ¶A4.23 (the full table has not been replicated).

6.5. Lines are offered with different service levels, known as 'Care Levels', as part of the supply contract. WLR Basic lines are provided with 'Care Level 1', whereas MPF and SMPF lines are provided with 'Care Level 2'. A fault on a line with 'Care Level 1' must be fixed by BT by the end of the next working day plus one; a fault on a line with 'Care Level 2' must be fixed by the end of the next working day.[2] Repair work is completed by the BT engineering team, which also undertakes provisioning work (which relates mainly to the provision of new lines).[3]

6.6. During the consultation process, BT provided Ofcom with modelling which showed that [✄] per cent more engineering resource was needed to deliver Care Level 2 than to deliver Care Level 1. It suggested to Ofcom that this [✄] per cent should be taken into account, together with a factor relating to the frequency of actual faults on

[1] 2012 Statement, ¶A4.23 (the full table has not been replicated).
[2] BT Core Submission (BT Appeal), Volume 1, ¶34.
[3] BT Core Submission (BT Appeal), 2nd W/S Shurmer, ¶40.

each type of line, to arrive at a 'usage factor' for each product, enabling Openreach's repair activity costs to be allocated between different products taking into account the relative incidence of faults and the cost of having to fix faults on some lines more quickly than on others.

6.7. Ofcom accepted that providing services to a higher care level might require more resources.[4] However, it said that it was not in a position, given the evidence base, to determine the validity of Openreach's proposed allocation basis.[5] It said that it would consider whether it should undertake further work in this area in the future to gain a more detailed understanding of resource demands of the different care levels.[6]

6.8. To account for the difference in service level, Ofcom decided to use the same differential between MPF/SMPF and WLR Basic as it had set in the previous control between WLR Basic (which received Care Level 1) and WLR Premium (which received Care Level 2). In the 2009 WLR Statement, Ofcom had set the residential and business service differentials for the 2009 WLR Charge Control at 5.7 per cent. This adjustment was based on an incremental savings assessment, ie the savings in costs attributed to WLR Basic if it removed WLR-Premium-specific costs from the WLR Basic cost stack.[7]

6.9. Openreach had explained to Ofcom that the two main cost elements (which would be excluded if a Level-1-only service were provided) were jeopardy management costs and faster contractual repair costs:

(a) Jeopardy management was the labour activity carried out to improve provision and repair performance (through efficient work scheduling).

(b) Faster contractual repair was the cost of serving WLR business customers in priority to WLR residential customers even where it caused inefficiency. This meant that a greater engineering resource would be required, eg an engineer's route would be scheduled to attend WLR business customers in priority to residential customers even where it might impose additional travelling distances. Openreach in 2009 provided evidence which showed that removing the need to carry out faster contractual repairs would reduce the current aggregate repair cost on residential lines by 3.2 per cent.[8]

6.10. Ofcom considered that both of these cost elements remained valid, but that the analysis provided by Openreach suggested that they were at best a lower bound estimate of the costs.[9] Ofcom therefore concluded that service level usage for WLR Premium, MPF and SMPF should include an uplift of 5.7 per cent on the usage factor compared with WLR Basic to account for higher levels of service on fault repair.[10]

Summary of BT's arguments

6.11. This ground of appeal related to Ofcom's alleged error in the allocation of repair costs between the CRS, which BT said resulted in Ofcom failing properly to take account of

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[4] 2012 Statement, ¶A4.292.
[5] 2012 Statement, ¶A4.297.
[6] 2012 Statement, ¶A4.299.
[7] 2012 Statement, ¶A4.300.
[8] 2012 Statement, ¶A4.301.
[9] 2012 Statement, ¶A4.302.
[10] 2012 Statement, ¶A4.306.

the higher costs associated with faster repair times for faults on MPF and SMPF lines.[11] BT alleged an error of fact and/or discretion.[12]

6.12. BT said that Openreach must allocate engineers to ensure that repair jobs were completed on time. That involved having enough engineers to attend to all Care Level 2 jobs within one working day, and where necessary diverting engineers from Care Level 1 jobs to attend first to Care Level 2 jobs. This drove higher costs and required Openreach to have more engineers available than would be the case if, for example, all repair jobs were subject only to the repair time that applied under Care Level 1.[13]

6.13. According to BT, Ofcom accepted, in principle, that providing services with higher care levels might require more resources. In the 2012 Statement, Ofcom identified the central issue on this point as ‘whether, and how, we should adjust allocation of repair resource between charge controlled products that are on Care Level 1 (WLR Basic) compared to those on Care Level 2 (MPF, SMPF) to reflect the difference in care level provided as part of the standard product’ (paragraph A4.289).[14]

6.14. Ofcom decided to use the same differential as it had used in the 2009 WLR charge control for allocating repair costs as between WLR Basic and WLR Premium services.[15] BT explained that the approach in 2009 was based on earlier modelling that Openreach had supplied to Ofcom (‘the 2009 modelling’). Ofcom proceeded to apply a differential of 5.7 per cent, equating to a service level usage factor of 1.057 applied to products with Care Level 2 (ie WLR Premium, MPF and SMPF).[16]

6.15. BT said at it had been unable to determine how Ofcom had derived the 5.7 per cent figure[17] and that the 2012 Statement offered no explanation for Ofcom’s figure.[18]

6.16. Mr Shurmer said that BT had appealed for two reasons:

(a) The 5.7 per cent differential cited by Ofcom was simply not explained in the 2012 Statement. Ofcom said that it was reverting to the differential used in the 2009 WLR charge control, and yet that differential was 3.2 per cent.

(b) Whether 3.2 or 5.7 per cent, the differential referred to the additional total engineering resource BT needed to provide Care Level 2 on all lines rather than Care Level 1. An additional 3.2 per cent of total engineering resource ([✂] million man-hours) equated to [✂] million man-hours. However, engineering resource covered both provision of new lines ([✂] million man-hours) and fault repair ([✂] million man-hours), and the additional [✂] million man-hours relating to the differential must be allocated to the repair activity only. Those [✂] million man-hours equated to 10 per cent of the [✂] million man-hours dedicated to the repair activity. If Ofcom had correctly allocated the costs to the repair activity, it would therefore have used a service level usage factor of 1.1 (ie 10 per cent) for Care Level 2 products, rather than 1.057. The calculation behind BT’s figures is illustrated in Table 6.2 below.[19]

[11] BT Core Submission (BT Appeal), Volume 1, ¶33.
[12] BT NoA, ¶12
[13] BT NoA, ¶145.
[14] BT NoA, ¶146.
[15] BT NoA, ¶149.
[16] BT NoA, ¶150.
[17] BT NoA, ¶151.
[18] BT Core Submission (BT Appeal), Volume 1, ¶39.
[19] BT Core Submission (BT Appeal), W/S Shurmer, ¶40.

TABLE 6.2 **Mr Shurmer's proposed calculation**

	Man-hours (m)
BT Engineering resource:	
• provision	[✂]
• repair	
Total engineering resource	[✂]
Step (a): identify differential, eg 3.2%	
Step (b): use differential to calculate number of additional man-hours, eg 3.2%*[✂] man-hours	[✂]
Step (c): allocate additional man-hours to the repair activity, eg [✂]	

Source: BT Core Submission, W/S Shurmer, ¶40.

Note: For the purposes of allocating higher repair costs lines on Care Level 2 should therefore be assumed to cost BT 10 per cent more in repair costs (a 'usage factor' of 1.1).

6.17. Mr Shurmer said that the allocation of an additional 3.2 per cent of engineering resource to the repair activity did not result in BT recovering more than the incremental cost suggested by the 2009 modelling, ie a total of [✂] million man-hours if all lines are on Care Level 2. It was merely an arithmetical step necessary to ensure that the costs of that additional engineering resource were correctly allocated to the repair activity only, and fully recovered against the relevant products. The effect was to increase the service level usage factor from 1.057 to 1.1.[20]

6.18. BT said that the correct approach would have led Ofcom to apply a 10 per cent differential to take account of the higher repair costs associated with products on Care Level 2, ie a service level usage factor of 1.10, rather than 1.057, for the Care Level 2 products (WLR Premium, MPF and SMPF). It said that by failing to do so, Ofcom had made an error, the result of which was a failure to allocate an appropriate share of repair costs to the products which had faster repair times, driving higher costs.[21]

6.19. Mr Shurmer said that the important point was that Ofcom failed to apply its own principles, ie a cost-causal approach, by neglecting to allocate those costs correctly only to the repair activity. No matter what starting differential Ofcom used, the costs represented by that differential had to be allocated only to the repair activity element within the total engineering resource (the difference between Care Levels 1 and 2 was related to repairs).[22]

6.20. BT said that the percentage (whether 5.7 or 3.2 per cent) represented the cost of total additional engineering resource that BT must maintain to meet the faster contractual repair times associated with MPF and SMPF. Those total additional costs were therefore incremental, and should therefore have been attributed to that proportion of engineering resource which BT used for repairing lines—this was the only way to ensure that those incremental costs were causally allocated to the products which drove the additional expenditure. Ofcom failed to carry out this step to allocate the costs correctly and thereby ensure that those costs would be fully recovered.[23]

6.21. According to Mr Shurmer, correcting the service level usage factor from 1.057 to 1.1 was material: it would increase the MPF rental charge in 2013/14 by £0.17 a year, the SMPF rental charge by £0.03 a year, and correspondingly reduce the WLR Basic rental charge by £0.17 a year. It was therefore material not only in terms of the

[20] BT Core Submission (BT Appeal), W/S Shurmer, ¶41.
[21] BT NoA, ¶153.
[22] BT Core Submission (BT Appeal), W/S Shurmer, ¶47.
[23] BT Core Submission (BT Appeal), Volume 1, ¶47.

absolute level of charges but also due to the fact that it corrected the level of the differential between WLR Basic and MPF by an amount of £0.34 a year.[24]

Summary of Ofcom's arguments

6.22. Ofcom said that it had not made the error alleged by BT. However, it identified a separate data entry error in its calculation that was not raised in BT's appeal, the effect of which would be to increase the reallocation of costs from WLR to MPF, though to a lesser extent than that proposed by BT on the basis of its appeal.[25] Ofcom's arguments are set out more fully in paragraphs 6.23 to 6.37 below.

Ofcom's differential

6.23. Ofcom said that it decided to adopt the approach to estimating the differential between WLR Basic and WLR Premium which it had used in the previous WLR charge control (2009 Statement). Its underlying assumption was that the outcome of the differential between WLR Basic and WLR Premium could be applied as the differential between WLR Basic and MPF since the MPF care level was the same as the WLR Premium care level.[26]

6.24. It said that the adjustment in the 2009 Statement was based on an incremental savings assessment, ie the savings in costs attributed to WLR Basic if Ofcom removed the WLR-Premium-specific costs from the overall WLR cost stack.[27]

6.25. Ofcom accepted that the 5.7 per cent differential referred to in the 2012 Statement was not the figure expressly set out in the 2009 Statement and to that extent accepted that paragraph A4.300 in the former Statement may have been misleading. However, it submitted that the 5.7 per cent differential was derived, with the benefit of updated figures, from the approach used in paragraphs 7.76 to 7.83 of the 2009 Statement.[28]

6.26. In 2009, based on advice from BT, Ofcom had estimated that the differential in cost due to the faster response times for WLR Premium as against WLR Basic was 71p per line.[29] Ofcom explained that when it sought to estimate the cost differential for this charge control, it had returned to the cost differential estimates presented in 2009. It took as a starting point the 71p service cost differential and then considered the appropriate jeopardy management cost. However, it subsequently discovered that at this point it incorrectly entered into its calculation a jeopardy management cost of 4p. This was the price adjustment figure used in the 2009 Price Control for jeopardy management. It said that the appropriate figure for jeopardy management in this calculation (ie equivalent to the 71p for the service differential) should be 23p, that is the full cost differential for jeopardy management. It said that this would lead to a total cost differential of 94p (71p + 23p). By dividing this sum by the WLR repair cost of £13.19 per line, the revised differential percentage would become 7.2 per cent.[30] This led Ofcom to propose an upward revision of the percentage to 7.2 per

[24] BT Core Submission (BT Appeal), W/S Shurmer, ¶42.
[25] Ofcom Defence (BT Appeal), ¶F3.
[26] Ofcom Defence (BT Appeal), ¶F11.
[27] Ofcom Defence (BT Appeal), ¶F12.
[28] Ofcom Defence (BT Appeal), ¶F13.
[29] Ofcom Defence (BT Appeal), ¶F18.
[30] Ofcom Defence (BT Appeal), ¶F19.

cent as a more appropriate measure of the greater cost of providing Care Level 2 on WLR Premium, MPF and SMPF lines.[31]

6.27. Ofcom said that the impact of this data entry error was that it had understated the MPF cost stack by 9p and overstated the WLR cost stack by 9p. The size of this error as a percentage of the total service repair cost stack was 0.1 per cent, while its impact on X was less than 0.05 per cent. Ofcom said that this data entry error was immaterial and therefore did not require correction.[32]

6.28. Subsequently, Ofcom told us that for LLU services, jeopardy management was known as 'LLU assurance', and that the costs for this were actually included elsewhere in the model.[33] It told us that it would therefore no longer propose the increased charge for jeopardy management which it had suggested above.

Mr Shurmer's new, alternative methodology

6.29. Ofcom said that there was no basis for BT to contend that the 3.2 per cent incremental cost should be adopted for the purpose of calculating the differential between WLR Basic and MPF, whether as alleged or at all:[34]

(a) The 3.2 per cent differential was derived from the fact that BT had, as noted above:

(i) calculated a lower incremental repair cost—71p per line in comparison with Ofcom's 75p per line (not having added a cost for jeopardy management); and

(ii) calculated its WLR repair cost to be £22.30 per line (the 2008/09 cost in contrast to Ofcom which had used the cost allocation (CA) Model 2010/11 cost of £13.19).[35]

(b) Ofcom said that the incremental repair cost of 71p as a percentage of £22.30 was 3.2 per cent. This differential was not used by Ofcom which instead adopted the 5.7 per cent. Ofcom said that:

(i) It had been and remained entirely appropriate for Ofcom to add a cost for jeopardy management as an incremental cost of WLR Premium, not least since this information was provided by BT in 2009 (this claim was later withdrawn—see paragraph 6.28 above). BT's NoA did not provide any reasons why Ofcom was wrong to include that sum, although Ofcom had now accepted that this figure was too low. It followed that there could be no criticism of Ofcom adopting an approach incorporating jeopardy management, albeit that Ofcom ought to have adopted a higher allocation.

(ii) BT's NoA did not seek to explain why Ofcom's WLR repair cost per line was wrong, or inappropriate. Nor did BT explain why the much higher WLR repair cost per line that it relied on should be adopted in preference to that which Ofcom had used.[36]

[31] Ofcom Defence (BT Appeal), ¶F13.
[32] Ofcom Defence (BT Appeal), ¶F20.
[33] Ofcom, Bilateral Hearing transcript, p72.
[34] Ofcom Defence (BT Appeal), ¶F24.
[35] Ofcom Defence (BT Appeal), ¶F22.
[36] Ofcom Defence (BT Appeal), ¶F23.

6.30. Ofcom said that whereas Ofcom derived its differential as set out above, Mr Shurmer asserted that calculating the incremental costs of the higher care services as a percentage of WLR repair cost was not the end of the matter. Instead he contended that Ofcom should additionally have assessed the total benefit across all engineering jobs because engineers undertook a mix of *(a)* provision (ie providing new lines) and *(b)* repair jobs on any day and the benefit of the 3.2 per cent saving would be shared across provision and repair jobs.[37]

6.31. Ofcom understood Mr Shurmer's approach to suggest that the removal of higher care levels would allow for tasking to be differently managed and in such a way that it might benefit (reduce costs for) all engineering effort. It said that while it might be accepted that such a benefit could exist, Ofcom saw no basis for assuming the benefit to be equal to the differential in the cost of fault repairs at the two different care levels.[38]

6.32. It said that more fundamentally, Mr Shurmer's methodology moved away from an approach focused on cost and introduced an approach which analysed the benefit generated by the expenditure of certain additional cost. It said that Mr Shurmer did not set out the basis or justification for this methodology, other than briefly remarking that somehow 'the benefit would be shared by provision and fault repair'.[39]

6.33. Ofcom said that an estimation of the complete cost differentials between Care Levels was highly complex, as evidenced by the difficulty in BT providing a compelling case for their first proposed cost differential. The allocation of benefits to one service due to the removal of Care Level obligations to a second service required the type of complex interactive modelling BT had been developing (though not yet to a point where the product of this modelling was sufficiently evidenced). Accordingly, it did not consider that it had been provided with an adequate basis on which it might determine and/or allocate cost savings outside the services directly impacted on by the care levels under consideration. It therefore did not consider that the approach Mr Shurmer proposed was sound.[40]

6.34. It said that given its complexity, it was not an approach that it was in a position to take further in the course of this appeal, not least since it would require a very significant diversion of resources in order to model these alleged benefits, resources that could not be justified where BT had not been able to model these benefits sufficiently itself.[41]

6.35. Ofcom said that BT further contended that the total benefit assessed across all engineering jobs should be attributed entirely to the difference in the cost of repairing lines on Care Level 1 and Care Level 2. It said that Mr Shurmer explained that for this step, and again using the Cost Forecast Model:

> Ofcom should have calculated the saving of [✂] million man hours as a proportion of the total time spent on repairing lines. In 2010/11, the Ofcom Cost Forecast model shows that approximately [✂] million man hours out of the total of [✂] million were spent on repair jobs. The saving of [✂] million man hours represents a 10% saving on the [✂] million man hours required for all repair jobs. As that saving would be entirely derived from removing the need to carry out priority Care

[37] Ofcom Defence (BT Appeal), ¶F25.
[38] Ofcom Defence (BT Appeal), ¶F28.
[39] Ofcom Defence (BT Appeal), ¶F29.
[40] Ofcom Defence (BT Appeal), ¶F30.
[41] Ofcom Defence (BT Appeal), ¶F31.

Level 2 repairs, that 10% should be reflected in the differential between the allocation of repair costs to products on Care Level 1 and Care Level 2.[42]

6.36. Ofcom said that BT thus contended that once it decided to rely on the approach it had adopted in 2009, it should therefore have used that 10 per cent to calculate the care level usage factor for products on Care Level 2 to be 1.10, not 1.057. It was alleged that this approach would have 'ensured that an appropriate share of repair costs was allocated to the products which demand faster repair times'.[43]

6.37. Ofcom said that again, this calculation was entirely new and was not proposed by BT to Ofcom at any stage before this appeal. As noted above, Ofcom did not consider that the second step, the determination of the total cost saving based on 3.2 per cent of all engineering effort, was appropriate. To the extent that this final step was premised on that second step, Ofcom's view was that they must rise and fall together.[44]

Summary of BT's Responsive arguments

6.38. BT said that:

(a) Ofcom's explanation for the 5.7 per cent was still not fully understood because Ofcom said that it took as its starting point an incremental cost of £0.71 per line yet the reference given in footnote 15 of Ofcom's Defence, Annex F, was to paragraph 7.77 of the 2009 WLR Charge Control Statement, which made no mention of £0.71.

(b) Sky/TalkTalk also took issue with the 5.7 per cent (or 7.2 per cent), on the basis that Ofcom had wrongly included an amount for jeopardy management (see paragraphs 6.46 and 6.47 below). This raised a question as to why Ofcom had accounted for jeopardy management in calculating the service level usage factor.

(c) Nevertheless, in so far as Ofcom's approach was understood, BT would be content for the CC to proceed on the basis that the differential was 5.7 per cent, as Ofcom said, albeit reduced to 5.4 per cent to take into account the point on jeopardy management, subject to further clarification by Ofcom. That figure was more favourable to BT than the 3.2 per cent differential BT relied on its NoA. There remained, however, a major issue of principle between BT and Ofcom as to the further necessary steps to be taken, having calculated that differential as explained below and in Mr Shurmer's second witness statement.[45]

6.39. BT said that on the basis that the correct starting differential was 5.4 per cent, the MPF rental unit cost in 2013/14 would increase by £0.65, the SMPF rental unit cost would increase by £0.09, and the WLR Basic rental price would reduce by £0.68.[46]

6.40. According to BT, if the CC concluded that Ofcom correctly accounted for jeopardy management costs as part of this calculation, the effect would be to: *(a)* increase the MPF rental unit cost in 2013/14 by £0.75; *(b)* increase the SMPF rental unit cost by £0.11; and *(c)* reduce the WLR Basic rental price by £0.78.[47]

[42] Ofcom Defence (BT Appeal), ¶F32, and W/S Shurmer, ¶89.
[43] Ofcom Defence (BT Appeal), ¶F33.
[44] Ofcom Defence (BT Appeal), ¶F34.
[45] BT Core Submission (BT Appeal), Volume 2, ¶104.
[46] BT Core Submission (BT Appeal), Volume 2, ¶110.
[47] BT Core Submission (BT Appeal), Volume 2, ¶111.

6.41. BT said that if the CC rejected its submissions, it contended that it should at least have the benefit of the error admitted by Ofcom in paragraph 20 of its Defence.[48]

BT's proposed methodology

6.42. BT said that having identified the differential it wished to use, Ofcom failed to allocate the repair costs correctly in accordance with its own cost-causal approach. It said that the differential referred to the additional total engineering resource BT needed to provide Care Level 2 on all lines rather than Care Level 1. Since BT's engineering resource covered both provision of new lines and fault repair, it was necessary for Ofcom to carry out a further calculation to ensure that the additional engineering resource needed for faster repairs was allocated to the repair activity. It said that if Ofcom had correctly allocated the higher costs to the repair activity, it would have used a greater service level usage factor than 1.057 for Care Level 2 products. Assuming a starting differential of 5.4 per cent, the correct service level usage factor is [✂] (ie [✂] per cent).[49]

6.43. BT contended that the reasons Ofcom gave for not carrying out that step did not withstand scrutiny. First, the methodology was not 'entirely new': the necessary calculation was set out in the modelling report BT submitted to Ofcom in October 2011, in which BT proposed a service level usage factor of [✂] ([✂] per cent) based on a starting differential of [✂] per cent.[50]

6.44. Second, the calculation was not especially complex: it was simply an arithmetically necessary step if the costs for faster repair times were to be correctly allocated and a cost-causal approach was to be taken. Ofcom's arguments in paragraphs 27 to 34 of Annex F to its Defence seemed to be based on a misunderstanding of what BT was arguing.[51] Mr Shurmer, for BT, said that the need to carry out the calculation simply flowed from the fact that the starting differential from the 2009 modelling (3.2 per cent, which Ofcom now recognized should be 5.4 per cent) related to an increase in total engineering resource, whereas the costs involved must be allocated to the repair activity only.[52] He said that the step described above in Table 6.1 simply allocated the costs correctly to the fault repair activity, rather than to all engineering tasks, in accordance with a cost-causal approach.[53]

6.45. Mr Shurmer said that Ofcom had not explained why the identified cost differential should not be applied to the correct part of the cost stack, namely the engineering repair activity. The effect of Ofcom's failure to carry out that cost allocation is that the higher costs associated with faster contractual repair times on Care Level 2 products were not fully recovered or correctly allocated to the tasks and products which drove the additional expenditure.[54]

Jeopardy management

6.46. Mr Shurmer said that jeopardy management was a cost which Openreach incurred in providing certain services on Care Level 2, whether it was called 'jeopardy management' (in the case of WLR Premium) or was included within 'LLU Assurance' (in the case of LLU). As such, it was common ground that it should be properly accounted

[48] BT Core Submission (BT Appeal), Volume 2, ¶112.
[49] BT Core Submission (BT Appeal), Volume 2, ¶106.
[50] BT Core Submission (BT Appeal), Volume 2, ¶107.
[51] BT Core Submission (BT Appeal), Volume 2, ¶108.
[52] BT Core Submission (BT Appeal), Volume 2, 2nd W/S Shurmer, ¶50.
[53] BT Core Submission (BT Appeal), Volume 2, 2nd W/S Shurmer, ¶51.
[54] BT Core Submission (BT Appeal), Volume 2, 2nd W/S Shurmer, ¶52.

for in the Ofcom modelling at some stage. The issue raised by Sky/TalkTalk was essentially whether it should be accounted for as part of the calculation of service level usage factors for the CRS (as Ofcom appeared to have done) or whether it had already been accounted for elsewhere in the model.[55]

6.47. Mr Shurmer said that as jeopardy management was an office-based function, it was clearly not appropriate to include it in the starting differential that looked at total engineering resource. If a service level usage factor were to be amended to include jeopardy management, it would only happen after applying the methodology set out in Table 6.1, which calculated the percentage by which repair costs were increased (on BT's view: [✂] per cent). If jeopardy management were then added to that percentage, this would require an additional 1.8 per cent (the value Ofcom attributed to jeopardy management in its Defence) to be added to the [✂] per cent, giving a service level usage factor of [✂].[56] Mr Shurmer said that it was unclear whether this final step (adding jeopardy management) was necessary.[57]

Summary of Intervention by Sky/TalkTalk

6.48. Sky/TalkTalk said that they supported and adopted Ofcom's submissions in Annex F of the Defence[58] and made three additional points.

6.49. First, Ofcom's method followed that which BT itself used in deriving differential unit costs for WLR Basic and WLR Premium. BT did not apply Mr Shurmer's extension then, and for good reason. Mr Shurmer's complex adjustment amounted, on analysis, to uplifting the differential of 3.2 per cent derived from the 2009 model by means of a multiplier which depended upon the proportion of hours spent on repair as against provision and repair. Such an approach would require cogent justification, which was wholly absent. It appeared to be based on an assumption, which remained implicit and unevidenced, that the move from Care Level 1 to Care Level 2 would require a 3.2 per cent increase in the entire workforce of engineers, notwithstanding that most engineering work was generally concerned with provisioning, not repair. Sky/TalkTalk stated that this appeared implausible and there was good reason to believe that the provisioning costs would not be altered by altering care levels in relation to repair.[59]

6.50. Mr Duckworth said that BT's methodology, which assumed that the increase in costs related to all work carried out by engineers, was clearly incorrect. For example, the greater travel time required if the pool of faults to be repaired was smaller under Care Level 2 only applied to fault repair jobs. Travel time for provisioning jobs would be expected to remain unchanged and hence there would be no increase in the costs for these activities.[60]

6.51. Secondly, applying the 3.2 per cent differential to all engineering man-hours, as Mr Shurmer did, would be likely to produce an unreliable result because it amplified defects of the 2009 model itself. That model was always likely to produce an over-estimate, because:

(a) it modelled the effect of all lines moving from Care Level 1 to Care Level 2; and

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[55] BT Core Submission (BT Appeal), Volume 2, 2nd W/S Shurmer, ¶53.
[56] BT Core Submission (BT Appeal), Volume 2, 2nd W/S Shurmer. ¶54.
[57] BT Core Submission (BT Appeal), Volume 2, 2nd W/S Shurmer, ¶55.
[58] Sky/TalkTalk SoI (BT Appeal), ¶30.
[59] Sky/TalkTalk SoI (BT Appeal), ¶32.
[60] Sky/TalkTalk SoI (BT Appeal), 2nd W/S Duckworth, ¶4.29.

(b) it assumed that the additional resource requirement was met solely through recruitment of new full-time employees.

As explained by Mr Duckworth, those were not fully realistic assumptions and tended to overstate the relative costs associated with a higher care level.[61]

6.52. Sky/TalkTalk said that thirdly, the provision by BT of the 2009 model to them revealed that Ofcom did make an error in relation to the costs of the MPF and SMPF line rental, since it adjusted them upwards to reflect jeopardy management costs. The jeopardy management costs identified by the 2009 model were part of the costs of service assurance and related specifically to WLR Premium. There was no need to transpose that adjustment to LLU services, as the costs of LLU assurance were separately identified and allocated to MPF and SMPF rental. The materiality of that error was that MPF prices would be approximately 16p higher than they should be. For the same reason, it would be incorrect for the CC to make an adjustment for jeopardy management, as proposed by Ofcom.

Assessment

6.53. BT's appeal has two main limbs:

(a) first, that the 5.7 per cent differential cited by Ofcom was not explained properly in the 2012 Statement; and

(b) second, that Ofcom did not apply the differential correctly—it should have followed the method set out in Mr Shurmer's witness statement.[62]

6.54. We consider that the nub of BT's appeal is point *(b)* above. However, we consider each point below and then turn to the issue of jeopardy management, which was raised by Ofcom in its Defence.

Whether the 5.7 per cent differential cited by Ofcom was sufficiently explained in the 2012 Statement

6.55. It is clear, and accepted by Ofcom, that the 5.7 per cent differential was not expressly set out in the 2009 Statement and that paragraph A4.300 in the 2012 Statement may therefore have been unclear.

6.56. In its Defence and at the hearing, Ofcom explained how each of the differentials referred to in the pleadings were derived. These were: the initial 3.2 per cent used by BT; Ofcom's figure of 5.7 per cent, which it said was derived, with the benefit of updated figures, from the approach used in paragraphs 7.76 to 7.83 of the 2009 Statement;[63] and two further differentials which first excluded and second increased the charge for jeopardy management (these were 5.4 per cent and 7.2 per cent).

6.57. We have seen no evidence to suggest that the method used in the differential calculations was incorrect and the fact that Ofcom admitted that the 2012 Statement may have been unclear in this regard does not mean that the charge control was incorrect. This is an appeal on the merits and the CC is required to determine whether the charge control set by Ofcom was wrong. Therefore, the key issue becomes

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[61] Sky/TalkTalk SoI (BT Appeal), ¶33.
[62] BT Core Submission (BT Appeal), W/S Shurmer, ¶40.
[63] Ofcom Defence (BT Appeal), ¶F13

Ofcom's method of application of the differential in calculating fault repair costs, which BT contended was wrong.

Whether Ofcom applied the differential correctly

6.58. Our understanding of this issue is that the extra resourcing which would be required to provide both a Care Level 1 and a Care Level 2 service is an incremental cost. Equally, the reduced resourcing which would be required to provide only a Care Level 1 service is an incremental benefit (cost reduction).

6.59. As set out in paragraph 6.19 above, BT argued that these resourcing changes (from Care Level 1 to Care Levels 1 and 2, or vice versa) impacted only on the repair function. That is, the movement in the total engineering resource due to changes in care levels was caused by and impacted only on the repair function.

6.60. Based on BT's line of argument, it must follow that the provisioning function remains unaffected by whether repair is resourced at Care Level 1 or Care Levels 1 and 2—it is constant and the movement in the total engineering function impacts only the repair function. Mr Shurmer told us that in BT's estimation of the amount of extra resource that was required, it was trying to hold constant the impact on provision.[64]

6.61. Our view was that if it could be shown that there was no impact on the provisioning function from changes in service levels, then there would be force in BT's argument regarding the method of application of the service level differential. In such circumstances, any resulting changes to the total engineering resource could be said to have been caused by the repair function and there would be no impact on the provisioning function.

6.62. However, the evidence from BT was unclear in this regard: in particular, we were not convinced that analysis had been carried out to demonstrate that provisioning would be unaffected by movements in the total engineering resource caused by different care levels:

(a) When asked about the impact on provisioning due to a move from Care Level 2 to Care Level 1, Mr Shurmer said that:

> a move from care level two to care level one would reduce the amount of engineering resource that we need to have, would that impact on provision? It would depend on the fluctuation in repair activity. So, if we had less engineers overall if there was an increase in repair rates we would be able to do less provisions.[65]

When asked about the size of the impact on provisioning due to the increased numbers of engineers to achieve a higher level of service, Mr Shurmer added 'what we have done in our estimation of the amount of extra resource that is required is trying to hold constant the impact on provision, so I do not have an estimate'. [66]

[64] BT, Bilateral Hearing transcript, p63.
[65] BT, Bilateral Hearing transcript, p62.
[66] BT, Bilateral Hearing transcript, p63.

(b) Mr Hunt added that the impact on provisioning was "not something we can directly answer without properly modelling it beyond the information that we have provided."[67]

6.63. We therefore judged that, taking BT's evidence from the pleadings, the hearing and response to provisional determination as a whole, it had not produced sufficiently compelling evidence that the effects of changing care levels were isolated to the repair function. Absent compelling evidence to the contrary, we would expect movements in care levels to impact on both provisioning and repair (although not in equal measure). If the incremental costs of the total engineering resource from Care Level 2 were applied only to repair, as BT suggested, this would result in BT's method over-estimating the usage factor premium which should be paid for a Care Level 2 service.

6.64. We noted that Ofcom's approach has the effect of spreading the incremental cost of additional resource over both the repair and provisioning functions (rather than allocating it only to repair). We felt that this could have the effect of underestimating the usage factor premium which should be paid for Care Level 2 because the benefit of the incremental resource is likely to be greater for the repair function than the provisioning function. In its 2012 Statement, Ofcom seemed to agree that its method could underestimate the usage factor premium: 'analysis provided by Openreach suggests they are at best a lower bound estimate of the costs'.[68]

6.65. Overall, it seemed to us that due to the limitations of the current modelling in this area, neither Ofcom's current approach nor the approach proposed by BT provided an ideal solution to the issue. However, BT had not provided sufficiently compelling evidence to show that Ofcom was wrong and that BT's approach was clearly better.

6.66. In response to our provisional determination, BT argued that a change in care levels has no impact on the provisioning function and that a change in expected fault rates would affect provisioning, but that this effect is independent of the care levels being provided.[69] BT further added that the same pool of engineers was used for provisions and repairs which made a split between the two difficult to achieve.[70] BT said that it was illogical to reason that, as provision could benefit from more engineers in the workforce, this was a basis for concluding that no correction to Ofcom's model was needed.[71]

6.67. In our view, as outlined in paragraph 6.61, in order to back up its assertion that there was no impact on the provisioning function from changes in care levels, BT needed to provide evidence that this was the case. For the reasons outlined above, we judged that it had not done so, and as such, BT's further submissions in response to the provisional determination did not alter our conclusion.

6.68. BT also said that even if the CC did not allow its appeal but were to find that Ofcom's approach could under-estimate the usage factor premium, the CC should remit the matter back to Ofcom for further consideration.[72] In our view, BT had not shown that its proposed approach was clearly better than the approach chosen by Ofcom. As such, we judged that Ofcom had not erred and it would be unnecessary and inappropriate to remit the matter to Ofcom.

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[67] BT, Bilateral Hearing transcript, p64.
[68] 2012 Statement, ¶A4.302.
[69] BT response to the CC's provisional determination, 11 February 2013, ¶21.
[70] BT response to the CC's provisional determination, 11 February 2013, ¶23.
[71] BT response to the CC's provisional determination, 11 February 2013, ¶24.
[72] BT response to the CC's provisional determination, 11 February 2013, ¶28.

Jeopardy management

6.69. The issue of jeopardy management was initially raised by Ofcom in its Defence; [73] it did not form part of BT's NoA.

6.70. In the context of this appeal, it has become clear that jeopardy management is a service that has been included elsewhere in Ofcom's model. We understand that it is equivalent to LLU assurance (see paragraph 6.28 above). It is therefore clear that these costs are already captured elsewhere in the Ofcom model. Jeopardy management costs should not therefore be taken into account in calculating service level differentials. We therefore do not think it is right for BT to have the benefit of the jeopardy management error admitted by Ofcom (which would result in an increase in the jeopardy management charge).[74]

6.71. As noted above, eliminating jeopardy management costs was not part of BT's NoA. However, for the avoidance of doubt, our view is that these costs should not be included in the model here because they are captured elsewhere, and Ofcom was therefore wrong to include them.

6.72. Ofcom said that increasing the jeopardy management component of the differential by 19p (from 4p to 23p) resulted in an error as a percentage of the total service repair cost stack of 0.1 per cent and an impact on X which was less than 0.05 per cent.[75]

6.73. We assessed that eliminating the 4p jeopardy management differential from the model was therefore likely to result in a correction which was substantially smaller, perhaps of the order of 0.02 per cent. We therefore judged that, even if eliminating these costs were part of the appeal, the impact of this mistake was sufficiently small that it would not require correction.

Determination

6.74. Accordingly, we find that Ofcom did not err in its allocation of the cost of repairing faults on WLR, MPF and SMPF lines.

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[73] Ofcom Defence (BT Appeal), ¶F3.
[74] BT Core Submission (BT Appeal), Volume 2, ¶112.
[75] Ofcom Defence (BT Appeal), ¶F20.

7. BT Appeal

Line testing for copper lines

Reference Question 1(vi)

7.1. This section (paragraphs 7.1 to 7.158) sets out our conclusions as to whether the price controls imposed on BT by paragraphs 10, 11 and 14 of, and Condition FAA4(A) in Part I, Schedule 1 to, Annex 12 of the Decision and paragraphs 10, 11, 14 and 15 of, and Condition AAAA4(WLR) in Part IV, Schedule 1 to, Annex 12 of the Decision have been set at a level which is inappropriate because Ofcom erred in its allocation of BT's line testing test head costs to WLR and SMPF services but not to MPF services and in applying a price adjustment allocating the cost of Test Access Matrices (TAMs) across all MPF and SMPF lines, for the reasons set out in paragraphs 155 to 194 of the NoA.

7.2. Line Testing refers to the cost of testing the electrical properties of a copper line between the BT exchange and the end-user. Line Testing does not test the services provided over the line.[1] Test Heads are one component of line-testing equipment but we note that some parties have used the terms Test Head costs and Line Testing costs interchangeably.

7.3. BT pursues two separate grounds of appeal under this Reference Question. Their essence is that:

(a) Ofcom has incorrectly allocated the costs of Test Heads in two ways:

(i) by failing to allocate any of these costs to MPF services; and

(ii) by allocating some share of these costs to SMPF services; and

(b) Ofcom has applied a price adjustment to the cost of LLU Test Access Matrices (LLU TAMs), which are used solely to provide MPF services, with the consequence that these costs are inappropriately shared between MPF and SMPF services. The effect of this adjustment is to distort competition between users of MPF and SMPF.

7.4. Although *(a)* and *(b)* both involve the allocation of related costs, they are separate issues and in our view it is appropriate to consider them separately. However, *(a)*(i) and *(a)*(ii) are closely related and we have considered them together.

7.5. Our assessment of part *(a)* is in paragraphs 7.27 to 7.48, and our assessment of part *(b)* is in paragraphs 7.114 to 7.157. Our determination is that Ofcom erred in some aspects of its allocation of Line Testing costs. Specifically, we find an error in relation to part *(a)* of this Reference Question, but no error in relation to part *(b)*.

(a) Misallocation of Test Head costs—introduction

7.6. Ofcom's position is that its allocation of Test Head costs was based on information which BT provided and an approach that BT had promoted and which BT knew that Ofcom proposed to adopt. At no stage in the consultation process did BT suggest

[1] A detailed explanation and diagrams of how line testing is carried out on the different CRS was included in BT NoA, First W/S Dolling, ¶¶159–173.

either that the proposed approach was wrong or that separate allocation was required in respect of Test Heads. Ofcom contended that in such circumstances, no adjustment should now be made.

7.7. In Ofcom's view, as a matter of principle, BT should not be permitted to resile from a position which it consistently advanced during the administrative stage. Such an approach would ensure that stakeholders were encouraged to supply the right information to Ofcom from the outset; were discouraged from seeking a radical adjustment on the basis of providing exaggerated information at the administrative stage since they knew they could introduce other existing information on appeal in support of a less radical adjustment; and avoiding the need for Ofcom and the CC to undertake complex additional calculations or investigations on appeal, which could and should have been undertaking during the consultation process.

7.8. We have outlined BT and EE's responses, and our approach to this issue in paragraphs 1.71 to 1.84. In summary, we considered that it was in the interest of justice to permit BT to adduce the evidence that it had not provided to Ofcom at the administrative stage. Our assessment of the substantive question is set out below.

7.9. BT told us that Test Heads are used by Openreach to test whether a copper line meets the technical specification SIN349. This sets out physical and electrical connectivity characteristics that must be met by the copper line. In order to carry out a line test, a copper line needs to be connected to a Test Head. Regardless of the service being provided over the copper line (WLR, WLR+SMPF or MPF), the same BT Test Heads are used as part of the testing process.[2]

7.10. Openreach does not perform testing of the voice telephony or broadband services that may be offered by a CP over the copper line. That 'service layer' testing is carried out by the CP.

7.11. BT told us that the cost of Test Heads was allocated between products using a volume-weighted 'usage factor', with a usage factor of 1 for WLR, 1 for SMPF, 0.5 for ISDN2 and 0.06 for ISDN30 (and 0 for MPF, meaning that no share is allocated to MPF). This means that the volume of lines of each product is multiplied by the usage factor for that product, and the Test Head costs are then allocated in proportion to the resulting figures.[3]

7.12. Ofcom did not expressly discuss its allocation of line-testing costs in the Statement and so there is no written record of Ofcom's reasoning prior to the appeal. The issues discussed here arise from analysis of Ofcom's cost model.

Summary of BT's Appeal

7.13. BT said that it believed Ofcom intended to apply its usual approach, of cost causality, in allocating Test Head costs. Ofcom in fact allocated Test Head costs between WLR and SMPF rentals, and none of the costs were allocated to MPF lines. That allocation failed to adhere to the principle of cost causality, and was in error, because:[4]

(a) on the basis of cost causality, MPF lines should bear their fair share of Test Head costs because the Test Heads were in fact used to test MPF lines (we have termed this alleged error as 'issue (i)'); and

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[2] 1st W/S Dolling, ¶¶159–170.
[3] 1st W/S Dolling, ¶¶174–180.
[4] BT NoA, ¶162.

(b) Test Head costs should not be allocated to both of WLR and SMPF, given that the same underlying copper line was used to deliver the two services. The effect of this was to 'double-count' those costs for WLR and SMPF, because these two services were provided using the same copper line and the same test was performed. Instead, the cost should be allocated to WLR, since SMPF services can only be provided over an existing WLR service, and WLR bore the cost of the copper line which was the subject of the test (we have termed this alleged error as 'issue (ii)').

7.14. BT alleged that Ofcom had made an error of fact and/or calculation BT said that this alleged misallocation of these costs widened the price differential between MPF and WLR+SMPF rentals by £0.89 a year. In short, customers buying WLR+SMPF were inappropriately paying for the use of Test Heads by customers buying MPF. The financial impact was that £4.2 million of costs were inappropriately attributed to SMPF. These costs should instead be allocated to MPF (+£3.3 million) and to WLR (+£0.8 million).[5]

Summary of Ofcom's Defence

7.15. In its Defence, Ofcom did not comment on the substance of the points BT raised.

7.16. In its hearing, Ofcom suggested that, according to the principle of distribution of benefits, it might be appropriate for some share of Test Head costs to be allocated to SMPF because some faults affect only broadband services, and some testing takes place only because faults become apparent to broadband users which would not become apparent to voice users. This view was offered in the absence of a detailed understanding of BT's new proposed allocation of costs.

Summary of Sky/TalkTalk's Intervention

7.17. Sky/TalkTalk did not comment on issue (i), but supported Ofcom's position on issue (ii). They said that BT's contention that all the costs allocated to lines providing WLR and SMPF services should be borne by the WLR service alone was wrong in principle because it was not correct that sharing the costs in this way led to 'double counting' (BT's NoA, paragraph 162(b)). They said 'Ofcom's method does not increase the overall amounts recovered, it simply allocates them among the services which, based on the information provided by BT during the consultation, cause them and which benefit from them'.[6]

Summary of EE's Intervention

7.18. On issue (i), EE agreed with BT that Test Head costs should be allocated in part to MPF services.

7.19. On issue (ii), EE did not support BT's claim that Test Head costs should not be allocated to SMPF services. They should be shared across WLR and SMPF services, given that both types of service benefited from the line testing, and this approach promoted allocative efficiency. There were many cases where a customer bought its retail voice and broadband services from different providers. In these cases, the BT WLR and SMPF services would be consumed by different competing service providers. To the extent that the BT Test Head is used to test the copper line for the

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[5] 2nd W/S Dolling, ¶147.
[6] Sky/TalkTalk SoI (BT Appeal), ¶36.

purpose of using that line to supply a customer with a broadband service over SMPF, EE believed that this cost should be borne by the customer's broadband provider, and not by its voice service provider.[7] EE did not explain in its SoI why it believed this to be the correct approach.

7.20. EE discussed BT's argument in respect of SMPF (which EE did not support), saying:

> It is not true that recovering line testing costs from WLR and SMPF lines leads to double-counting. Ofcom has not taken the sum of line testing costs and decided to recoup that total from both WLR services and SMPF services. Rather Ofcom has decided that recovery of line testing costs should be shared across WLR and SMPF services. [EE refers here to Sky/TalkTalk's SoI as quoted above.] …The issue is whether, where a copper line is used to provide both WLR and SMPF services, the costs of testing that copper line should be borne exclusively by WLR services, as BT contends, or shared between the WLR and SMPF services, as contended for by Ofcom, Sky, TTG and EE.[8]

7.21. EE said:

> the factual position is that, while it is true that line tests do not test the services themselves, line tests test whether a copper line has the properties needed to carry the relevant services. In addition, though, EE's understanding is that the same line test is carried out regardless of whether a copper line is used to provide: (i) only a WLR service; or (ii) both WLR and SMPF services.[9]

7.22. EE referred to two of Ofcom's six principles of cost recovery:[10] cost causation and the distribution of benefits. It said that the only argument in favour of BT's approach was one based on [cost] causation, and it was 'not clear that BT's reasoning is correct', whereas the distribution of benefits suggested that it was reasonable to share the cost across both services, as Ofcom had done. It explained each of these points in more detail:[11]

(a) On cost causation, EE said that if a copper line was used to provide both WLR and SMPF services, this was because the end-user demanded a broadband service as well as a fixed-phone service. If the SMPF service were removed, the end-user would no longer be able to receive a broadband service and might choose to stop subscribing to the WLR-based fixed-phone service, perhaps preferring to switch to MPF or cable in order to receive both broadband and fixed-phone services.

(b) On the distribution of benefits, EE said that where a line was used to supply both WLR and SMPF services, both services benefited from the testing of that line. Thus, it was reasonable to share the cost across both the services.

7.23. EE also referred to a statement by Mr Reynolds, for EE, who said that allocative efficiency was 'likely to be supported by recovering the cost of Test Heads across all of the services which are supplied using BT's copper lines, including MPF services'.[12]

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[7] EE SoI (BT Appeal), ¶8.
[8] EE Core Submission (BT Appeal), ¶¶49–50.
[9] EE Core Submission (BT Appeal), ¶51.
[10] As set out in Ofcom *Review of the Wholesale Local Access Market, Explanatory statement and notification*, 16 December 2004, 8.3, and referred to in the First E/R Reynolds for EE.
[11] EE Core Submission (BT Appeal), ¶¶53–54.
[12] EE Core Submission (BT Appeal), ¶54.

However, we note that he did not specifically comment on the inclusion of SMPF services. He also said that 'allocative efficiency requires line testing costs to be allocated to each service on the basis of the extent to which the services give rise to those costs'.[13]

Summary of BT's response

7.24. BT reiterated that there was a 'double count' and said it may be expected to lead to a double charge on retail customers who purchase retail services based on WLR+ SMPF.[14] We understand BT to be saying that this charge is double what customers using MPF would pay if issue (i) of this appeal were upheld but issue (ii) were not.

7.25. Mr Dolling for BT explained the 'double-counting' point in more detail. He said that Ofcom allocated Test Head costs to WLR and SMPF Rentals using usage factors of 1. This meant that the same unit cost flowed to WLR as it did to SMPF, even though both services were provided over the same copper line. If MPF Rentals also attracted the Test Head costs using a usage factor of 1, costs would flow to WLR+SMPF at twice the rate they flowed to MPF. This would not lead to an equivalent outcome. It would be for this reason that an adjustment to the WLR and SMPF usage factors would be required so that, combined, they added up to no more than 1, the same as the MPF usage factor should be.

7.26. He repeated that it was BT's primary position that the Test Head costs should not be allocated to SMPF Rentals at all given that none of the costs of the copper line that was being tested were allocated to this product, but said that even if some costs were assigned to SMPF, the combined WLR+SMPF Rental unit costs for Test Heads should equal the MPF Rental unit costs for Test Heads.[15]

Assessment of alleged misallocation of Test Head costs error

- *(i) Allocation of costs to MPF*

7.27. The first part of this aspect of this Reference Question (ie what we have called issue (i)) requires us to consider whether Ofcom erred in its allocation of Test Head costs for copper lines by failing to allocate any share of those costs to MPF services.

7.28. No party to this appeal has contended that BT's claim with respect to issue (i) is incorrect. Ofcom has not offered any substantive defence to this allegation. We acknowledge that Ofcom acted in good faith in setting this aspect of the price control, relying—as it did—on information submitted by BT. However, the purpose of this appeal is to assess whether or not the correct outcome was reached.

7.29. Having been informed of the correct factual situation (as Ofcom was not), in our view, the principle of cost causation suggests that MPF services, which use Test Heads, should contribute to the costs of Test Heads. We see no substantive arguments to the contrary. Therefore we find that a share of Test Head costs should have been applied to MPF services and accordingly the price controls have been set at an inappropriate level. We note that this error is attributable to the failure on the part of BT to provide full and accurate information to Ofcom in the course of the consultation process.

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[13] First E/R Reynolds, ¶¶13–14.
[14] BT Core Submission (BT Appeal), Volume 2, ¶119.
[15] Second W/S Dolling, ¶¶171–174.

7.30. The most obvious remedy for this error is to allocate a share of Test Head costs to MPF services using a usage factor of 1. If, in the discussion of remedies, any party believes that a different usage factor is appropriate, this may affect the appropriate remedy for issue (ii) below.

- *(ii) Allocation of costs to SMPF*

7.31. The second part of this Reference Question requires us to consider whether Ofcom erred in its allocation of Test Head costs by incorrectly allocating some share of costs to SMPF services. For the purposes of considering this issue, we proceeded on the basis that a share of Test Head costs should be allocated to MPF with a usage factor of 1, as per paragraph 7.30 above.

7.32. First, we address the issue of double counting. Having made the correction in respect of issue (i), BT is correct to say that costs will flow to WLR+SMPF at twice the rate they flow to MPF. In other words, each WLR+SMPF line will attract double the share of Test Head costs attracted by an MPF line, even though it does not cause greater Test Head costs and does not receive greater benefit from Test Heads. This is likely to distort competition between MPF and SMPF operators at the retail level.

7.33. We asked Ofcom to confirm that our understanding of the model was correct. Ofcom confirmed that there would be double counting if MPF were included and also said that this would distort competition.[16]

7.34. Both Sky/TalkTalk and EE, intervening, said that there was no double counting.[17] However, both appeared to start from the premise that MPF should not be included (notwithstanding EE's support for that part of BT's appeal). We asked them to clarify this in hearings. Sky/TalkTalk said that they supported Ofcom's decision but did not have a position on the detail of the question.

7.35. According to EE, 'The issue is whether, where a copper line is used to provide both WLR and SMPF services, the costs of testing that copper line should be borne exclusively by WLR services, as BT contends, or shared between the WLR and SMPF services, as contended for by Ofcom, Sky, TTG and EE'.[18] In our view, once issue (i) is corrected, the actual issue is whether Test Head costs should be shared *between WLR and MPF*, or *between WLR, SMPF and MPF*. When MPF is omitted, the double-counting issue does not arise. When MPF is included, it does arise. In its hearing, EE clarified that it agreed that in this scenario the combined usage factors for SMPF and WLR should be 1, and that its intervention concerned whether all of that should be allocated to WLR (as BT contended) or whether some should be allocated to SMPF.

7.36. Accordingly we find that there is 'double counting' when WLR+SMPF is compared with MPF, and it seems correct to set the combined routing factors of WLR and SMPF equal to that for MPF, ie a combined factor of 1. This approach should remove a source of competitive distortion between MPF and WLR+SMPF.

7.37. We therefore turn to consider what appears to be the remaining point in dispute between BT and the other parties, namely whether the routing factor for SMPF should be set equal to zero, as BT contended, ie SMPF would bear none of the costs

[16] Ofcom hearing transcript, p92, lines 7–10.
[17] Sky/TalkTalk SoI (BT Appeal), ¶36.
[18] EE Core Submission (BT Appeal), ¶¶49–50.

of Test Heads. We note that Ofcom's current cost allocation model applies equal weighting to each of WLR and SMPF.

7.38. EE contended that this was a challenge to the exercise of Ofcom's regulatory judgement where a number of approaches were reasonably open to the regulator, and that we should overturn this aspect of Ofcom's decision only if an alternative approach is clearly better.[19] Ofcom was not in possession of the full relevant facts relating to Test Head costs at the time it published the 2012 Statement (since the issue of double counting did not arise previously when there was no allocation of costs to MPF), and Ofcom did not give a reason for its split of Test Head costs between WLR and SMPF, nor did it contend that equal weighting was appropriate once MPF was included. Therefore we do not consider that the equal weighting which Ofcom had applied in the 2012 Statement should be determinative of our decision now as to what the correct balance between WLR and SMPF should be.

7.39. We have assessed the arguments which have been made about the considerations of cost causation and the distribution of benefits.[20]

7.40. BT said that removing SMPF from the cost allocation was supported by cost causation, because SMPF could only be supplied over a line for which WLR was also being supplied (whether by the SMPF operator or another CP). Lines must be tested in order for WLR to be supplied, and no further testing was necessary to supply SMPF as well; therefore SMPF did not create any further Test Head costs for Openreach (any testing specific to the broadband service being carried out by the CP and therefore falling outside this price control).

7.41. EE suggested that this reasoning was not necessarily correct, giving an example which (in its view) demonstrated that SMPF could cause costs (see paragraph 7.22 above). We were not persuaded by EE's argument. Test Head costs are fixed costs and adding or removing a customer (or a line) does not create or save any incremental cost. Therefore even if the existence of SMPF creates additional line-testing activity, it is not clear that it creates any significant extra Test Head costs. In our view, the cost causation argument applies to SMPF as a service, not SMPF as applied to a single line. In other words, when SMPF as a service was introduced, Test Heads were already required, and the introduction of SMPF did not cause further Test Head costs. EE also observed in its hearing that the division of costs between WLR and SMPF services was a long-running argument within the telecommunications industry[21] and we do not think the arguments we have heard materially advance the debate.

7.42. On the distribution of benefits, in our view the SMPF service is likely to derive some incremental benefit from Test Heads, beyond that derived by the WLR service (whether or not they are the same provider for any given customer). EE has not suggested how the benefit is split between them, and in the absence of further evidence or reasoning, any allocation is essentially arbitrary. Therefore the argument put forward by EE does not provide significant support for any particular distribution; it is merely an argument that the contribution of SMPF should not be zero.

7.43. Taking into account all of the above, we see that cost causation favours allocating no Test Head costs to SMPF, whereas distribution of benefits favours allocating some (indeterminate) portion of costs to SMPF. We note that the cost of the copper line is charged to WLR. The same principles of cost causation and the distribution of bene-

[19] EE Response to PD, ¶12.
[20] As noted above, these are two of Ofcom's six principles of cost recovery.
[21] EE hearing transcript, p15.

fits also appear to apply to the costs of the copper line itself, and provision of the line is clearly closely linked to provision of equipment necessary to test the line. EE has not suggested that the cost of the copper line should be shared between WLR and SMPF. We also note that Mr Reynolds, for EE, in the context of part *(b)* of this Reference Question, cited a view expressed by Ofcom that cost causation should be applied first, and other principles then considered to see whether they led to an adjustment in the cost recovery scheme implied by cost causation.[22] Mr Reynolds appeared to endorse this view in that context or, at least, did not suggest that Ofcom should properly deviate from it.[23]

7.44. We found that there were good arguments for the cost causation reasoning and, importantly, it seems consistent with the approach to cost allocation of the copper line to charge the cost of testing the copper line to WLR as well, and so set a usage factor of 1 for WLR and 0 for SMPF.

Materiality

7.45. In this section, we consider the materiality of the mistake identified above based on the approach set out in paragraph 1.60.

7.46. We concluded that Ofcom incorrectly allocated Test Head costs. First, we noted that the mistake accounts for 49p (0.56 per cent) on MPF; –45p (3.78 per cent) on SMPF; and 5p (0.05 per cent) on WLR. Second, we note that this error is likely to be repeated if not corrected in this price control in the manner suggested, and that the error has a distortive effect in that it works in different directions on different products, thus potentially distorting competition between them (and between different CP providers that use different products). Third, we did not consider that the additional effort which Ofcom would have been required to expend to consider the relevant criticisms would have been significant. We did not find that any other of the other factors listed in paragraph 1.60 were relevant.

7.47. It is therefore our judgement that the mistake is material.

Determination

7.48. Accordingly, we find that Ofcom erred in its allocation of Test Head costs.

(b) The Price Adjustment error

Background to the Price Adjustment

7.49. Test Heads are connected to a line for testing via test access equipment. There are various types of test access equipment, which include:[24]

(a) the Line Card for lines carrying WLR only and for lines carrying WLR plus SMPF using BT's '20CN' network equipment and architecture;

[22] First E/R Reynolds, ¶31, citing Ofcom *Review of the Wholesale Local Access Market, Explanatory statement and notification*, 16 December 2004, ¶8.3.
[23] EE argued that Ofcom had consciously not taken this approach when allocating other line-testing costs, noting that the costs of EvoTAMs were spread between WLR and SMPF (EE response to PD, ¶21). However, EvoTAMs are not required to provide WLR services (or even SMPF services); indeed, Ofcom noted that some voice-only WLR lines 'are not capable of being tested by evoTAMs' (2012 Statement, ¶A4.319). Therefore we do not find this to be a relevant analogy.
[24] BT NoA, ¶167.

(b) the EvoTAM (introduced in 2007) for lines carrying WLR plus SMPF using BT's '21CN' network equipment and architecture; and

(c) the LLU TAM (introduced in 2004) for lines carrying MPF services (used primarily by Sky and TalkTalk).

7.50. The starting point for Ofcom's cost allocation was to allocate the entire cost of LLU TAMs to MPF services and allocated the entire cost of EvoTAMs to WLR and SMPF services, on a cost causal basis. Line Card costs are recovered elsewhere.[25] Consistent with its practice in previous charge controls, Ofcom then reallocated LLU TAM costs so that they are spread across *all* MPF and SMPF lines (even though the LLU TAM is used only by MPF lines, and not by SMPF lines). This is the TAM 'Price Adjustment' against which BT appeals.

Ofcom's Statement

7.51. In the Statement, Ofcom did not address the issue of TAM cost allocation in great detail. It said that:[26]

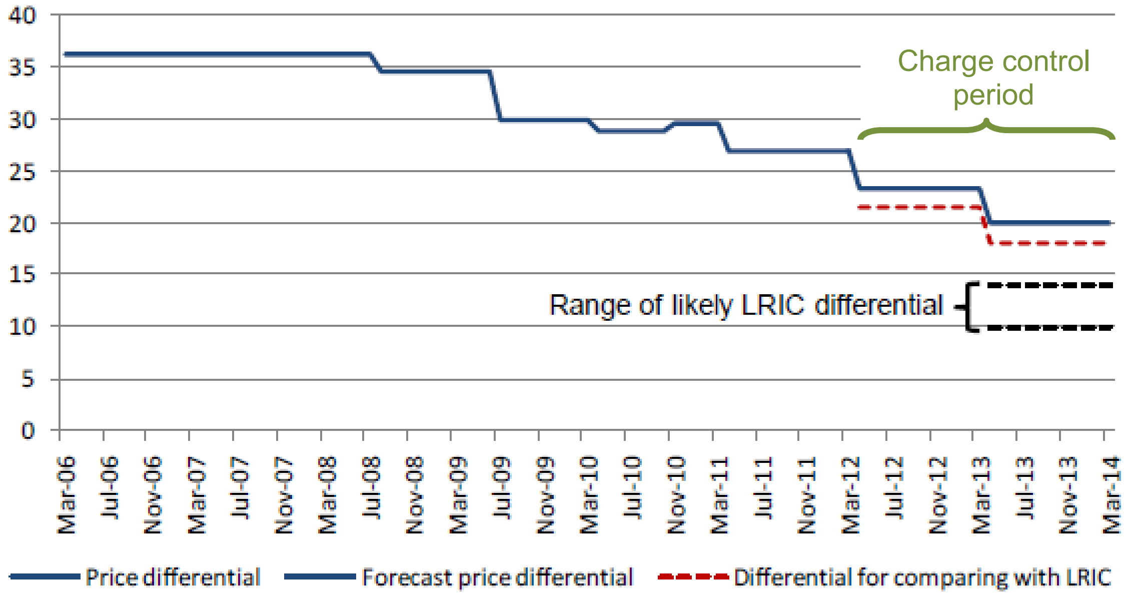
> for the purpose of our cost modelling we have allocated all of the cost of TAMs across all MPF lines, on the basis that it is only MPF lines that use this equipment. … However, some of the costs might be considered to represent system set up costs. These represented the costs incurred by BT to develop and implement the systems and software necessary to provide LLU services of a reasonable quality. We considered that the cost of developing and rolling out an automated testing system (i.e. the TAMs), fell within this category of costs. … we concluded that, where possible, system set up costs, such as the cost of TAMs, should be recovered across all local loops used to provide DSL services. However, we consider that the logic does not apply to EvoTAMs, which have been introduced as an enhancement to WLR+SMPF, and, therefore, are not essential costs for establishing the entry of these services into the market.

7.52. Ofcom also gave consideration to the difference between the prices paid by MPF- and WLR+SMPF-based CPs to Openreach, compared with its estimate of the cost differential (primarily using a long-run incremental cost (LRIC) measure of cost). It said that the price differential had fallen over time. This is illustrated in Figure 7.1.

[25] BT NoA, ¶167a.
[26] 2012 Statement, ¶¶6.135–143.

FIGURE 7.1

Ofcom's Figure 7.4: MPF vs SMPF+WLR price differential over time



Source: Ofcom Statement.

7.53. Ofcom said that the price differential had fallen from around £36 in 2006 to around £27 in January 2012 and was projected to fall to around £20 in 2013/14; it 'therefore remains above the likely LRIC differential (this is largely now due to the adjustment made for TAMs)'.[27] The red dashed line indicates what prices would have been without certain adjustments within product families, but after making the TAM Price Adjustment.[28] Ofcom told us that the gap between this red line and the likely LRIC differential reflects the size of the TAM Price Adjustment.[29]

7.54. Ofcom considered whether it was desirable for the price differential to remain greater than the cost (LRIC) differential. It said that there were three important aspects of efficiency:[30,31]

(a) For productive efficiency, it said that the price differential should be equal to the absolute difference in LRIC, which would ensure that the choice between alternative wholesale inputs (or the 'build/buy' decision) was correct.

(b) It said that there were two relevant aspects of dynamic efficiency that worked in different directions:

(i) To ensure efficient investment incentives, price differentials should equal cost differentials. Ofcom said 'We do not see a strong argument for continuing to set large differentials to stimulate further MPF based competition at the expense of WLR/WLR+SMPF based competition'.

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[27] 2012 Statement, ¶7.55.
[28] 2012 Statement, ¶¶7.30 &7.56.
[29] Ofcom, Bilateral Hearing transcript, p97.
[30] Ofcom also mentioned allocative efficiency, but said that it was 'far less relevant' because the CRS are used to supply the same downstream retail markets, and asymmetrical allocation of common costs would be undermined by arbitrage over the longer term. 2012 Statement, ¶7.59.
[31] 2012 Statement, ¶¶7.60–62.

(ii) To provide investors with a stable regulatory framework, including having regard to stakeholders' reasonable expectations for charges in the future, it said that it should be cautious in relation to a more rapid reduction in the price differentials.

7.55. Ofcom concluded:[32]

> On balance, we consider that the price differentials resulting from the relevant CCA FAC differentials are reasonable. … We do not consider there is a strong case for even greater price differentials being in the interest of consumers. This is because of the productive inefficiencies that could result. Conversely, we also do not consider there is a strong case for a more rapid reduction in the price differential, because of the potential to undermine expectations of a stable and predictable regulatory framework.
>
> Given that the MPF vs. WLR+SMPF price differential has already fallen considerably since 2008 and we anticipate that it will continue to fall over the duration of the LLU / WLR charge controls, we consider that we should be cautious of adopting a more rapid reduction in the price differential. We consider that a more rapid reduction (i.e. beyond that which is anticipated with the LLU / WLR charge controls) could undermine reasonable expectations and threaten the provision of a stable regulatory framework.
>
> In future price controls, we expect to continue reducing the MPF vs. WLR/WLR+SMPF price differential and consider whether a more explicit link between the price differential and LRIC differentials is required.

Summary of BT's appeal

7.56. BT said (and it is not disputed) that the TAM Price Adjustment involves SMPF customers bearing the cost of a piece of equipment (the LLU TAM) which is not used at all to provide SMPF services and which is wholly used to provide MPF services. BT said that Ofcom had decided that the WLR+SMPF services should share the costs of LLU TAMs even though those services made no use of them at all. Mr Dolling, for BT, said that the effect was that an equal per unit share of LLU TAMs costs was allocated to each of SMPF and MPF rental services, even though: *(a)* the SMPF service did not use LLU TAMs; and *(b)* SMPF had its own test access technology, the EvoTAM, and contributed towards the costs of EvoTAMs. Therefore SMPF customers were paying twice for test access equipment.[33] This unjustifiably favoured MPF operators and was not technologically neutral. BT's primary case is that the Price Adjustment should be removed.

7.57. BT alleged that the Price Adjustment was contrary to Ofcom's statutory duties.[34] BT made the following particular allegations in this regard. First, the effect of Ofcom's decision to retain the Price Adjustment was to create a significant and material distortion of competition between MPF and SMPF/WLR. Further, the outcome was both discriminatory (as it unjustifiably favours MPF operators) and not technologically

[32] 2012 Statement, ¶¶7.62, 7.57–58.
[33] First W/S Dolling, ¶¶181–183.
[34] BT NoA, ¶190.

neutral. BT also contended that it was not consistent with the C's findings in the 2009 Carphone Warehouse (LLU) and Carphone Warehouse (WLR) appeals.[35]

7.58. BT said that Ofcom justified the Price Adjustment on the basis of its reasoning in the 2004 Review, which pre-dated the introduction of the EvoTAM, and failed to recognize that the situation had changed fundamentally.[36]

7.59. BT said that Ofcom erred in fact and more generally in the exercise of its judgement/ discretion by retaining the Price Adjustment.[37] BT said that the Price Adjustment was no longer appropriate because:

(a) EvoTAMs had been introduced as a new form of Test Access for SMPF lines, and unlike LLU TAMs, their cost was recovered solely through charges for the products to which they related, ie WLR and SMPF (in other words, this is cost causal). In those circumstances, the continued application of the TAM adjustment meant that SMPF customers were paying twice for test access—once for a share of the LLU TAM (from which they did not benefit at all) and once for the EvoTAM (which served SMPF but not MPF lines). Meanwhile, MPF customers did not bear the entire cost of the LLU TAM even though that equipment was for their sole benefit.

(b) The MPF market had changed significantly since 2004, so there was no need to provide continued assistance to MPF customers at the expense of SMPF customers, so as to ensure that a competitive market was established.

7.60. BT said that Ofcom's other justification for the Price Adjustment had been that 'some of the costs might be considered to represent system set up costs' as established in 2004, prior to the introduction of the EvoTAM. Ofcom said that it did not consider EvoTAMs to be essential for start-up because they were 'introduced as an enhancement to WLR+SMPF and, therefore, are not essential costs for establishing the entry of these services into the market'. Accordingly, Ofcom did not include the cost of EvoTAMs in the pool of set-up costs.

7.61. Mr Dolling said[38] that this point did not address the distortion of competition that arose from continuing the price adjustment now that the cost of EvoTAMs was included in the price of SMPF. At the time of the 2004 Review Statement, there was only one pool of costs relating to Test Access on digital subscriber line (DSL) services, but since then, EvoTAMs had been introduced as a means of establishing Test Access for SMPF services with higher speeds for broadband end users. Hence, there were now two pools of Test Access costs—'Use of LLU TAMs' and 'Use of EvoTAMs' within Ofcom's model. In terms of usage, these costs related to MPF (LLU TAMs) and SMPF (EvoTAMs). Mr Dolling said that even if the application of the Price Adjustment to the original pool of costs was competitively neutral in 2004, it could no longer be considered to be so neutral where WLR+SMPF customers were being required in effect to pay twice for Test Access. He said that Ofcom failed to take material considerations (the existence of EvoTAMs and market developments in LLU) when merely repeating its 2004 reasoning to support its decision in the 2012 Statement.

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[35] BT NoA, ¶188, also referring to ¶76.
[36] BT NoA, ¶¶172–173.
[37] BT NoA, ¶13.
[38] First W/S Dolling, ¶¶196–202.

7.62. Mr Dolling also said that the market for LLU was now well established and that whilst there was a need in 2004 to ensure that LLU and in particular MPF became established as viable bases for competition, the same imperative did not apply now.

- *Secondary case*

7.63. BT said that should its primary appeal fail but the Tribunal and/or CC be persuaded of the merits of the argument for spreading these costs, the cost of EvoTAMS should also be added to the 'pool' of TAM costs and spread across MPF and SMPF, in an equivalent way to Ofcom's treatment of LLU TAMs.

Summary of EE's intervention

7.64. EE addressed Ofcom's reasoning only in the report of Mr Reynolds. He said that 'the rationale of providing "good investment incentives" hardly seems consistent with Ofcom's recognition that its approach is leading to inefficient investment incentives' and that Ofcom accepted that removing the cross-subsidies was in the longer term the right answer.[39] He said that 'any decision to retain a level of cross-subsidies should be based on weighing up whether there would be costs (to efficiency, competition and end-users) from a more rapid reduction that would outweigh the benefits of achieving efficient price signals'.

7.65. Mr Reynolds also said that Ofcom's approach would undermine dynamic efficiency as investment incentives would be distorted away from the incentives required to maximize social welfare over time. For example, SMPF-based providers were likely to face lower returns on investment while competing with the subsidized MPF-based providers, risking inefficient under-investment in SMPF services, while the subsidization of MPF-based providers could lead to inefficiently high investment in MPF services.[40]

7.66. Mr Reynolds commented on Ofcom's appraisal of the stability of the regulatory regime.[41] He said that Ofcom accepted that removing the cross-subsidies was ultimately the right answer and that 'any decision to retain a level of cross-subsidies should be based on weighing up whether there would be costs (to efficiency, competition and end-users) from a more rapid reduction that would outweigh the benefits of achieving efficient price signals'. He observed that the European Commission believed that any temporary allowance of higher termination charges for mobile operators should be phased out within four years of entry (and this advantage to MPF providers had been in place since 2004) and that it considered that new entrants in fixed markets who rented inputs from incumbents did not need such assistance.[42]

7.67. As one of several further arguments, EE said that the Price Adjustment distorted competition between WLR+SMPF- and MPF-based operators, which was in current circumstances not consistent with the requirements of the 2003 Act or Ofcom's principles of pricing and cost recovery, and did not improve cost minimization incentives.[43] It said that the Price Adjustment distorted efficient investment signals through the subsidization of one form of technology (MPF) at the expense of another (SMPF).

[39] First E/R Reynolds, ¶¶63–64.
[40] First E/R Reynolds, ¶18.
[41] First E/R Reynolds, ¶¶61–66.
[42] *Commission Recommendation of 7 May 2009 on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU*, recital 17.
[43] EE SoI (BT Appeal), ¶31.5.

7.68. EE said that the Price Adjustment breached cost causation principles, and that while Ofcom had said in 2005 that the application of the principle was not decisive, in the Statement it found that LLU TAMs costs were caused by MPF. It also said that LLU TAM costs could no longer be considered set-up costs since the current costs appeared to relate to ongoing costs (consisting of costs relating to assets and depreciation).[44]

7.69. Mr Reynolds, for EE, said that Ofcom's approach harmed allocative efficiency by causing the prices for MPF services to be set below the cost of the resources used in their supply and the prices for SMPF services would be set above the cost of the resources used in their supply, leading to an inefficient consumption of MPF and SMPF services.[45]

7.70. Mr Reynolds considered Ofcom's six principles of cost recovery[46] and the consideration of regulatory stability. He assessed how Ofcom had applied these principles to the recovery of the cost of LLU TAMs, and the extent to which they supported the removal of the Price Adjustment.[47]

- *Secondary case*

7.71. EE supported BT's secondary case, saying that 'if … Ofcom allocates TAMs costs across all LLU lines on the basis that they are a set up cost, then the EvoTAMs service should be treated in the same way. In that situation, to recover EvoTAMs costs from only WLR/SMPF lines would be inconsistent with the treatment of TAMs, lead to a competitive distortion and would be contrary to Ofcom's six principles of cost recovery'.[48]

7.72. Mr Reynolds, for EE, said that Ofcom's case for spreading the LLU TAMs costs depended on whether such costs were efficiently incurred to enable the actual level of competition from providers using different technologies. As such, if BT used EvoTAMs to conduct line testing to provide SMPF services at current service quality levels, then the cost of these EvoTAMs should be considered as costs necessarily incurred in achieving the current competitive benefits from SMPF-based providers.[49]

Summary of Ofcom's defence

7.73. Ofcom summarized the original justification for the introduction of the Price Adjustment. It said that had the cost of TAMs been allocated entirely to MPF, this would have placed a disproportionate burden on providers (or those seeking to enter the market as providers) of broadband services using MPF, rendering them less competitive. Moreover, MPF entrants were at a further disadvantage in that SMPF broadband providers could free ride on the existing WLR/voice service low-cost fault-testing system. Therefore failure to treat the cost of MPF line-testing equipment as a set-up cost would have had a distorting effect on the market.[50]

[44] EE SoI (BT Appeal), ¶¶45–47.
[45] First E/R Reynolds, ¶17.
[46] Namely cost causation; cost minimization; distribution of benefits; effective competition; practicability; and reciprocity. First E/R Reynolds, ¶29, quoting Ofcom, *Review of the Wholesale Local Access Market*, *Explanatory statement and notification*, 16 December 2004, ¶8.2.
[47] First E/R Reynolds, ¶¶31–66.
[48] EE SoI (BT Appeal), ¶31.7.
[49] First E/R Reynolds, ¶70.
[50] Ofcom Defence (BT Appeal), Annex G, ¶¶33–35.

7.74. Ofcom summarized its defence as follows:[51]

> Ofcom maintains that its price adjustment is necessary to reflect the fact that although the market has matured, too rapid an adjustment will have a detrimental impact on existing suppliers of MPF services and on incentives for new MPF investment. This is an appropriate approach for Ofcom to take in the exercise of its discretion.

7.75. Ofcom summarized its defence in more detail in its Core Submission:[52]

> As the number of MPF lines has increased, the need for pooling and spreading to maintain a position of competitive neutrality between BT and its competitors has diminished. Ofcom has, over time, given more weight to strict cost causation and to the recovery MPF specific costs from MPF lines only. In doing so Ofcom has been conscious that operators should be aware that the differential between MPF and WLR + SMPF will move over time to a position which reflects the incremental cost differential between the services. This will mean that MPF specific costs will be allocated to MPF services and, correspondingly, costs relating to WLR and SMPF will be allocated solely to those services. Ofcom has also, however, been conscious of the need for regulatory stability and predictability. When firms have been encouraged to make investments, it is important that investors should be given an opportunity to obtain a return on their investment without sharp changes in the regulatory environment. Consequently, Ofcom believes that the appropriate balance of its regulatory objectives has and will be best served by moving the differential between MPF and WLR + SMPF services in to line with the cost differential of the services by a phased reduction over time. This means that the MPF specific costs should, in due course, be recovered solely from MPF services. However, Ofcom believes that the dynamic loss from regulatory unpredictability and uncertainty that would follow from a step change in the differential would not be a price worth paying for the relatively minor gains in allocative efficiency that might be achieved from such a sharp change.
>
> In the Statement, Ofcom illustrated in figure 7.4 how the price differential between MPF and WLR+SMPF has fallen over time: noting that the price differential that will remain at the end of the charge control period above the likely LRIC differential is largely due to the adjustment made for TAMs. As Ofcom explained, given that the MPF vs. WLR+SMPF price differential has already fallen considerably since 2008 and will continue to fall over the duration of the charge controls, Ofcom decided that a more rapid reduction (i.e. beyond that which is anticipated in the charge controls) could undermine reasonable expectations and threaten the provision of a stable regulatory framework. Ofcom further explained that it expected to continue reducing the MPF vs. WLR+SMPF price differential in future price controls.

7.76. Ofcom said that it had acknowledged that there could be dynamic efficiency advantages to deeper (that is, MPF-based) competition in its discussion of charge differentials and LRIC differentials in section 7 of the Statement. In determining the appropriate differential between MPF, WLR and SMPF charges, these advantages

[51] Ofcom Defence (BT Appeal), Annex G, ¶4.2.
[52] Ofcom Core Submission (BT Appeal), Volume 2, ¶¶9–10.

needed to be weighed against the desirability of setting charges which would encourage users to choose the service which minimized overall costs. Ofcom said that the weight to be placed on encouraging take-up of MPF to get the advantages of deeper competition would depend on how well established use of MPF had become.[53]

7.77. Ofcom said that it had referred in the Statement to two relevant aspects of dynamic efficiency: first, the benefits of deeper-level competition which suggested that a charge differential somewhat above the LRIC differential might be justified; and second, the benefits of minimizing costs by choosing the most appropriate input (MPF, WLR or WLR+SMPF as it may be) in the circumstances, which suggested that the charge differential should be set equal to the LRIC differential. Ofcom's view was that over time it should move towards charge differentials which were equal to the relevant LRIC differential. Ofcom said that as in previous reviews, it was less concerned by a charge differential which was slightly above the LRIC differential, since there could be some resulting dynamic benefits, than by one which was an equivalent amount below the LRIC differential, which would result in a loss of both static and dynamic efficiency. Ofcom also said that the size of the LRIC difference was subject to even greater uncertainty and this cautioned against attempting a very precise equalization of differentials in charges and differentials in future costs. Ofcom said that it had set a target of aligning charge differentials with LRIC differentials but believed that this should be achieved gradually over time.[54]

7.78. Ofcom's concern was to avoid cutting the Price Adjustment too fast, too soon, in order to avoid undermining existing investment. However, Ofcom also considered that by signalling its intention to continue to move to aligning the differential with LRIC, it had ensured that new investors would not invest on the basis of an inappropriate assessment of the relative costs of MPF and WLR+SMPF. Thus, it said that its approach could ensure that existing investment decisions could be appropriately rewarded without encouraging inefficient or inappropriate future investment (contrary to EE's claim).[55]

7.79. At the heart of this decision was a concern to manage the removal of the price adjustment over time and in a manner that would not unduly disrupt the reasonable expected returns of existing MPF investors. Ofcom maintained that the investment by MPF providers could be undermined if the Price Adjustment for TAMs were removed altogether. Ofcom maintained that the safeguarding of competition required that this Price Adjustment, admittedly benefiting MPF providers, be maintained for this price control, ensuring that the price differential continued to be reduced over time in a measured fashion.[56]

7.80. Ofcom said that although the MPF market was maturing, the complete removal of the Price Adjustment risked unduly disrupting the reasonable expected returns of MPF investors. Ofcom therefore claimed to have struck an appropriate balance between the needs of different investors in pursuance of promoting greater efficiency.[57]

- *Summary of Ofcom's response to EE's SoI*

7.81. Ofcom said that both EE and Mr Duarte noted that SMPF-based competition was healthy and offered real choice. Ofcom contended that this reflected the fact that a sustainable balance had been struck in the way it had sought to impose charges on

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53 Ofcom Defence (BT Appeal), Annex G, ¶35.
54 Ofcom Defence (BT Appeal), Annex G, ¶¶37–39.
55 Ofcom Defence (BT Appeal), Annex G, ¶45.
56 Ofcom Defence (BT Appeal), Annex G, ¶¶48–49.
57 Ofcom Core Submission (BT Appeal), ¶52.

different services, and demonstrated that SMPF's ability to compete had not been undermined by Ofcom's approach. Ofcom did not accept that SMPF providers suffered from targeted regulatory disadvantages. It said that to the extent that SMPF was a less competitive product than MPF, that was a feature of the technology, not its regulation.[58]

7.82. Ofcom disagreed with EE and Mr Reynolds' focus on allocative efficiency, saying that productive and dynamic efficiency were also relevant to charge setting and dynamic efficiency provided reasons (such as the promotion of effective competition) which justified the recovery of TAM costs across all lines. Ofcom said that Mr Reynolds tended to interpret each of the principles of pricing and cost recovery as relating to allocative efficiency, whereas Ofcom had always sought to consider these principles together.[59]

7.83. Ofcom said that a price differential above LRIC had been in place longer than EE had been providing SMPF services in the market. In other words, EE chose to enter the market using SMPF rather than MPF knowing of the differential, and did so at a time when that differential was greater than it was now. The differential would continue to decline significantly over time, increasing the incentives to attract further investment in SMPF.[60]

7.84. According to Ofcom, in 2004 it was clear that MPF's ability to compete with SMPF in the provision of broadband would be undermined were SMPF able to rely on WLR test services while MPF was required to set up a new system. Thus the initial investment in TAMs was clearly a start-up cost. Since investment in TAMs was not made on a line-by-line basis, to have allocated all such costs to a nascent MPF service would have substantially distorted the cost of MPF providers' entry into that market. With the greater roll-out of MPF over time and the associated economies of scale in the use of TAMs, this disadvantage had subsided and it was becoming increasingly appropriate to consider linking the cost of LLU TAMs to MPF alone.[61] In Ofcom's view, it was important to ensure that MPF investment based on cost allocation assumptions should not be undermined by rapid changes in those assumptions. Accordingly, Ofcom had been concerned to ensure a smooth path towards LRIC alignment. Ofcom said that its decision to remove the charge differential steadily over time was an exercise in regulatory judgment that took account a range of competing factors which Ofcom was required to weigh collectively.[62]

7.85. Ofcom disagreed with some of Mr Reynolds' comments on allocative efficiency, saying that MPF charges were not less than the cost of the resources used. It said that TAM costs were not part of the incremental costs of an individual MPF line or operator and that additional TAM costs were unlikely to be triggered by the decision of an additional customer to take an MPF line. It also said that a service was only said to be cross-subsidized if its price was below incremental cost and that this was not true of MPF services, particularly when the sunk cost of duct cost was considered.[63]

[58] Ofcom Core Submission (BT Appeal), Volume 2, ¶13.
[59] Ofcom Core Submission (BT Appeal), Volume 2, ¶ ¶–29. Ofcom also refuted some of Mr Reynolds' comments on allocative efficiency (which we have not assessed in detail), Ofcom Core Submission (BT Appeal), Volume 2, ¶¶30–34.
[60] Ofcom Defence (BT Appeal), Annex G, ¶44.
[61] Ofcom Core Submission (BT Appeal), Volume 2, ¶¶35–37.
[62] Ofcom Core Submission (BT Appeal), Volume 2, ¶¶38–40.
[63] Ofcom Core Submission (BT Appeal), Volume 2, ¶¶30–34 commenting on First E/R Reynolds, ¶17.

- *Secondary case*

7.86. Ofcom said that LLU TAMs and EvoTAMs were not equivalent. Whereas LLU TAMs had to be developed as a core aspect of MPF to provide a service which would otherwise not be available, the cost of which could properly be regarded as a set-up cost, EvoTAMs were not necessary to the establishment of WLR+SMPF on the basis that SMPF already had the benefit of a fault-testing system provided through WLR (Line Cards). Ofcom described EvoTAMs as a form of line-testing service related to BT modifications of its calls network. The cost of EvoTAMs simply replaced, for some lines, the cost of providing and maintaining the line testing costs incorporated into WLR when connected to traditional call networks. This was not a new cost which the SMPF provider had to bear as a pre-condition of the entry of these services into the market. Ofcom said that BT was therefore not comparing like with like in suggesting that these costs should be treated in the same way.

7.87. Ofcom also said, in response to EE's SoI, that it did not accept EE's reliance on the impact of the introduction of EvoTAMs. Ofcom said that EvoTAMs were a new cost element that was not linked to the basic provision of LLU services, and that there was no justification for adding a new distortion into the differentials by spreading the costs of EvoTAMs as well.[64]

Summary of Sky/TalkTalk's SoI in support of Ofcom

7.88. Sky/TalkTalk said that 'while there may be some small reduction in productive efficiency as a result of cost sharing, Ofcom (rightly) found that the benefits to competition and dynamic efficiency outweigh any such disadvantage'.[65]

7.89. On the effects on efficiency and competition,[66] Mr Holt (for Sky/TalkTalk) agreed with Mr Reynolds (for EE) that Ofcom's policy could lead to a reduction in productive efficiency, but he did not consider that Mr Reynolds' overall conclusions warranted a change in Ofcom's approach, because Ofcom was aiming to achieve a balance between several objectives, some of which might be conflicting. He said that Ofcom had put weight on the importance of establishing conditions for effective competition in the market in assessing the merits of its approach.

7.90. In particular, he said that a price differential between MPF and SMPF+WLR which exceeded the LRIC differential between these sets of products would lead to a reduction in productive efficiency if it led to CPs choosing technology which was more expensive. However, he considered that Ofcom had addressed this point by weighing the benefits of deeper-level competition (which suggested that the price differential somewhat above the LRIC differential might be justified) with the benefits of minimizing costs by choosing the most appropriate input (which suggested that the price differential should be set equal to the LRIC differential).

7.91. He agreed with Ofcom in principle that generally a rapid change in regulatory approach (in this case a rapid convergence to the LRIC differential) could increase risks faced by operators and could undermine the basis of previous investments. He said that the policy might be net beneficial in that it would help ensure that additional investment by MPF-based rivals was feasible and/or allowed lower retail prices for MPF consumers, which would not only directly benefit existing and new MPF cus-

[64] Ofcom Core Submission (BT Appeal), Volume 2, ¶¶47–49.
[65] Sky/TalkTalk Core Submission (BT Appeal), ¶22.
[66] First W/S Holt, ¶¶4.34–39.

tomers but would also encourage SMPF rivals (including BT) also to offer better value for money to their customers.

7.92. Sky/TalkTalk also said that regulatory consistency pointed in favour of not reversing the 2004 policy decision to share LLU TAM costs, and said that BT had recognized the importance of this consideration in the past (in other circumstances).[67] Ofcom noted this in the context of the RAV issue:[68]

> When seeking to persuade Ofcom not to adopt the RAV Adjustment in 2005, [BT] argued that 'Consistency of regulatory regimes is vital if shareholder confidence and continued commitment to investment is to be maintained … firms will not freely invest if they believe that an adverse "regulatory adjustment" is likely at any time in the future that may materially undermine the value of their investments. A sustainable regulatory approach to encourage infrastructure investment and infrastructure competition, requires among other things consistency over time.' The fact that there had been a previous change from HCA to CCA in 1997 did not deter BT from making that submission.

7.93. Mr Holt, for Sky/TalkTalk, commented on BT's cost minimization incentives, the effectiveness of the Undertakings, and the implications of sharing LLU TAMs on the distribution of the benefits of competition between BT and LLU operators (1st W/S Holt, section 4). He also argued that BT's cost-reduction incentives were improved by the Price Adjustment.[69]

- *Secondary case*

7.94. Sky and TalkTalk supported Ofcom's position. They said:[70]

> Although this contention has the superficial appearance of consistency, the circumstances in which the costs of this equipment were incurred are very different, and their uses are very different, clearly leading to different treatment in accordance with Ofcom's established cost sharing principles for the treatment of line testing costs.

7.95. Like EE, Sky/TalkTalk examined considerations relevant to cost allocation. Sky/TalkTalk mentioned distribution of benefits, effective competition and cost minimization:

(a) Distribution of benefits and effective competition: they said that unlike an LLU TAM, an EvoTAM was unnecessary for the provision of the test access service for which it was used, citing:

(i) 1st Dolling, paragraph 170, described an EvoTAM as an 'alternative' to the test access functionality provided by the Line Card; and

(ii) the test access and procedures used for WLR-only lines (described in 1st Dolling, paragraphs 163 and 164 (broadly, requiring only a Line Card)) were adequate to establish the electrical properties of the line (see 2nd Higho, paragraphs 35 to 46). Such access and procedures would also be sufficient for lines carrying WLR and SMPF, and indeed SMPF was (and had for some

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67 Sky/TalkTalk SoI (BT Appeal), ¶52.
68 Ofcom Defence (BT Appeal), Annex H, ¶74, citing 2005 BT Response pp7 & 10 [ORSD2/16].
69 First W/S Holt, ¶¶4.7–26.
70 Sky/TalkTalk SoI (BT Appeal), ¶38.

time been) provided and tested without EvoTAMs (see 2nd Higho, paragraph 46).

Hence they said that the EvoTAMS were not a cost associated with establishing a competitive market, other customers did not benefit from it, and sharing the cost with MPF was not necessary to protect or improve the effectiveness of the competition created by LLU.

(b) Cost minimization: they said that BT was exclusively able to control the costs of EvoTAM services, so sharing these costs with MPF (and thus users of MPF services such as Sky and TalkTalk) would not result in any improved cost minimization incentive, and would in fact weaken them since BT would reap less of the reward from cost-saving investments.

7.96. On BT's secondary case, Sky/TalkTalk said that the actual logic of Ofcom's argument was that a portion of WLR test costs should be allocated to MPF as well as to WLR services (these costs were necessary to enable the provision of SMPF/WLR competition, from which all consumers were said to benefit).[71]

Summary of EE's Response

7.97. EE said that Ofcom appeared to accept that in principle that the Price Adjustment should be removed, but to consider that it should not be removed *yet* (ie during the current charge control), in order to avoid the risk of undermining existing MPF investment.[72]

7.98. EE said that Ofcom had not taken into account/addressed in the Statement:[73]

(a) the fact that MPF was now well-established (as recognized by Ofcom in the Statement, paragraph 7.51, but not, in EE's view, recognized in Section 6 of the Statement, where, in EE's view, Ofcom set out its reasons for continuing to subsidize MPF services). EE said that the operators, other than BT, which relied on WLR+SMPF had small shares but were disadvantaged, contrary to the original intent of the MPF subsidy;

(b) by the end of the current charge control, MPF services would have benefited from entry assistance for almost ten years; and

(c) once BT's fibre network was well rolled out, many people could be expected to use fibre for broadband and the use of MPF to provide voice services only 'becomes highly inefficient', hence the subsidy was encouraging investment in an inefficient investment.[74]

- *Summary of EE's Response to Ofcom's Defence*

7.99. EE said:

> on the basis of Annex G of the Defence, Ofcom's position appears to be that it essentially accepts the contentions made by BT and EE that efficient competition and the best interests of end-users would be pro-

[71] [add ref]
[72] EE Core Submission (BT Appeal), ¶88.
[73] EE Core Submission (BT Appeal), ¶¶98–105.
[74] Discussed in more detail at Third W/S Duarte, ¶¶31–34.

> moted by removing the LLU TAMs subsidy. However, Ofcom claims that it was an appropriate exercise of its discretion for it to decide not to remove this subsidy for the purpose of the current charge control. Ofcom's central justification for this is that removing the subsidy would risk undermining the profitability of existing investments in MPF services.

EE elaborated citing various passages from the Defence.[75]

7.100. Ofcom had not provided adequate reasons or evidence to demonstrate that a potentially harmful risk to MPF investment did in fact exist. It said that Ofcom must provide compelling reasons, supported by strong evidence, as to why removing the subsidy would undermine countervailing statutory objectives to such an extent as to outweigh the harmful effects of the subsidy on fair competition and efficiency. It said that Ofcom's reasoning was 'speculative and abstract', and that the Statement provided no reasoning or evidence to justify a conclusion that efficient investment in MPF services would be harmed if the Price Adjustment were removed. Ofcom did not explain why any existing MPF investments should be presumed to be efficient. Finally, it said that Ofcom did not explain why it would have been reasonable for MPF investors to assume that the 'LLU TAMs subsidy' would be 'continued for many years into the future, and hence why removing it now would generate regulatory uncertainty'. It said that when introducing the Adjustment, Ofcom gave no indication that 'this form of entry assistance' would be maintained for so long.[76]

7.101. EE addressed Ofcom's view that it was less concerned by a price differential greater than the LRIC differential than by one below it. It said that if the price differential was above the LRIC differential, both static and dynamic efficiency were harmed. If future costs were uncertain, Ofcom should set the price differential at its best estimate of the LRIC differential since this maximized the chances of the charge control being at the most efficient level. EE also said that Ofcom would have to explain why any potential gains in dynamic efficiency achieved by subsidizing MPF services would be likely to exceed the harm to efficiency and fair competition that resulted from maintaining the subsidy. Ofcom had made no attempt to do this, and, as noted by Mr Reynolds, it seemed highly unlikely that this would be the case.[77]

7.102. EE drew an analogy to the recent MCT appeal about the appropriate length of a glide path, where Ofcom had to balance the advantages of reaching the 'efficient' charge level with the costs of rapid adjustment to the charge level.[78]

7.103. Mr Duarte, for EE, said that the implication of Ofcom's logic did not ring true. He said that Ofcom's logic implied that the expected returns of WLR+SMPF-based operators such as EE would not be disrupted by this decision, because they chose to enter the market or make investments in the knowledge of Ofcom's 'policy of sharing these costs, as per previous price controls'. He said that EE's decision to move to SMPF-based technology was taken in or around early 2004 when the pricing differential between SMPF- and MPF-based services had not yet been announced.

7.104. He said that EE's strategy in choosing to remain using WLR+SMPF [✂].[79]

[75] EE Core Submission (BT Appeal), ¶¶114–116, citing Defence Annex G ¶¶39, 41, 49, 51, 52.
[76] EE Core Submission (BT Appeal), ¶¶117–122.
[77] EE Core Submission (BT Appeal), ¶¶135–142.
[78] EE Core Submission (BT Appeal), ¶125.
[79] Second W/S Duarte, ¶¶23–27.

7.105. Mr Reynolds, for EE, said that the Price Adjustment was not necessary for MPF-based providers to remain in the market (if it were, Ofcom would not have announced its intention to remove it), and removing it would not deter efficient new investment. He said that 'the only investment at risk from its removal is investment that was only justified because MPF prices do not bear the full cost of supplying MPF services'.[80]

7.106. Mr Reynolds addressed possible risks to investment from the removal of the Adjustment:[81]

(a) Possible impact on existing investments: he said that no party had argued that existing MPF-based competitors would be rendered unviable.

(b) Possible reduction in new investment in MPF-based businesses: he noted that Ofcom had said that '… by signalling its intention to move to aligning the differential with LRIC, it has ensured that new investors will not invest on the basis of an inappropriate assessment of the relative costs of MPF and WLR+SMPF'.[82]

(c) Possible increase of overall regulatory risk of investing in the UK telecommunications sector. Mr Reynolds said that 'minimising regulatory uncertainty is an important regulatory objective'. However, he noted that when Ofcom introduced the Price Adjustment, it had said (in the context of the possible future introduction of new types of TAM): 'In the future, Ofcom may need to revise its charges or there may need to be a separate charge for connecting shared access lines to a TAM'.[83] On this point, Mr Reynolds added:[84]

> Enabling a regulatory change to be made where there is good reason for the change is necessary to ensure that regulation continues to achieve the public interest objectives of promoting efficiency, competition and overall consumer benefits over time. … A decision to remove entry assistance some seven years after it was introduced, when the beneficiaries are now well established and when separate testing costs are now being recovered in SMPF prices should not come as a shock nor be seen as introducing undue regulatory uncertainty. … Further, Ofcom would actually reduce uncertainty by removing the price adjustment rather than to retain it until some unspecified date in the future.

- *Summary of EE's response to Sky/TalkTalk's SoI*

7.107. EE said that if a subsidy was still required seven to ten years after the introduction of MPF, it should not be seen as a sustainable source of competition.[85] It also made some further arguments about cost minimization incentives.[86]

- *Summary of EE's response to BT's secondary case*

7.108. EE said that if LLU TAMs costs were to continue to be shared across both MPF and SMPF services, then sharing EvoTAMs costs (which were of an almost equivalent

[80] Third E/R Reynolds, ¶9.
[81] Third E/R Reynolds, ¶¶26–33.
[82] Defence, Annex G, ¶45.
[83] Ofcom, *Review of the Wholesale Local Access Market, Explanatory statement and notification*, 16 December 2004, ¶9.85.
[84] First W/S Reynolds, ¶30.
[85] EE Core Submission (BT Appeal), ¶¶130–134.
[86] EE Core Submission (BT Appeal), ¶¶148–150.

magnitude to LLU TAMs costs) was the only way for Ofcom to promote technology neutrality and to create a level competitive playing field between the services.[87]

7.109. Mr Reynolds, for EE, said that most WLR and SMPF lines did not use an EvoTAM and yet the costs were recovered from charges paid for all WLR and SMPF lines. He said that as a result of this plus the Price Adjustment, WLR+SMPF-based providers were required to contribute towards BT's costs of both LLU TAMs and EvoTAMs even though they may use neither. He considered this to be highly distortionary.[88]

Summary of BT's Response

7.110. In its Core Submission, BT said that Ofcom's defence rested essentially on four arguments:[89]

(a) Avoiding placing a disproportionate burden on MPF providers that would render them less competitive (or, in the words of Mr Dolling, 'there would still be a distorting effect on the market if a price adjustment was not in place'[90]). BT said that the competitive landscape was now unrecognizable compared with 2004/05.

(b) To manage the withdrawal of price or other adjustments 'for fear of having a negative impact on market competition'. BT said that this reasoning was 'entirely new' and the Price Adjustment was 'unjustifiable' as more than a temporary measure. It said that the removal could not be 'an "over-rapid change" when Ofcom has concluded that the MPF market is mature … and that market has been obtaining the benefit of the adjustment since 2005'.

(c) The FAC price differential 'should be above the LRIC price [sic] differential rather than below it'. BT said that this was a new argument in the Defence and was in conflict with (i) Ofcom's conclusion that price differentials should be based on absolute LRIC differentials, (ii) Ofcom's comment about dynamic efficiency considerations and (iii) 'the thrust of' the CC's Determination in the *Carphone Warehouse* appeal.

(d) It would be incorrect to treat EvoTAMs as an equivalent set-up cost to LLU TAMs. BT said that EvoTAMs were necessary to ensure that MPF and SMPF customers had the ability to obtain the same test functionality (this point is relevant to the secondary case, discussed below).

7.111. BT also referred to the extensive arguments of EE and Sky/TalkTalk about the relative advantages and competitiveness of MPF and WLR+SMPF, saying:[91]

> … it is telling that the evidence of Sky/TalkTalk, on the one hand, extols the perceived benefits of MPF, and identifies the particular disadvantages which it is said MPF users face; the evidence of EE does the same for SMPF. These competing accounts are to some extent a distraction from BT's ground of appeal. However, they do illustrate the vigorousness of competition based on the two forms of technology (MPF vs WLR+SMPF), and the importance of maintaining a level playing field between them, so that competition can take place on the

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87 EE Core Submission (BT Appeal), ¶¶151–153, citing Third WS Duarte, ¶¶37–41.
88 Third E/R Reynolds, ¶35.
89 BT Core Submission (BT Appeal), Volume 2, ¶¶123–141.
90 Second W/S Dolling, ¶¶178–182.
91 BT Core Submission (BT Appeal), Volume 2, ¶140.

merits. The LLU TAM price adjustment is an obvious distortion to such fair competition.

7.112. Mr Dolling, for BT, responded to Mr Holt's argument (for Sky/TalkTalk) about cost minimization incentives.[92]

- *Secondary case*

7.113. Mr Dolling, for BT, commented on the extent to which EvoTAMs were important for competition. He said that LLU TAMs offered more functionality than standard public switched telephone network (PSTN) test access provided via the PSTN Line Card due to its position in the network, citing as an example Copper Integrated Demand Testing, which was not available on the 20CN SMPF services which provided test access via the PSTN line card and tests through the CP Equipment (ie digital subscriber line access multiplexer (DSLAM) and filter), but was available on 21CN SMPF services where test access was provided via the EvoTAM. He said that EvoTAMs were 'necessary to ensure that MPF and SMPF customers *have the ability to* obtain the *same* test functionality'.[93]

Assessment of the alleged Price Adjustment error

7.114. In our assessment, we first consider, in paragraphs 7.118 to 7.126, Ofcom's reasoning in deciding to retain the Price Adjustment. We assess whether BT has accurately characterized Ofcom's reasoning.

7.115. Secondly, in paragraphs 7.127 to 7.148, we consider whether Ofcom erred in implementing a charge control including the Price Adjustment, having accurately understood Ofcom's reasoning for doing so.

7.116. Thirdly, we consider BT's secondary case in paragraphs 7.149 to 7.157.

7.117. We regard this ground of appeal as a challenge to Ofcom's regulatory judgement. BT also appears to classify its challenge in this way.[94] We therefore approach our assessment of this Reference Question on the basis that BT is alleging that Ofcom has erred in the exercise of its discretion.

- *Ofcom's justification for retaining the Price Adjustment*

7.118. We considered BT's claim that Ofcom's justification for the Price Adjustment was its reasoning in the 2004 Review. This was based on Ofcom's comment that 'The case for the treating [of] TAM costs as set up costs was established in 2004 and as stated we consider that this remains an appropriate adjustment for this control'.[95] We do not agree that this was the justification for retaining the Price Adjustment.

7.119. Ofcom's justification for retaining the Price Adjustment is spelled out in Section 7 of the Statement, as summarized in paragraphs 7.51 to 7.55 above. In short, Ofcom reasoned that to remove the Price Adjustment now would result in too rapid a change in the difference between MPF and SMPF costs, which could undermine reasonable expectations and threaten the provision of a stable regulatory framework, with consequences for investment incentives in general, and thus in the short term, on

[92] Second W/S Dolling, ¶¶201–212.
[93] Second W/S Dolling, ¶¶191–198. Emphasis in original.
[94] BT NoA, ¶13, and BT Core Subs, Vol 2, ¶4.
[95] BT NoA, ¶¶171–172, quoting 2012 Statement, ¶6.141.

balance, dynamic efficiency considerations militated in favour of retaining the Price Adjustment. Ofcom was explicit about its reasons, and about the view that, in the longer term, efficiency considerations weighed in favour of removing the Price Adjustment. We believe that Ofcom's comment quoted by BT is only intended to relate to the classification of TAM costs as set-up costs and must be read in the context of Ofcom's reasoning as a whole.

7.120. This is also the key part of Ofcom's Defence. In its Defence, it said 'Ofcom have set a target of aligning charge differentials with LRIC differentials but believe that this should be achieved gradually over time'.[96] In its Core Submission, it said:

> Ofcom maintains that its price adjustment is necessary to reflect the fact that although the market has matured, too rapid an adjustment will have a detrimental impact on existing suppliers of MPF services and on incentives for new MPF investment. This is an appropriate approach for Ofcom to take in the exercise of its discretion.[97]

7.121. BT said in its Core Submission, in relation to the above citation from the Defence, that 'This reasoning is entirely new'.[98] We disagree. We find that this argument, in Ofcom's Defence and Core Submission, is the same argument explained at length in Section 7 of the Statement. Mr Reynolds, for EE, also cited this as a reason given by Ofcom in favour in of retaining the Price Adjustment.[99]

7.122. We note that Ofcom undertook the analysis in section 7 of its Statement as a cross-check on the CRS prices set using CCA FAC to ensure that the price differentials were appropriate for the purposes of promoting efficiency.[100] Ofcom was explicit that this analysis supported its view that the resulting charge controls were set in accordance with its statutory duties. In particular, Ofcom stated that it satisfied itself that the prices set would promote efficiency and benefit end-users, taking account of the desirability of not favouring either MPF or WLR/SMPF over the other, but Ofcom weighed that consideration (of technological neutrality) against other relevant (efficiency) considerations.[101]

7.123. We note that BT and EE disagree with Ofcom's analysis of its statutory duties, and allege that Ofcom's decision to retain the Price Adjustment was contrary to those duties.[102]

7.124. Accordingly, we address below whether or not BT and/or EE have demonstrated that Ofcom erred in concluding that retaining the Price Adjustment was consistent with its statutory duties. A key issue is whether Ofcom erred in the 2012 Statement in its assessment of the balance between getting to the long-term 'efficient' level of Price Adjustment (ie zero) and the costs (in terms of dynamic efficiency) of moving too quickly. This is an alleged error in the exercise of Ofcom's judgement/discretion, and we have taken this into account in our consideration of this issue.

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[96] Ofcom Defence (BT Appeal), Annex G, ¶39.
[97] Ofcom Defence (BT Appeal), Annex G, ¶4.2.
[98] BT Core Submission (BT Appeal), Volume 2, 130. In its hearing, BT clarified that it viewed the 2012 Statement (¶7.57) as referring to the overall price differential between MPF and WLR+SMPF, whereas BT referred specifically to the TAM Price Adjustment; and that the new element was that the advantage to MPF to encourage entry into the market should be done away with over time. We noted above that the 2012 Statement includes the words 'In future price controls, we expect to continue reducing the MPF vs. WLR/WLR+SMPF price differential' (2012 Statement, ¶7.58) and 'Longer term, we expect to continue to reduce the price differentials to the differences in absolute LRICs' (2012 Statement, ¶7.65).
[99] First E/R Reynolds, ¶64, attached to EE's SoI (BT Appeal) and written prior to the distribution of Ofcom's Defence (BT Appeal).
[100] 2012 Statement, ¶ 7.5.
[101] 2012 Statement, ¶ 7.64 & Section 8.
[102] BT NoA, ¶¶188 & 190.

7.125. As part of this analysis, a number of other issues and arguments were raised by various parties which we address in our assessment below. These issues include:

(a) whether the Price Adjustment is allocatively inefficient;

(b) whether or not LLU TAMs are a genuine start-up cost;

(c) whether or not, and to what extent, MPF- or SMPF-based CPs are advantaged or disadvantaged with respect to each other; and

(d) the fact that the Price Adjustment has now been in place for many years.

7.126. Since Ofcom, like BT, said that it would be desirable in the long term to remove the Price Adjustment (and generally to set the price differential between MPF and WLR+ SMPF equal to the underlying cost differential between them), we do not think that Ofcom would dispute the substance of these points, as we explain at the appropriate points in our assessment below.

- *Was Ofcom wrong to conclude that retaining the Price Adjustment was consistent with its statutory duties?*

7.127. We consider first Ofcom's analysis of the costs and benefits in terms of efficiency of retaining the Price Adjustment. We note that BT said very little relating to Ofcom's analysis of the negative consequences of removing the Price Adjustment. Indeed, Volume 1 of BT's Core Submission (summarizing its positive case) did not mention this issue. Volume 2 of its Core Submission described this argument as 'entirely new' and suggested that it was only one of four arguments on which Ofcom's defence rested.[103] BT's argument against it appears to be that the MPF market is mature and has benefited from the Price Adjustment since 2005. This misses Ofcom's point.

7.128. In its evaluation of efficiency considerations, Ofcom considered four aspects of efficiency which we assess below:

(a) *Allocative efficiency reductions from the Price Adjustment*. Ofcom said that there would be a 'relatively minor' allocative efficiency gain from removing the Price Adjustment which was 'far less relevant' than other considerations.[104] It said that MPF charges were not less than the cost of the resources used and that additional TAM costs were unlikely to be triggered by the decision of an additional customer to take an MPF line. Ofcom therefore took into account these factors, but said that they were relatively minor. We find that BT/EE have not demonstrated that Ofcom underestimated the allocative efficiency cost of the Price Adjustment.

(b) *Productive efficiency reductions from the Price Adjustment*. Ofcom said that from this perspective, the price differential between MPF and WLR+SMPF should be equal to the LRIC differential between them.[105] This implies that the most productively efficient course is to remove the Price Adjustment. We think all parties would agree with this view.

(c) *Dynamic efficiency reductions from the Price Adjustment*. Ofcom said that the potential dynamic inefficiency arising from the Price Adjustment would be inefficient investment in MPF-based technology, but that any such inefficiency

[103] BT Core Submission (BT Appeal), Volume 2, ¶¶124, 129–132.
[104] Ofcom Core Submission (BT Appeal), Volume 2, ¶¶9–10, and 2012 Statement, ¶7.59.
[105] 2012 Statement, ¶¶7.33 & 7.60.

would be limited by its declaration of intent to further reduce or remove the Price Adjustment.[106] Hence inefficient investment in MPF-based technology would only be encouraged by the prospect of a short-term distortion, and this could be argued to be relatively small. We too take the view that this would not entirely remove the risk of inefficient investment but would be likely to mitigate it significantly (compared with a situation where the Price Adjustment is expected to remain in place in perpetuity). BT/EE have not provided compelling arguments to the contrary.

(d) *Dynamic efficiency benefits from the Price Adjustment.* This category seems to us to be not limited to future investment in MPF, as BT argued, but future investment in the telecommunications sector (as regulated by Ofcom) in general.[107] If removing the Adjustment would undercut MPF-based investors' reasonable expectations about the returns from that technology, it would send a negative signal for future investment in the sector. This seems to us an important point, and one that arises elsewhere in this Appeal (for example, in relation to the RAV Adjustment, where BT and Ofcom agree that investors should be able to earn a fair return on legitimate investments even if that means diverging from short-term efficient prices108). We assess these arguments in more detail below (starting at paragraph 7.131). For reasons we explain more fully from paragraph 7.131 onwards below, while we find that allocative efficiency, productive efficiency, and some dynamic efficiency considerations, point towards removing the Price Adjustment (at least over the long term), we concluded that none of those considerations (individually or collectively) is sufficiently compelling to displace the dynamic efficiency considerations relating to regulatory expectations which point in favour of retaining the Price Adjustment, having regard in particular to Ofcom's regulatory judgement in balancing these factors.

7.129. We also considered whether Ofcom's decision was consistent with promoting sustainable competition. With respect to the extent to which MPF and WLR+SMPF are genuinely advantaged or disadvantaged by regulation, as reflected in the cost differential between them, we note BT's comment that 'These competing accounts are to some extent a distraction … However, they do illustrate the vigorousness of competition based on the two forms of technology (MPF vs WLR+SMPF)'.[109] This suggests that any distortion caused by the Price Adjustment is not preventing effective competition from taking place and therefore not inconsistent with Ofcom's duty to promote sustainable competition. We also note that the existence of the Price Adjustment did not prevent SMPF-based CPs such as EE from entering the market after the 2005 price control was established.[110]

7.130. Also, to the extent that competition may be distorted by the retention of the Price Adjustment, we have considered the effects of removing it. If Ofcom's concerns about disappointing investors' expectations are valid, doing so would be likely to deter future investment which could in turn deter or dilute competition in the telecom-

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[106] Ofcom noted in its Bilateral Hearing that it could not fetter its discretion by guaranteeing to remove the Price Adjustment in the next Review, but it could send a signal that this was likely.
[107] See, for example, Ofcom's reference to the benefits of 'a stable and predictable regulatory framework' (2012 Statement ¶¶7.52 & 7.62).
[108] For example, BT said that a position where BT would not recover the costs of its investment in duct assets 'would be untenable, because of the chilling effect it would have on investment'. BT NoA, ¶294.
[109] BT CS, Volume 2, ¶140.
[110] EE alleged that Ofcom should maximize competition in order to confer the greatest possible benefits on end-users, and that the Price Adjustment was likely to be harming competition by requiring one service to help fund the costs of providing a rival service, and harming the position of SMPF providers (EE response to PG, ¶53(a–b)). We took such possible harm into account in our consideration of the effects on competition. There is no evidence that end-users are being denied the benefits that would be possible subject to Ofcom fulfilling its other statutory objectives.

munications sector in the long run. This suggests that, again, there are competing factors at work which must be balanced against each other.

7.131. We think it is important to consider both the short-run and long-run effects on competition. The considerations above suggest that, while it is conceivable that competition could be improved in the short run by removing the Price Adjustment, the fact that competition between MPF-based and SMPF+WLR-based technology remains vigorous suggests that the arguments that Ofcom's approach is inconsistent with its duty to promote sustainable competition are not compelling. Therefore, again subject to our assessment of dynamic considerations, it is again within Ofcom's discretion to balance these factors accordingly.

7.132. Therefore, we turn now to explain our conclusions regarding the dynamic efficiency benefits of retaining the Price Adjustment and that Ofcom was correct to find that there are benefits from retention which might balance out the reasons for removal. For the reasons given below, we were not persuaded by BT/EE that there are no such relevant benefits (or that they are so small as to be outweighed by the benefits of removal).

7.133. For the avoidance of doubt, we note that we do not regard the question of whether or not TAMs are start-up costs to be informative to our present analysis. Part of Ofcom's reasoning in assessing the efficiency considerations in relation to *introducing* the Price Adjustment in 2004 was that the initial investment in TAMs was viewed as a start-up cost. However, while that may have been relevant to Ofcom's justification introducing the Price Adjustment in 2004, in the 2012 Statement Ofcom was addressing a different question, namely, whether *retaining* the Price Adjustment was consistent with Ofcom's statutory duties.[111]

7.134. Therefore we have considered whether, and to what extent, Ofcom would disappoint investors' expectations by removing the Price Adjustment now. One way of approaching this question is to ask whether it was reasonable for parties making investments in MPF-based technology to believe, based on the 2004 Statement (at least until Ofcom's subsequent consultation and Statement in 2009), that they would continue to benefit from the subsidization of TAM costs in the current charge control period.

7.135. This point is not dealt with explicitly in the 2004 Statement. It is difficult to state definitively that investors either did, or did not, expect some price differential in excess of the LRIC differential to persist for this amount of time.[112]

7.136. In its response to our provisional determination, EE said that we could not properly find in favour of Ofcom on this issue without requesting evidence of what assumptions Sky and TalkTalk made as to the Price Adjustment or the price differential between services.[113] EE said that it had provided evidence on what it had assumed for the purpose of making its own investment decisions,[114] and that 'The fact that Sky and TalkTalk have not put forward such evidence [that they had assumed the Price

[111] Similarly, although EE's response to our PD claimed that we had not addressed several of its arguments regarding the original rationale for the Price Adjustment, changes in the market, the introduction of EvoTAMs, and the duration of the 'subsidy' to MPF operators (EE response, ¶51b–e), these considerations are also not relevant to the question that Ofcom addressed or its reasoning.

[112] We note that Mr Reynolds, for EE, pointed out that Ofcom had said in 2004 that 'In the future, Ofcom may need to revise its charges or there may need to be a separate charge for connecting shared access lines to a TAM' (Ofcom, *Review of the Wholesale Local Access Market, Explanatory statement and notification*, 16 December 2004, ¶9.85) but we do not consider that Ofcom has in the past made explicit statements one way or the other.

[113] EE Response to PD, ¶35.

[114] EE Response to PD, ¶39.

Adjustment or price differential would continue] indicates that their investments were not based on such an assumption'.[115]

7.137. On this point, we note first that the CC's role in this procedure is not investigatory and therefore we are not generally in the position of soliciting evidence (see paragraphs 1.34 and 1.44). Secondly, we considered the 'evidence' to which EE referred. It is the statement of Mr Duarte, Vice President of Home at EE, who said that [✂].[116] This appears quite speculative and indicates an absence of compelling evidence as to EE's assumptions in 2004. Mr Duarte also said that 'since late 2009 … [✂]'.[117] In our view, this does not go so far as to say that in 2009, EE believed that the Price Adjustment would be removed in the current charge control period, only that it will be removed 'over time', which is consistent with Ofcom's position. On the basis of this, we continue to find that we do not have sufficiently compelling evidence as to the expectations of investors in 2004 (or indeed at any time prior to Ofcom's Statement in late 2009). We consider that there is no sound basis for disagreeing with Ofcom's view that investments may be undermined by removing the Price Adjustment.

7.138. We note that Ofcom said in its hearing: 'We would normally have a presumption that having made a position in a previous charge control, a certain assessment of how you will treat a cost, we will continue to do so, unless there was compelling reason why that must be changed at that point'.[118] We understand Ofcom to be saying that stakeholders should be expected to share that presumption, and we think it appropriate to give some weight to Ofcom's view of expectations, as the sector's regulator, since Ofcom conducted that review and two subsequent reviews in addition to having other numerous interactions with affected CPs, and this Reference Question involves an allegation of error in Ofcom's exercise of its regulatory judgement.

7.139. Ofcom's justification for retaining the Price Adjustment was that having introduced the price differential (in excess of the cost differential) to promote the growth of MPF, which would promote competition, it had assessed how the market had changed. Its view was that the market was now maturing, but not yet fully mature (noting that exchanges were still being unbundled), and that it was appropriate to reduce the overall price differential (which was greater than the Price Adjustment) to reflect this, but not to remove it entirely.[119] As the sector regulator, Ofcom is in a good position to judge the maturity of the sector and we do not disagree with its view.

7.140. The fact that the Price Adjustment has been in place for many years does not alter this assessment. Indeed, Ofcom explicitly noted in the 2012 Statement that the Price Adjustment had been in place since 2005 and looked at how the price differential had changed over time. Ofcom said that investment in MPF was taking place based on the same expectations for several years after the introduction of the Price Adjustment, and so 'people were making investments up to 2009 on the basis of what we had said previously about the relative prices of these different inputs'.[120]

7.141. We also note Ofcom's view that (without fettering its future discretion) it has signalled its intention to continue to reduce the price differential in future, which will reduce the risk of CPs engaging in inefficient investment on the basis of the current price differ-

[115] EE Response to PD, ¶34.
[116] W/S Duarte 3, ¶26.
[117] W/S Duarte 3, ¶27.
[118] Ofcom, Bilateral Hearing transcript. p99, ll. 15–19. Ofcom also explained that it was not able to make categorical promises which would fetter its discretion in subsequent reviews (transcript, pp105–106).
[119] Ofcom Core Submission (BT Appeal), Volume 1, ¶52.
[120] Ofcom, Bilateral Hearing transcript, p110.

ential. We think Ofcom is right to say that this introduces a balance between having regard to past investments and promoting efficient investment in the future.

7.142. We also note that Ofcom took its decision in the round, taking into account other changes in the charge control that have the effect of reducing the price differential even taking into account the Price Adjustment. It is clear from Figure 7.1 above that, even retaining the Price Adjustment, the price differential falls by a substantial amount in 2012/13 and 2013/14, compared with the largest previous change. Removing the Price Adjustment at the same time would see the price differential fall by roughly twice as much (across the two years). This provides some support for Ofcom's view that to make all these changes at once would be a significant change for the relative prices of MPF and SMPF.

7.143. On the basis of all the above factors, we do not think that Ofcom was wrong to conclude that retaining the Price Adjustment for the current price control was consistent with its statutory duties. We have assessed Ofcom's reason for retaining it and conclude that Ofcom was correct in the exercise of its regulatory judgement to weigh it against arguments for removing the Price Adjustment.

7.144. These considerations also support Ofcom's view that it had correctly taken account in so far as practicable of technological neutrality considerations, weighing them against the wider efficiency considerations set out above.

7.145. We also considered BT's claim that the Price Adjustment was inconsistent with the CC's findings in the 2009 appeals.[121] We did not consider this claim to be valid. The relevant argument in the 2009 appeals[122] concerned whether Ofcom should specifically encourage investment in MPF-based services on the grounds that MPF-based competition was allegedly a 'deeper and therefore better form of competition' than WLR-based competition. In the current case, encouraging investment in MPF-based services is not part of Ofcom's justification for retaining the Price Adjustment. The CC's view in that case of the benefits of aligning relative charges for the two services to cost is in line with one of the considerations that Ofcom took into account in this case, but, as we have explained above, Ofcom behaved in accordance with its statutory duties by setting that against other factors in reaching its decision.

7.146. In addition, we considered whether EE's reference to the European Commission's Recommendation was of guidance to us in addressing this question. The Recommendation adopted by the Commission was premised on its analysis of the different MCT rates set in different national markets and its concern about the divergence in that area. The same issue does not arise here. Since it relates specifically to the setting of mobile termination rates, we did not think that it conferred any imperative on Ofcom in this context. We also note that Ofcom's justification for retaining the Price Adjustment is not linked to entry assistance for certain CPs, even if that was part of the justification for its original introduction. Therefore we did not find that this consideration altered our assessment of this Reference Question.

7.147. We did not find the analogy which EE drew to the recent MCT Appeal to be of assistance to our determination of this question.[123] In the MCT case, the CC found that when Ofcom selected a four-year glide path, it had not provided evidence or reasoning to support a glide path of longer than three years, whereas there were good reasons for having a shorter path. The background is specific to each case and so we do not consider that the MCT case creates a relevant precedent for us in this

[121] BT NoA, ¶¶76 & 188.
[122] CC, *Carphone Warehouse v Ofcom (WLR), Determination of 31 August 2010*, ¶¶3.265–3.270.
[123] EE Core Submission (BT Appeal), ¶125.

case. For the avoidance of doubt, we note the following distinction between MCT and this case. In MCT, the CC found that Ofcom had not put forward any evidence or reasoning to be 'cautious' of a three-year glide path, and so there was no countervailing consideration to weigh in the balance, and the faster change should have been preferred. In the current case, Ofcom clearly had sound reasoning in principle for avoiding a faster change,[124] and we had to assess (1) whether that reasoning was likely to be valid and (2) if so, whether Ofcom had weighed it appropriately against other considerations.

7.148. We have not found it necessary to assess in detail Sky/TalkTalk's argument that removing the Price Adjustment would have negative consequences for BT's cost minimization incentives. Had we found merit in this argument, it would only have lent further support to Ofcom's position. Since we have already concluded that Ofcom's decision was consistent with its duties, it is not necessary to assess this point.

- *Secondary case*

7.149. Having rejected BT's primary appeal, we have considered whether the cost of EvoTAMS should be added to the 'pool' of TAM costs and spread across MPF and SMPF, in an equivalent way to Ofcom's treatment of LLU TAMs.

7.150. BT's argument was in effect that, for efficiency reasons, EvoTAMs should be treated in the same way as LLU TAMs, and that it will lead to a change in the relative prices of MPF and SMPF, the effect of which would be similar to removing the Price Adjustment. BT agreed that this was a fair representation of its case.[125]

7.151. We understand Ofcom's argument on the primary case to be that, while there were (primarily) static efficiency reasons why the Price Adjustment should be removed in the long term, on balance the dynamic efficiency considerations in favour of retaining the Price Adjustment for the short term were greater. We consider that the logic of the secondary case is equivalent to the logic of the primary case: they are two slightly different mechanisms, but the effects both on the relative prices of MPF and SMPF+ WLR and on investors would be very similar. In other words, whether the Price Adjustment is simply removed or is cancelled out by an approximately equal and opposite adjustment by adding EvoTAM costs to the 'pool', the effect on investment incentives will be the same, ie the reduction will be too rapid.[126] If this is correct, then the secondary case cannot succeed where the primary case failed, and it is not necessary to assess the arguments on whether EvoTAMs are equivalent to LLU TAMs, start-up costs, or other factors.

7.152. We put this view to BT.[127] BT agreed that we were broadly right but said that there was a 'nuance'. It said that the technology had changed and the original case for the Price Adjustment being a facility for the whole of LLU was no longer right because there were other technologies, specifically EvoTAMs, that were for the whole of LLU but Ofcom had actually taken the EvoTAMs as a direct allocation to the WLR and SMPF, and it thought that the Price Adjustment had been in place for too long to be rationally considered as giving entry assistance. We did not think that BT's reply demonstrated a different relevant argument, and thus did not undermine Ofcom's reasoning on dynamic efficiency and investment incentives.

[124] As we noted above, the principle of avoiding undermining investors' reasonable expectations is one that BT supported in relation to the RAV Adjustment.
[125] BT, Bilateral Hearing transcript, p86.
[126] Cf 2012 Statement, ¶ 7.57
[127] BT, Bilateral Hearing transcript, p87.

7.153. We also put this view to EE. It said that Ofcom's argument on not removing the TAMs adjustment was largely about stability of investment signals and the first time anybody was charged for EvoTAMs was in this charge control. This was a new charge that no MPF investor was entitled to rely upon in terms of feeding into the differential and that no SMPF provider had previously had to pay, and had not previously been an influence on anybody's investment decisions.[128]

7.154. We understand the distinction which EE was making to be that it would undermine investors' expectations to remove a charge that was put in place in 2005, but it would not do so to introduce a new charge in the opposite direction, with the same effect. The implication is that it does not matter what effect Ofcom's decision had on investors; only Ofcom's reasoning matters.

7.155. This distinction does not alter our assessment of whether Ofcom's decision on this issue was inconsistent with Ofcom's statutory duties (and therefore wrong). Ofcom made clear that there had been a variety of factors which caused the price differential between MPF and SMPF+WLR to exceed the cost differential; that it had removed most of those factors; and that it was wary of removing the Price Adjustment at the same time because a more rapid reduction could undermine reasonable expectations with negative consequences for dynamic efficiency.[129] We interpret Ofcom's concern as being about the total effect on the price differential set against investors' expectations, rather than being about any individual factor that affects that price differential. We consider that the risks associated with a more rapid reduction would be the same whether the reduction occurs by removing the Price Adjustment or by cancelling out its effect by introducing an approximately equal but opposite adjustment.

7.156. For these reasons, BT's and EE's secondary arguments do not lead us to alter our assessment that Ofcom has not erred in this regard.

7.157. Our conclusion is therefore that Ofcom has not erred with respect to the Price Adjustment.

Determination

7.158. For the reasons set out above, we find that Ofcom erred in its allocation of BT's line testing test head costs to WLR and SMPF services but not to MPF services; but that it did not err in applying a Price Adjustment allocating the cost of TAMs across all MPF and SMPF lines.

[128] EE, Bilateral Hearing transcript, pp17–18.
[129] 2012 Statement, ¶7.57.

8. BT Appeal

Valuation of duct and assets

Reference Question 2

8.1. This section (paragraphs 8.1 to 8.243) sets out our conclusions as to whether the price controls imposed on BT have been set at a level which is inappropriate because Ofcom erred in its use of a regulatory asset value (RAV) in valuing BT's pre-1997 duct assets, for the reasons set out in paragraphs 195 to 350 of BT's NoA. The essence of BT's appeal is set out in paragraphs 8.2 to 8.5.

8.2. BT said that Ofcom had essentially two reasons for imposing the RAV adjustment (this term is explained below in paragraph 8.12):

(a) A positive reason: Ofcom's view was that not making the RAV adjustment would have led to over-recovery by BT (the term 'over-recovery' is explained below in paragraph 8.17).

(b) An absence of a detriment: Ofcom's view was that there was no imminent prospect of infrastructure-based competition and so the RAV adjustment did not harm economic efficiency.

8.3. BT contended that reason *(a)* was incorrect, and so there was no positive reason to apply the RAV adjustment; and *(b)* was also wrong: there was harm to competition. Therefore, in BT's view, the RAV adjustment should not have been applied. BT also argued that the absence of a detriment, *(b)*, was not by itself capable of supporting Ofcom's decision.[1]

8.4. BT's secondary case was that Ofcom's preferred methodology did not enable BT to recover the costs incurred by shareholders in acquiring the assets, and so an adjustment to Ofcom's valuation of pre-1997 assets was necessary.[2]

8.5. BT said that this was an error of fact and more generally in the exercise of Ofcom's judgement/discretion.[3]

8.6. This section is divided into two parts. The first part (paragraphs 8.8 to 8.182) considers BT's cost recovery with and without the RAV adjustment, which relates to reason *(a)* above. This part also assesses BT's secondary case, since the issues are linked. The second part (paragraphs 8.183 to 8.242) considers whether the RAV adjustment is economically inefficient because (in BT's contention) it will harm competition at the network level, which relates to reason *(b)* above.

8.7. Our determination is that Ofcom did not err in its use of a RAV.

Part (a)—Investment recovery

Background and summary of Ofcom's rationale and methodology

8.8. Ofcom has applied two types of valuation methodology to BT's duct assets for the purposes of calculating charge controls since privatisation: a historic cost accounting

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[1] BT NoA, ¶285.
[2] BT NoA, ¶¶345–346, 1st E/R Corkery, ¶¶5.2–5.3.
[3] BT NoA, ¶¶12–13.

(HCA) approach and a current cost accounting (CCA) approach. In essence, an HCA approach to valuing ducts reflects the amounts actually paid for those assets when they were put in place by BT, albeit in this case with an annual adjustment for inflation. A CCA approach to valuing ducts reflects the costs of replacing them at current prices.[4]

8.9. In 1989, at BT's first regulatory review, Oftel (Ofcom's regulatory predecessor) valued BT's duct assets on the basis of HCA.

8.10. In 1997, however, Oftel[5] changed its approach to CCA.

8.11. Since 2005, however, for the purposes of setting BT's charges, Ofcom has valued those duct assets that were built before 1997 in a different way from those that were built after 1997. Ofcom decided to continue to value post-1997 duct assets on a CCA basis. However, it also decided to value pre-1997 duct assets on an HCA basis.

8.12. Ofcom's method of implementing this was to establish a RAV based on an HCA valuation. The 'RAV adjustment' was made to move from the CCA valuation of pre-1997 duct assets in the RFS to the HCA valuation in the RAV.[6] The RAV adjustment is therefore in effect the difference between a CCA and an HCA valuation.[7]

8.13. Ofcom's decision in 2012 to retain the RAV adjustment was therefore one to continue with an approach that it had previously determined to be the most appropriate. The arguments in its 2012 Statement referred back to the arguments it had set out in its 2005 Review. It summarized the main arguments on this issue from the 2005 Review in the following way:[8]

(a) Moving from HCA to CCA for assets with rising values, such as ducts, would result in windfall gains for BT over time.

(b) The resultant higher wholesale costs could stifle LLU-based competition.

8.14. In order to understand the first of these arguments, it is necessary to understand how the choice of valuation approach affects prices calculated in the charge control. Under both approaches, the valuation of ducts affects prices in two ways:

(a) It determines the depreciation charge earned by BT.

(b) It determines the depreciated asset value on which returns are earned.

8.15. Both approaches, in the form used by Ofcom, if applied consistently throughout the whole life of a duct asset, would give BT the same overall return on its investment over its life, being equal to the regulatory weighted average cost of capital (WACC).[9] However, there would be a different profile of depreciation and returns which, taken together, would give a more advanced profile of revenues under the HCA approach than under the CCA approach. This is illustrated in Figure 8.1 below, reproduced from Ofcom's 2012 Statement.[10]

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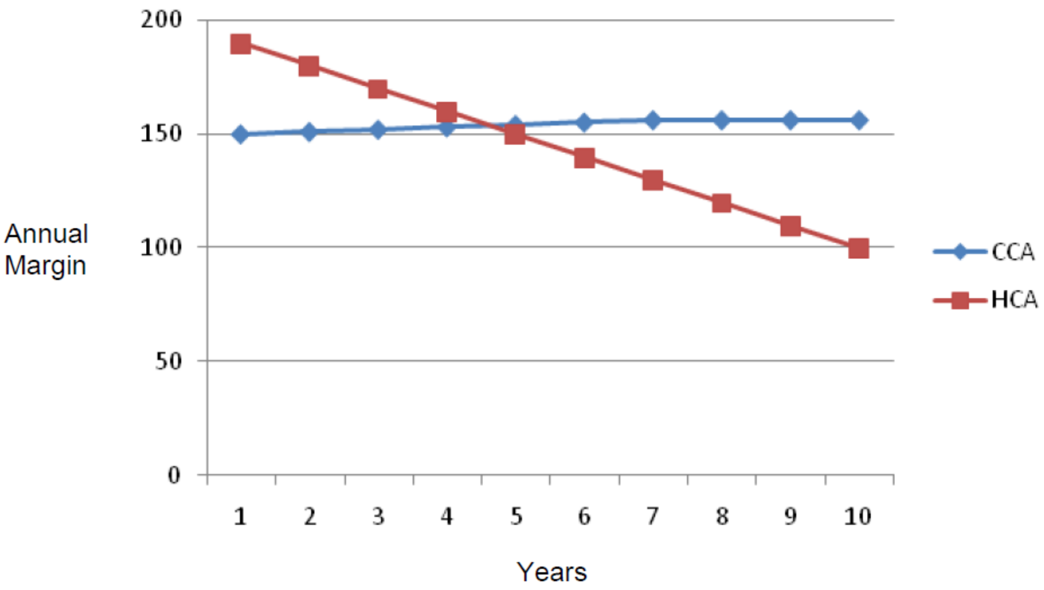
[4] BT NoA 1st W/S Tickel, ¶16, 1st W/S Tickel, fn to ¶22, and Ofcom Defence (BT Appeal), W/S Culham, ¶26.
[5] Hereafter, Oftel is not generally distinguished from Ofcom for reasons of readability; the distinction is not relevant to the arguments made on this ground.
[6] See 2012 Statement, ¶A1.6, and Ofcom, Valuing Copper Access—Final Statement, 2005, ¶5.2.
[7] BT NoA, 1st W/S Tickel, ¶23.
[8] 2012 Statement, ¶A1.59.
[9] See Ofcom Defence (BT Appeal), W/S Culham, ¶26, and BT NoA, 1st W/S Tickel, ¶60.
[10] 2012 Statement, ¶A1.60.

FIGURE 8.1

Potential windfall gains

Figure A1.1: Diagram to illustrate potential windfall gains



Source: Ofcom 2012 Statement, Figure A1.1.

8.16. Figure 8.1 above suggests that a change in valuation approach part-way through an asset life will give rise to an over- or under-recovery of returns on the initial investment. Whilst each schedule of payments on its own should allow for the proper recovery of investment costs, moving from one profile to another will create a mismatch. If, in this stylized model, BT were expected to recover its investment appropriately on the basis of an HCA approach, then moving to a CCA approach part-way through the life of a duct asset would award BT with higher cash flows and therefore the prospect of over-recovery. Conversely, moving from CCA to HCA part-way through the life of an asset would lead to under-recovery.[11]

8.17. The term 'over-recovery' is used here and in the pleadings to describe the situation in which the revenues associated with the capital cost of pre-1997 duct assets are greater in value[12] than the capital cost itself. 'Under-recovery' refers to the converse situation. Over-recovery or under-recovery, defined in this way, can therefore be quite readily tested for in respect of assets built since privatization. However, this definition is harder to apply to assets built before privatization and acquired by investors as part of their capital investment in BT at privatization. This difficulty underlies much of the pleadings of all the parties.

8.18. The analysis described above is not disputed by any party, at a theoretical level at least.[13] It is this effect which caused Ofcom to consider the prospect of over-recovery and windfall gains in its 2005 Review.[14]

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[11] Ofcom Defence (BT Appeal), 1st W/S Culham, ¶47.
[12] This value is calculated as the present value of the associated revenues (being depreciation and returns), discounted to the point at which the investment was made at BT's regulatory WACC as prevailing at the time of receipt of the revenues.
[13] BT NoA 1st W/S Tickel, ¶66, and Ofcom Defence (BT Appeal), W/S Culham, ¶47.
[14] Ofcom, Valuing Copper Access—Final Statement, 2005, ¶¶4.11–4.15.

8.19. In its 2012 Statement, Ofcom said that, in response to its March 2011 consultation,[15] BT had set out its arguments, based on analysis in its 'Openreach Model', that:

(a) BT's shareholders had not benefited from the period of higher charges under HCA because they had preceded privatization in 1984;

(b) BT's shareholders, at privatization, had acquired the company's duct and other assets at a value close to CCA (a 24.5 per cent discount to NRC) and therefore should be able to recover their investment on a CCA basis; and

(c) BT's shareholders would not have their reasonable expectations for cost recovery met under HCA and would actually suffer a windfall loss.[16]

8.20. Ofcom's arguments in its 2012 Statement were largely about addressing points raised in BT's consultation response. They presented these under two headings:

(a) shareholder returns; and

(b) model used by Openreach.

- *Shareholder returns*

8.21. Ofcom said that BT's approach was based on assumptions about how much BT's shareholders had paid for duct assets at privatization. Ofcom described this approach as a 'sale-price' approach. Drawing on a report provided to them by Analysys Mason,[17] Ofcom considered that it was an unsuitable approach to apply here because BT was not a single-asset company and nor was there a market valuation of duct available.[18]

8.22. Ofcom argued that there was no transparent sale valuation of Openreach's duct assets at privatization, which meant that any implicit valuation made would be based on assumptions. Ofcom suggested that it would have been rational for investors at privatization to view the company as vertically integrated. It said that it would therefore be consistent to assess the return on shareholders' investment at privatization on the basis of the overall returns across the business compared with the price paid for the shares. Ofcom criticized BT for assuming that all of its assets were priced at privatization with the same discount to NRC. Ofcom argued that if it were plausible to hypothecate values to individual assets at privatization, a relatively low valuation of duct assets (that is, a greater discount to NRC than 24.5 per cent) was more plausible than Openreach's assumption. Ofcom considered this to be so because rational investors would have priced those assets on the basis of expectations of the future returns related to them. The revenues associated with these ducts might have been in large part residential line rentals which, following privatization, were required to be below HCA 'fully allocated cost' values. This would have implied an investor valuation of duct at a greater discount to NRC than of, say, unregulated services.[19]

[15] Ofcom, Consultation, March 2011.
[16] 2012 Statement, ¶A1.63.
[17] Analysys Mason (2 March 2010), Alternative methodologies for the valuation of BT"s duct assets—Public version, Report for Ofcom.
[18] 2012 Statement, ¶¶A1.65–A1.71.
[19] 2012 Statement, ¶¶A1.72–A1.77.

8.23. Ofcom argued that the implicit amount paid by investors for duct could not be clearly identified. On this basis, the claim that there was a shortfall in its recovery was not robust.[20]

8.24. Ofcom also considered that there was a problem of circularity in a sale-price approach as used by BT. If the shareholder valuation had been high because of market sentiment or the belief that the regulator would allow BT to exploit market power in some way, then Ofcom allowing the company to earn a return on such a valuation would perpetuate this view in effect through imposing unnecessarily high charges for consumers. Ofcom considered that there might have been such an effect in BT's privatization price, since at the time fewer of BT's activities were regulated, and shareholders might have been expecting higher returns in some markets where price controls were subsequently introduced.[21]

8.25. Ofcom said that expectations for investment recovery in 1984 were unobservable and so there was little that could be said about the value placed on duct at privatization. However, it was clear by the early to mid-1990s that the returns available to shareholders from their pre-1997 duct assets were being driven by Oftel's HCA valuation approach. It was therefore clear that a move in 1997 from HCA to CCA valuation could have given rise to a possible windfall gain.[22]

- *Model used by Openreach*

8.26. Ofcom contended that BT's argument was critically reliant on the value that it believed shareholders put on duct assets at privatization. Ofcom considered such valuation highly subjective.[23]

8.27. Ofcom also stated that BT's modelling was dependent on other significant assumptions. It gave the following examples:[24]

(a) BT assumed duct life as 40 years, although it had been treated as having different asset lives until 2006/07.

(b) The return on capital employed (ROCE) was calculated by applying the regulatory WACC, whilst the actual return would have been higher as a result of the glide-path approach to prices.

8.28. Ofcom said that its own RAV model recorded actual HCA and CCA costs from 1997 onwards and that, as a result in part of the above issues, the Openreach Model's results appeared to differ significantly from these actual figures.[25]

8.29. Ofcom concluded that the Openreach Model was highly subjective and did not provide a compelling case for whether windfall gains would or would not occur.[26]

Summary of BT's arguments

8.30. BT alleged that Ofcom made an error of fact and more generally in the exercise of its judgement or discretion.[27]

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[20] 2012 Statement, ¶A1.78.
[21] 2012 Statement, ¶¶A1.79–A1.81.
[22] 2012 Statement, ¶¶A1.82–A1.83.
[23] 2012 Statement, ¶A1.86.
[24] 2012 Statement, ¶A1.87.
[25] 2012 Statement, ¶A1.88.
[26] 2012 Statement, ¶A1.89.

8.31. In its NoA, BT said that the RAV adjustment resulted in a deduction of around £1 billion from Openreach's balance sheet, when compared with the situation under CCA valuation. This was a 12 per cent reduction in the value of that balance sheet and led to revenues £193 million lower than under a CCA valuation, as calculated for 2013/14. This translated to a reduction of £8 per line per year for WLR and LLU services. BT therefore considered the issue of a RAV adjustment highly material.[28]

8.32. BT described the issue of potential over-recovery as Ofcom's 'positive reason' and its 'driving reason' for imposing the RAV adjustment. It said that Ofcom was justifying the RAV adjustment by the logic that a return to CCA valuation would result in a 'windfall' gain for BT. BT considered that Ofcom had erred because:[29]

(a) Ofcom had relied on a theoretical and abstract model to suggest that a windfall gain could arise and had not provided a practical assessment of whether it would actually materialise for BT.

(b) Whilst Ofcom had concluded that BT's modelling did not evidence that a windfall gain *would not* arise, it had not itself provided a positive finding that such a windfall *would* arise.

(c) Ofcom's criticisms of BT's modelling were unfounded.

(d) Even if Ofcom's position were accepted that BT had not disproven the prospect of over-recovery, the prospect of under-recovery was still wholly plausible.

- *Over-recovery in theory and practice*

8.33. BT said that it accepted Ofcom's description of the abstract theoretical model of CCA and HCA cost recovery (see paragraph 8.15). It therefore accepted that moving between HCA and CCA valuations could lead to under- or over-recovery.[30]

8.34. However, BT considered that this theoretical model could not be treated as determining the effect that would arise in the case of a particular type of assets and that consideration of the specific characteristics and context was required to properly determine the effect that would prevail. BT considered that this was particularly relevant in the case of duct, which had a long life, meaning that much of it was put in place before privatization, regulation or HCA and CCA treatment. It considered as an example of this Oftel's finding in 1997 that prices during the subsequent control period would be the same under HCA or CCA approaches.[31]

- *BT's account of Ofcom's 2005 and 2012 Statements*

8.35. BT described Ofcom's position in 2005 as being based upon the theoretical model described above (see paragraph 8.33). It said that Ofcom had been right to be tentative in its description of a 'potential' over-recovery since it had not carried out the necessary analysis to establish whether actual over-recovery would arise.[32]

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27 BT NoA, ¶13.
28 BT NoA, ¶201.
29 BT NoA, ¶¶205–206.
30 BT NoA, ¶¶214–217.
31 BT NoA, ¶¶217–221.
32 BT NoA, ¶¶229–232.

8.36. However, BT said, Ofcom had then gone on to conclude in overall terms that BT *would* over-recover on pre-1997 copper network assets should it retain its CCA approach.[33]

8.37. BT said that the 2005 Review needed to be understood in the context of Ofcom's Telecommunications Strategic Review. This had emphasized the objective of facilitating downstream competition and Ofcom had sought to price wholesale access products in a way that supported this objective. Because BT supported this objective, it said, it had accepted the resultant charges, even though it had not agreed with Ofcom's reasoning for them.[34]

8.38. BT said that it had not understood Ofcom as intentionally departing from its approach of allowing BT the opportunity to recover its costs and was pursuing its appeal on the assumption that Ofcom considered the RAV adjustment consistent with such an approach.[35]

8.39. BT said that there was unsatisfactory ambiguity in Ofcom's 2012 Statement in that:[36]

(a) Ofcom relied on its own 2005 conclusion that there would be a windfall gain for BT under the CCA approach, albeit that BT considered this conclusion unsupported by evidence or reasoning (see paragraphs 8.35 and 8.36); but at the same time

(b) Ofcom found in its 2012 Statement that there was a 'possibility' of windfall gains.

8.40. BT considered that if Ofcom were only concerned with a possible windfall gain, then, without any analysis of the likelihood or extent of such over-recovery, there was an insufficient basis for the RAV adjustment. It went on to state that it considered that there was no adequate basis for Ofcom's decision, whatever its position on this issue.[37]

8.41. BT said that in Ofcom's criticisms of the Openreach Model, Ofcom did not:[38]

(a) appear to disagree with BT's point that it was necessary to take account of BT only taking ownership of the assets in 1984;

(b) adjust the model to produce an alternative calculation or propose alternative modelling; or

(c) conclude anything beyond that BT had not produced a compelling case that a windfall gain had not occurred or would not occur.

8.42. BT said that it did not understand Ofcom's statement that the RAV adjustment was made on the basis of its principal duty to further the interests of citizens and consumers rather than on the basis of the cost recovery of private shareholders. If this was intended to say that BT should not recover its costs, then BT considered this incompatible with the basis of the charge control as a whole.[39]

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[33] BT NoA, ¶233.
[34] BT NoA, ¶¶234–237.
[35] BT NoA, ¶238.
[36] BT NoA, ¶¶243–244.
[37] BT NoA, ¶¶244–245.
[38] BT NoA, ¶246.
[39] BT NoA, ¶¶248–249.

- *BT's arguments on over-recovery*
  - *Ofcom's reliance on an illustrative diagram*

8.43. BT contended that in persisting with the RAV adjustment it was not enough for Ofcom to rely on its 2005 analysis because:[40]

(a) Ofcom in 2005 relied solely on an illustrative diagram and not on any detail or particular reference to facts; and

(b) Ofcom only found from that illustrative diagram that BT would potentially over-recover over the subsequent five years, not in all future years, and even then with some ambiguity (see paragraphs 8.35 and 8.36).

8.44. BT said that Ofcom's reliance on the same illustrative diagram was despite BT's consultation response which had argued for a fuller analysis. It found the lack of positive analysis highly surprising, because of the high financial value of the RAV adjustment as well as the competitive effects and principles of cost-recovery at stake.[41]

8.45. BT found Ofcom's lack of analysis surprising because Ofcom, in its comments on Oftel's 1997 decision, did not seem to disagree with BT that the correct approach was to assess the risk of over-recovery on the facts. BT considered that empirical analysis was required in Ofcom's 2012 Statement and without this Ofcom had no evidential basis for the RAV adjustment.[42]

8.46. BT said that the starting point of any analysis should be a recognition that a significant proportion of the pre-1997 duct assets were acquired by BT's shareholders in 1984 on privatization. This led to the question whether a CCA valuation now would result in a windfall gain, given the price the shareholders paid for those assets at privatization.[43]

8.47. Mr Corkery, in his first witness statement, presented analysis of how other economic regulators had used privatization prices as the basis of establishing RAVs. His research suggested that such practice was commonplace among regulators, though such valuation usually occurred closer to the privatization date. He observed that in most cases this valuation was applied at the level of the company rather than an asset category. However, in the demerger of British Gas, he said that a market valuation was applied in setting the RAV of one of the demerged companies. [44]

8.48. BT said that Ofcom did not appear to disagree with this approach since in its 2012 Statement it referred to shareholders' expectations in respect of investment returns following privatization.[45]

8.49. BT contended that Ofcom's illustrative diagram did not begin to address the question of whether an over-recovery would follow from a move from HCA to CCA in 2012 for reasons that included:[46]

(a) BT's shareholders had only owned the pre-1997 assets from 1984, by which time some of the assets existing today were already mid-life.

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[40] BT NoA, ¶¶252–254.
[41] BT NoA, ¶¶255–256.
[42] BT NoA, ¶¶257–259.
[43] BT NoA, ¶260.
[44] BT NoA, 1st W/S Corkery, ¶¶3.1–3.16.
[45] BT NoA, ¶261.
[46] BT NoA, ¶262.

(b) As a result, the period of higher returns arising from an HCA valuation may have already been in the past for some assets.

(c) The assets had not been consistently on an HCA path (as implied by the illustrative diagram) since they had not been valued under HCA for all of their life.

8.50. BT argued that the above points alone meant that a windfall gain could not be concluded upon through the theoretical diagram alone and that Ofcom's reasoning in support of its decision could not therefore stand.[47]

- *Ofcom's critique of BT's model*

8.51. BT explained that it had instead prepared a model to assess whether *in fact* CCA would lead to over-recovery of BT's duct costs. It said that this model demonstrated that no such over-recovery would arise and that actually BT would under-recover the cost of duct assets at privatization over their economic life. As such, it described a return to CCA valuation as mitigating the extent of under-recovery.[48]

8.52. BT said that Ofcom had criticized the Openreach Model in its 2012 Statement as 'subjective' and 'arbitrary'. BT acknowledged that its model was based on assumptions but rejected Ofcom's criticisms for the reasons set out below. It also argued that Ofcom's criticisms were not the basis of a 'positive' finding of a windfall gain for BT, but at most put forward a case that the position was uncertain, since Ofcom had not conducted such analysis itself.[49]

8.53. BT said that Ofcom's criticism was in effect that other inputs than BT's might be used in the model. BT accepted this but considered its model still superior to Ofcom's illustrative diagram.[50]

8.54. BT then addressed what it saw as Ofcom's five criticisms of BT's model:

(a) The privatization price of duct was not observable. BT accepted this but said that realistic and reasonable assumptions could and should be made. Mr Corkery, in his first witness statement, considered that the exercise was a hypothetical one, necessitated by the use of a privatization price.[51] BT had calculated the overall discount to CCA for all of BT's assets at privatization and had applied this pro rata to duct. BT considered it to be unfair and strange that Ofcom had criticized this approach as 'arbitrary' since it seemed a neutral and objective approach and Ofcom had not tried to offer a better alternative. BT also responded to Ofcom's criticism of its 'sale price' method by saying that it was entirely conventional.[52]

(b) BT had not reflected the value of the services provided by duct. BT said that it had already explained that the company was vertically integrated at the time and that duct was used to provide network businesses that dominated BT's business. As a result, it was unrealistic to reflect the 'access deficit' in the valuation of duct assets.[53]

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[47] BT NoA, ¶263.
[48] BT NoA, ¶¶264–265.
[49] BT NoA, ¶267.
[50] BT NoA, ¶268.
[51] BT NoA, 1st W/S Corkery, ¶3.13.
[52] BT NoA, ¶¶269–272.
[53] BT NoA, ¶273.

(c) BT's argument introduced a circularity in proposing a regulatory value based on a market value. Its point was that empirically an assessment of windfall gain needed to be based on the purchase price of the assets.[54]

(d) The results were sensitive to assumptions on asset life and rate of return. BT's response was that, unlike Ofcom, it had performed these sensitivities and found them not to alter its finding of an under-recovery.[55,56]

(e) The results were inconsistent with those of Ofcom's RAV model. BT said that Mr Corkery had reconciled the results of the Openreach Model to those of the RAV model and had found that they were not sensitive to this point.[57] In BT's bilateral hearing, Mr Corkery clarified that by this he meant that the results changed but continued to point towards a material under-recovery and therefore the conclusion remained unchanged.[58]

8.55. On the basis of the above responses, BT argued that Ofcom's criticisms of the Openreach Model were unfounded and provided no basis for preferring Ofcom's theoretical and illustrative diagram to BT's model.[59]

- *BT's conclusion*

8.56. BT said that the recovery of relevant and efficient costs was a fundamental principle of Ofcom's approach and that Ofcom did not dispute that costs incurred in relation to pre-1997 assets were either relevant costs or efficiently incurred. Therefore, it followed from the Openreach Model that in order for BT to recover its relevant costs (or at least a greater proportion of them), the pre-1997 assets should be valued on a CCA basis.[60]

8.57. BT went on to argue that even if Ofcom's reasoning were accepted, it remained wholly plausible from BT's modelling that the company could under-recover over the asset life of pre-1997 ducts. Therefore Ofcom's proposition that there was a risk of windfall gains was empty and was based on a lack of positive finding either for over-recovery or under-recovery. BT contended that Ofcom could not base such a large RAV adjustment on such a conclusion.[61]

8.58. BT said that the RAV adjustment could not be supported by a degree of uncertainty over the cost recovery of pre-1997 assets. Moreover, if there were uncertainty over BT's cost recovery, then this argued for setting charges on the basis of CCA in order to base them on sound economic principles that provided the right incentives.[62]

8.59. BT summarized its complaint on this issue as Ofcom having based the RAV adjustment on the prospect of BT receiving windfall gains, whilst a proper analysis of cost recovery suggested that this view was groundless.[63]

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[54] BT NoA, ¶274.
[55] BT NoA, ¶275.
[56] BT NoA, 1st W/S Corkery, ¶¶4.19–4.26.
[57] BT NoA, ¶276.
[58] BT, Bilateral Hearing transcript, p24, lines 4–20.
[59] BT NoA, ¶277.
[60] BT NoA, ¶278.
[61] BT NoA, ¶279.
[62] BT NoA, ¶280.
[63] BT NoA, ¶281.

- *Arguments on the appropriate approach to CCA valuation*

8.60. BT referred to Ofcom's 2012 Statement in which it had commented on how the RAV adjustment provided greater predictability than did the 'absolute valuation' methodology that BT used for calculating CCA values. BT argued that the methodology for CCA valuation needed to reflect the best information and its approach remained appropriate, despite its consequences.[64]

8.61. BT also stated that Ofcom's comments did not address the issue of whether HCA or CCA should be used but rather the choice of CCA methodology.[65]

- *BT's secondary case*

8.62. BT also put forward a secondary case, based on Mr Corkery's analysis, in the event that we did not accept its primary argument that a move to CCA was required to support cost recovery over the period from 1984 to the end of the life of pre-1997 duct. This was that even if only the remaining asset life from 2010/11 were considered, and under-recovery before that point were disregarded, an HCA valuation would still be insufficient to allow recovery of the privatization valuation of these assets. Therefore an uplift should be applied to the remaining value of those assets to allow shareholders to recover their investments in future.[66]

8.63. Mr Corkery's analysis found that such an uplift should be in the range of a 16 to 30 per cent increase to the value of pre-1997 duct assets at 2010/11.[67]

- *BT's proposed relief*

8.64. BT requested that Ofcom be directed to set its charge control on the basis of the CCA valuation that was reflected in BT's RFS. Alternatively the issue of valuing the duct assets on a CCA basis should be remitted to Ofcom.[68]

8.65. Under BT's secondary case, it said that prices should be based on Mr Corkery's calculations.[69]

Ofcom's Defence

8.66. Ofcom set out its Defence to BT's arguments under the following headings:

(a) Ofcom *did* make a positive finding on over-recovery.

(b) Ofcom's finding was justified.

(c) The value of duct could not be disaggregated from the share price.

(d) The flotation price was an inappropriate approach to valuation.

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[64] BT NoA, ¶¶339–342.
[65] BT NoA, ¶343.
[66] BT NoA, ¶¶344–346, and 1st W/S Corkery, ¶¶5.1–5.2.
[67] BT NoA, 1st W/S Corkery, ¶5.3.
[68] BT NoA, ¶¶347–348.
[69] BT NoA, ¶349.

- *Ofcom did make a positive finding*

8.67. Ofcom said that BT had misunderstood the word ‘potential’ in its quote from Ofcom’s 2005 Statement (see paragraph 8.35). Ofcom explained that this should not be interpreted as reflecting a tentative finding, but rather that such over-recovery was in the future. In 2005, Ofcom had qualified this over-recovery in this way because it was seeking to distinguish it from the issue of whether BT had already over-recovered, and Ofcom’s determination not to claw back any such gain made in the past.[70]

8.68. Ofcom said that BT had also misinterpreted its 2012 Statement. Whilst BT had referred to Ofcom finding that there was the ‘possibility’ of windfall gains (see paragraph 8.39), Ofcom had not in fact stated this. Ofcom said that it had stated that it did not agree with Openreach that there was *no* such possibility but that this statement was not in tension with its 2005 finding.[71]

- *Ofcom’s finding was justified*

8.69. Ofcom said that the diagram it included in its 2012 Statement (see paragraph 8.15) showed clearly that a *one-off* move from HCA to CCA would result in a windfall gain if:

(a) the asset was initially valued at its purchase cost; and

(b) the price increased monotonically in nominal terms.[72]

8.70. Ofcom said that this latter condition was very likely to be met by duct. On this basis, Ofcom said that its analysis allowed it to conclude that moving from HCA to CCA for pre-1997 duct would lead to BT over-recovering its investment.[73]

8.71. Ofcom went on to argue that a move from HCA to CCA and back again would also result in over-recovery if the first shift occurred after the ‘crossing point’ (as seen on the chart). Ofcom said that Oftel’s analysis in its 1996 review showed that its move to CCA in 1997 had the effect of increasing prices.[74]

8.72. Ofcom said that BT had not disputed that this model was theoretically correct, but had argued that the reality was more complex due to:

(a) BT’s shareholders only having owned the assets since 1984, meaning that some of the higher revenues under HCA had fallen in a period of public sector ownership; and

(b) the assets only having been valued on the basis of HCA since 1989.[75]

8.73. Ofcom said that pre-privatization investment was not made with a view to profit and that BT had implicitly recognized this.[76] Ofcom said that BT did not need to recover the full costs of pre-privatization investment in order to satisfy investment incentives and concerns of dynamic efficiency. What was important, said Ofcom, was that ‘Ofcom does not frustrate the reasonable and legitimate expectations of buyers of BT shares by depriving them of a reasonable opportunity of recovering their investment

[70] Ofcom Defence (BT Appeal), Annex H, ¶33.
[71] Ofcom Defence (BT Appeal), Annex H, ¶34.
[72] Ofcom Defence (BT Appeal), Annex H, ¶35.
[73] Ofcom Defence (BT Appeal), Annex H, ¶35.
[74] Ofcom Defence (BT Appeal), Annex H, ¶36.
[75] Ofcom Defence (BT Appeal), Annex H, ¶37.
[76] At its bilateral hearing, Ofcom clarified that it was referring to BT’s arguments in BT NoA, ¶¶260–265.

and making a reasonable rate of return'. Ofcom said that to do so it did not need to apply a CCA approach, as BT had argued.[77]

8.74. Ofcom said that the recovery of post-privatization investment over its asset life favoured dynamic efficiency. It accepted that between 1984 and 1989 there was no express HCA valuation in the regulation of BT's charges but said that an implicit valuation could be derived from the price cap revenues at the time.[78]

8.75. Ofcom said that CCA valuation had been found to be higher than HCA valuation at all points when they had been compared. Ofcom said that BT's case was that the difference in the present charge control would be very substantial. Ofcom said that the RAV adjustment allowed BT to recover its costs and that removing the RAV adjustment would lead to over-recovery.[79]

- *Duct valuation cannot be derived from the share price*

8.76. In its bilateral hearing at the CC, Ofcom confirmed that it saw the arguments on this ground as essentially boiling down to the question of the proper valuation of duct assets at privatization.[80]

8.77. Ofcom said that it would not be appropriate to value duct by using the privatization price paid by BT. Ofcom referred to its 2012 Statement in which it said that BT was 'entirely arbitrary' in applying to the duct value the aggregate discount of privatization price to NRC. It said that this was so for two reasons:

(a) Because the BT prospectus presented an explicit HCA value for duct, and not a CCA value, BT might instead have argued that shareholders paid a premium to HCA rather than a discount to CCA. Doing so would have given an implicit duct value of £1,223 million, rather than £2,153 million as BT actually proposed.

(b) Should it be possible to hypothecate such market values, a uniform discount seemed less plausible than a relatively low valuation of duct on account of the 'access deficit' (see paragraph 8.22).[81]

8.78. Ofcom said that BT had argued against taking into account this 'access deficit' because BT was vertically integrated and therefore the duct was used to provide 'network services'. Ofcom argued that if that was so, investors would value the profitability of the business across all such services, rather than value duct depreciation and returns, as was the basis of the Openreach Model. Ofcom referred to its 2012 Statement in which it observed that BT had earned good overall returns.[82]

8.79. Ofcom disagreed with BT's claim that BT's approach was 'neutral and objective' and 'entirely conventional'. It said that the other regulators referred to by Mr Corkery had not attempted to disaggregate values for specific groups of assets from privatization prices. Moreover, Ofcom said, BT's own expert in 2004 had argued for valuing assets on their own discount or premium to book value rather than assuming the same discount or premium for all assets.[83]

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[77] Ofcom Defence (BT Appeal), Annex H, ¶38.
[78] Ofcom Defence (BT Appeal), Annex H, ¶39.
[79] Ofcom Defence (BT Appeal), Annex H, ¶40.
[80] Ofcom, Bilateral Hearing transcript, p14, lines 4–9.
[81] Ofcom Defence (BT Appeal), Annex H, ¶¶42–45.
[82] Ofcom Defence (BT Appeal), Annex H, ¶46.
[83] Ofcom Defence (BT Appeal), Annex H, ¶47.

8.80. Ofcom therefore said that BT was wrong to claim that there had been an under-recovery in the revenues allowed for duct on the basis of the privatization price for these assets. Ofcom said that it did disagree with BT's approach to this issue, despite BT's claim to the contrary. Ofcom said that whilst it recognized that BT's shareholders had expectations about returns, it did not consider that the value of one group of assets could be derived from the share price of the company as a whole.[84]

- *Inappropriateness of using flotation price for valuation*

8.81. Ofcom said that BT was wrong in principle in its case that BT's shareholders must be allowed to recover the price they (supposedly) paid for duct at privatization. Ofcom argued that the reasonable expectations of investors, as relevant to considerations of dynamic efficiency, were not dictated by the price paid by those investors. It would not have been reasonable, said Ofcom, for shareholders to expect the regulator to base its price control on the share price they paid, regardless of what that share price was. If that share price were inflated for some reason (see paragraph 8.24), then reasonably the regulator could not be expected to perpetuate that effect by asking consumers to pay that premium. Therefore, Ofcom argued, the point was whether the share price was an appropriate starting point, regardless of whether or not it was an inflated valuation of the assets (should it be possible to disaggregate it in such a way).[85]

8.82. Ofcom argued that the most significant indicator of the reasonable expectations of investors was the price control that was in force at the time. Ofcom said that it was clear to investors at privatization that BT's assets would have earned over time revenues set out in the price control that was described in the prospectus, though possibly reducing in real terms over time. Since these prices should have shaped investors' reasonable expectations, they could not be said to have over- or under-recovered under the first price control which finished in 1989. Therefore, Ofcom argued, the consideration of cost recovery needed to start in 1989, at which point Ofcom adopted an HCA approach, and it was this HCA valuation against which an assessment of over or under-recovery should be made.[86]

8.83. Ofcom found implausible what it saw as BT's implicit argument that investors expected Oftel to increase prices at 1989 to meet expectations in a sale price that were not themselves substantiated by the prices set in place at privatization. Ofcom considered that this implausibility was subsequently confirmed by the following:

(a) in 1989, BT accepted a price control based on an HCA valuation, which clarified the value of ducts as being less than BT claims investors paid for them;[87]

(b) in 1989, BT's share price suffered no marked fall as a result of the determination for HCA to be used;

(c) in 2005, the same response was observed as above with respect to 1989; and

(d) the continuing adequate level of investment by BT.

8.84. Ofcom said that BT's position could not be reconciled with its acceptance of HCA in 1989 because BT's analysis would show an even greater under-recovery if HCA had been applied continuously from that point to the present day.[88]

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[84] Ofcom Defence (BT Appeal), Annex H, ¶48.
[85] Ofcom Defence (BT Appeal), Annex H, ¶49.
[86] Ofcom Defence (BT Appeal), Annex H, ¶50.
[87] Ofcom Defence (BT Appeal), Annex H, ¶51.

8.85. Ofcom then argued that applying the 1993 share price (at the sale of the Government's final tranche of BT shares) demonstrated the inappropriateness of using the share price for valuing duct. Using such a share price under BT's approach would imply that shareholders valued duct at 173 per cent of NRC at a time when it was clear that HCA was being used to set allowed revenues. Ofcom said that this illustrated powerfully the disadvantages of calculating duct values with reference to the discount of the share price to CCA values.[89]

8.86. Ofcom also referred to the expert report of Dr Eileen Marshall as submitted by BT in its response to the 2004 consultation. It quoted her as saying that market values at or close to privatization were largely irrelevant for assessing shareholders' reasonable expectations because of the elapsed time. Ofcom noted that this elapsed time was now even greater.[90]

8.87. Ofcom said that BT's finding of under-recovery depended on the way it had calculated the value of duct assets at privatization. It said that if the period 1984 to 1989 was excluded from the analysis due to earnings being in line with expectations, and an HCA value at 1989 was adopted as the starting point, it would be found that even with the RAV adjustment, investors would fully recover their costs. Ofcom considered these more reasonable assumptions and noted that under those assumptions BT was not facing a shortfall.[91]

8.88. Ofcom argued that cost recovery in each period was established separately under HCA and CCA approaches, and that BT had accepted this in its analysis. It said that the Openreach Model showed that the use of CCA between 1997 and 2005 resulted in a higher allowance by £270 million. Given that BT would have recovered its HCA costs if HCA had been applied consistently over all periods (see above), and given these additional revenues earned under CCA, then it was clear, argued Ofcom, that a return to HCA in 2005, continued from 2012, would not result in under-recovery over the life of the assets.[92]

8.89. Ofcom noted that BT had asserted that 'Ofcom has risked introducing a very serious distortion of competition on the basis of close to nothing'. It responded that:

(a) Ofcom was right in 2005 when it identified that moving to HCA was necessary to prevent future over-recovery.

(b) That view remained correct at 2012.

(c) If BT's charges were to increase by £8 per line without a proper cost-based justification, that would lead to a 'very serious distortion of competition' because of its effect on LLU operators and future investment. BT could have made its argument at the time of the 1989 price control or the 2005 price control. Its argument was based on valuing duct at a notional privatization price, which was inappropriate and arbitrary. Ofcom did not therefore consider this argument to provide such a proper cost-based justification.[93]

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[88] Ofcom Defence (BT Appeal), Annex H, ¶52.
[89] Ofcom Defence (BT Appeal), Annex H, ¶53.
[90] Ofcom Defence (BT Appeal), Annex H, ¶54.
[91] Ofcom Defence (BT Appeal), Annex H, ¶55.
[92] Ofcom Defence (BT Appeal), Annex H, ¶56.
[93] Ofcom Defence (BT Appeal), Annex H, ¶57.

- *Ofcom's response to BT's secondary case*

8.90. Ofcom argued that BT's secondary case was flawed in the same way as its main case since it was also based on 'the costs incurred by shareholders in acquiring the assets'. As a result, Ofcom did not accept that there was an under-recovery to be addressed.[94]

Sky and TalkTalk's Statement of Intervention

8.91. Sky and TalkTalk intervened to support Ofcom. They considered that the RAV adjustment remained appropriate because removing it would increase the level of BT's over-recovery on its investments.[95] Sky/TalkTalk said that BT had already over-recovered on its investments as a result of the change to CCA in 1997. Further over-recovery, they argued, would lead to higher prices to the detriment of consumers. Sky/TalkTalk based their view of future over-recovery on: [96]

(a) Ofcom's analysis in its 2012 Statement, which they considered supported its conclusions adequately;

(b) Sky/TalkTalk's own evidence of over-recovery; and

(c) the lack of robustness of BT's model, which valued the assets by reference the privatization price of BT.

8.92. The Interveners' views on these issues are described below.

- *Ofcom's analysis*

8.93. Sky/TalkTalk said that BT was wrong in principle to dismiss Ofcom's arguments as 'theoretical' and not 'determinative as to the facts that arise in a particular case'. BT's position, it said, implied a dependency in the analysis on such factors as asset mix or the timing of a change in valuation; Sky/TalkTalk contended that neither of these factors was relevant to the analysis.[97]

8.94. Sky/TalkTalk said that the gain or loss arising from a change from HCA to CCA depended only on the relationship between replacement cost and historical cost at the time of the change. This, they argued, was because the asset value at such a time reflected the present value of the future cash flows arising from that asset.[98]

8.95. Sky/TalkTalk said that BT had noted that the replacement cost of duct had increased over time. Sky/TalkTalk said that on this basis the NRC would always be higher than the historical cost valuation. As a result, they argued, a one-off change from HCA to CCA at any point in such an asset's life would lead to a windfall gain.[99]

8.96. Sky/TalkTalk contended that BT had therefore been wrong to suggest that whether a holding gain arose depended upon the timing of the change on approach and the point of the economic cycle. They went on to argue that it was not relevant for BT to argue that the CCA value had not been materially higher than the HCA value of the

[94] Ofcom Defence (BT Appeal), Annex H, ¶84.
[95] Sky/TalkTalk SoI (BT Appeal), ¶64.
[96] Sky/TalkTalk SoI (BT Appeal), ¶66.
[97] Sky/TalkTalk SoI (BT), ¶¶67–68.
[98] Sky/TalkTalk SoI (BT), ¶69.
[99] Sky/TalkTalk SoI (BT), ¶¶69–70.

assets between 1997 and 2001 since this reflected the increasing value of the assets under CCA over time.[100]

8.97. Sky/TalkTalk said that in theory a change from one approach to another and then back again at a later date could lead to over- or under-recovery, depending on whether the present value of prices in the period of change was lower or higher than it otherwise would have been under the alternative approach that previously and subsequently prevailed.[101]

8.98. Sky/TalkTalk said that Ofcom had estimated that in the period 1997 to 2005 BT had earned around £270 million more under a CCA approach than it would have done under an HCA approach. Sky/TalkTalk saw this as consistent with Ofcom's view in 2005 that not implementing a RAV approach would lead to further windfall gains.[102]

- *Sky/TalkTalk's analysis*

8.99. Sky/TalkTalk described the analysis performed by their expert witness, Mr Duckworth. In his second witness statement, he set out his analysis of BT's data in which Sky/TalkTalk said that he showed that:[103]

(a) if an HCA approach was maintained, BT would over-recover on the regulatory valuation of assets prior to 1997; and

(b) if a CCA approach was restored, this over-recovery would increase.

8.100. Mr Duckworth provided an analysis of the holding gains and losses materializing from a move to CCA in 1997 and back to HCA in 2005. From this analysis he concluded that BT would over-recover its investments even if the RAV adjustment remained in place.[104]

- *BT's analysis*

8.101. Sky/TalkTalk said that BT's analysis was based on a number of unsupported assumptions and was logically inconsistent. They said that they had two main reasons in particular for contending this.[105]

8.102. First, BT's analysis relied on disaggregating a market-based valuation in order to estimate investors' valuation of duct at privatization. Disaggregating the privatization price had two elements, they said:[106]

(a) an assumption that the investors valued duct at a discount calculated by the ratio of the market value to CCA book value of the business; and

(b) applying this discount to an estimate of the CCA value of duct in 1984.

8.103. Sky/TalkTalk said that there was no evidence that investors implicitly or explicitly valued duct at the value resulting from the above calculation. They argued instead that investors might have valued some parts of the business (eg high growth parts)

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[100] Sky/TalkTalk SoI (BT), ¶71.
[101] Sky/TalkTalk SoI (BT), ¶72.
[102] Sky/TalkTalk SoI (BT), ¶73.
[103] Sky/TalkTalk SoI (BT), ¶74.
[104] Sky/TalkTalk SoI (BT), 2nd W/S Duckworth, ¶6.32.
[105] Sky/TalkTalk SoI (BT), ¶¶77–78.
[106] Sky/TalkTalk SoI (BT), ¶78.

more highly than other parts (eg those that would be price controlled) and that the implicit discount to CCA might have varied between assets. Sky/TalkTalk also noted that BT's Prospectus contained an explicit HCA valuation of duct but not a CCA one, making it implausible that investors valued it on the basis of the latter.[107]

8.104. Sky/TalkTalk argued that it was unclear whether BT's CCA valuation of duct was consistent with its CCA valuation of the overall business in 1984. Therefore, they said, even if BT's other assumptions were correct, then BT's estimate of duct value could be incorrect due to such inconsistencies.[108]

8.105. Second, Sky/TalkTalk said that BT's analysis implied, for example, that investors in 1984 valued assets from 1984 at six times more than the value of the allowable revenues they would have generated over the ten years of their remaining lives. Sky/TalkTalk found this to be inconsistent and concluded that investors could not have made that valuation.[109]

8.106. On the basis of the above, Sky/TalkTalk concluded that BT's model was not robust and did not support its argument that a return to a CCA approach would not lead to over-recovery.[110]

Summary of BT's response to Ofcom and Sky/TalkTalk

8.107. In its Core Submission, BT responded to a number of elements of Ofcom's Defence and Sky/TalkTalk's SoI. These responses are summarized below.[111]

- *Ofcom's statement of a positive finding*

8.108. BT referred to its argument that Ofcom had not made a positive finding that BT would receive a windfall gain under a CCA approach, or that if it had done so, it had no basis to do so. BT noted that in its Defence Ofcom had claimed that it had made a positive finding that BT would over-recover the costs of its pre-1997 assets.[112]

8.109. BT said that Ofcom, in taking this position, appeared to rely on the word 'will' in concluding statements in the 2005 document, though BT said that it was not clear on which paragraphs Ofcom relied. BT had said that it had acknowledged these statements in its NoA but that Ofcom's response did not address the issue that Ofcom's reasoning in 2005 and 2012 and its conclusions in the latter Statement were expressed more tentatively.[113]

8.110. BT said that finding a potential for over-recovery was not the same as a finding that over-recovery would occur in the future. Therefore BT had argued that Ofcom's 2005 conclusions had not followed from its reasoning. BT said that Ofcom's 2012 conclusion was weaker still and was a double-negative statement. It said that it only showed that Ofcom had viewed windfall gains as possible.[114]

8.111. BT said that its point was not semantic. Its substantive point, it said, was that in 2005 and 2012 Ofcom had failed to conduct the necessary analysis and had relied on an

[107] Sky/TalkTalk SoI (BT), ¶¶79–80.
[108] Sky/TalkTalk SoI (BT), ¶81.
[109] Sky/TalkTalk SoI (BT), ¶82.
[110] Sky/TalkTalk SoI (BT), ¶83.
[111] BT Core Submission (BT), Volume 2, ¶142.
[112] BT Core Submission (BT), Volume 2, ¶¶143–144.
[113] BT Core Submission (BT), Volume 2, ¶¶145–146.
[114] BT Core Submission (BT), Volume 2, ¶¶147–148.

illustrative diagram which Ofcom itself had described as no more than a 'useful tool'. Given this, it was not surprising, BT argued, that Ofcom could only describe its findings in the way that it had.[115]

8.112. BT said that Ofcom's analysis was insufficient to justify the RAV adjustment. It argued that Ofcom's reasoning was at best inadequate and this was important given that Ofcom was relying on regulatory discretion as part of its Defence. BT said that Ofcom should not be given the benefit of the doubt if it had not expressed its reasoning coherently on this most important issue. Alternatively, said BT, if Ofcom had made a positive finding, then this finding was wrong and unsubstantiated for the reasons set out in the NoA.[116]

- *Ofcom's claim that a positive finding was justified*

8.113. BT said that Ofcom had argued its position that a positive finding was justified by relying on its illustrative diagram. BT said that it was unclear how the diagram could now support Ofcom's position since Ofcom had said in its Defence that it must not deprive BT's shareholders of the opportunity to recover their investments. BT agreed with Ofcom's statement but said that it raised the question of the investment BT's shareholders had made in duct at privatization, and Ofcom's illustrative chart did not help answer this.[117]

8.114. BT said that Ofcom presented its statement that CCA prices had always exceeded HCA prices as if this were evidence of over-recovery. It was just as consistent with under-recovery if its valuation of assets on privatization were accepted.[118]

8.115. BT said that Sky/TalkTalk had made points similar to Ofcom's and that these had been addressed in Mr Tickel's witness statement. These points did not undermine its own core point that the illustrative diagram assumed an HCA valuation from the start of the asset lives, and did not reflect the factual context of the appeal or address the issue of shareholders' reasonable and legitimate expectations.[119]

8.116. BT said that from Ofcom's Defence it was clear that the difference between BT's and Ofcom's positions was less marked than it possibly first appeared. With reference to the Tribunal's formulation in the 2012 MCT appeals, the issue was whether BT's analysis better approximated reality than Ofcom's illustrative diagram or Mr Culham's analysis from his witness statement. It considered that this was the case.[120]

- *BT's appeal as a belated complaint about the 1989 charge control*

8.117. BT said that Ofcom's argument was without merit and wrong when it described its appeal as 'no more than a belated complaint about the 1988 valuation' (referring to the decision that was applied in the 1989 charge control). In law, in appealing the 2012 decision, it was not relevant whether or not BT had appealed a previous decision. Ofcom was trying to reduce the company's ability to appeal decisions on their merits.[121]

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[115] BT Core Submission (BT), Volume 2, ¶149.
[116] BT Core Submission (BT), Volume 2, ¶150.
[117] BT Core Submission (BT), Volume 2, ¶¶151–153.
[118] BT Core Submission (BT), Volume 2, ¶154.
[119] BT Core Submission (BT), Volume 2, ¶155.
[120] BT Core Submission (BT), Volume 2, ¶¶156–157.
[121] BT Core Submission (BT), Volume 2, ¶¶158–159.

8.118. BT said that there was an incorrect implicit assumption in Ofcom's argument that BT was suddenly challenging a 23-year consensus on the appropriateness of HCA. Ofcom had in fact changed the valuation approach from HCA to CCA and back again since 1989 and had promised another review, which was carried out in the 2012 Statement, and which BT could legitimately challenge. What mattered was whether Ofcom's reasoning in the 2012 Statement was sufficient or not to justify the RAV adjustment.[122]

8.119. BT said that there was nothing remarkable or unlawful about it appealing the RAV adjustment at this time. This was because CCA was relatively new in 1989 but was now the main approach used by Ofcom, including for post-1997 assets. BT did not appeal when HCA was put in place for the assets in question in 2005 because it accepted the need for lower charges then and was promised a later review of the issue. Therefore BT considered this an appropriate point to appeal Ofcom's approach since it would affect future LLU and WLR services and, apparently, other wholesale services such as leased lines.[123]

8.120. BT referred to the witness statement of Mr Tickel, and the contrary view he postulated (to dismiss it) of BT's management in 1989 agreeing on behalf of all present and future owners that Oftel's approach should prevail for 47 years. BT considered this view to be incorrect.[124]

- *Ofcom's critique of the Openreach Model*

8.121. BT said that it accepted that duct assets were not sold separately and that their value at privatization could not therefore be known. It said that its model sought to derive a value from the known facts and that Ofcom's case was extreme and that it had not substantiated the argument that the exercise was impossible, excessively flawed or inferior to using the illustrative diagram.[125]

8.122. BT said that its approach was not impossible, had been adopted by other regulators, and that the assumptions it relied upon were credible and better than the alternatives.[126]

8.123. Ofcom had argued that BT could have calculated the premium paid with reference to an HCA rather than CCA valuation. BT's response was that a forward-looking approach was more appropriate for such long-lived assets as ducts and this suggested that CCA was the appropriate basis, and that Ofcom had not argued that HCA was more appropriate.[127]

8.124. BT said that its analysis was not wholly inconsistent, as Ofcom had claimed, by assuming that shareholders looked at the business as vertically integrated but at the same time seeking to disaggregate the value of ducts. BT said that its own pro-rating of the discount to CCA across all assets was consistent with the homogeneous vertically-integrated nature of the business and was the most sensible assumption available to it.[128]

[122] BT Core Submission (BT), Volume 2, ¶¶160–162.
[123] BT Core Submission (BT), Volume 2, ¶¶163–164.
[124] BT Core Submission (BT), Volume 2, ¶165.
[125] BT Core Submission (BT), Volume 2, ¶¶166–168.
[126] BT Core Submission (BT), Volume 2, ¶169.
[127] BT Core Submission (BT), Volume 2, ¶170.
[128] BT Core Submission (BT), Volume 2, ¶¶171–172.

8.125. BT said that analysis and estimation was unavoidable in seeking to answer the difficult empirical question which Ofcom had chosen to set up: whether BT would benefit from windfall gains under a CCA approach. Therefore, Ofcom's criticism was odd and unfair, since it was pursuing Ofcom's reasoning to its natural conclusion, and without pursuing such a calculation a RAV adjustment could not be justified.[129]

8.126. BT then referred to Ofcom's challenge that the value of the duct assets was not best informed by a measure of how much investors paid for them, ie the flotation price. The flotation price was the best source of evidence of the valuation made by shareholders and provided the only direct evidence of their 'reasonable and legitimate expectations'.[130] In his second witness statement, Mr Tickel said that he accepted Ofcom's view that the heart of this ground came down to a difference of views concerning the value of BT's duct assets at privatization.[131]

8.127. BT said that Ofcom had implied that the value of the assets may have been below the price paid. However, the rise in the company's share price after flotation suggested that the market value of the shares was greater than the privatization price.[132]

8.128. BT noted that Ofcom had inferred that BT had received good returns on duct assets whilst Sky/TalkTalk had inferred that they had received poor returns. This contradiction strengthened the argument for taking a neutral and objective approach, which BT argued it had done in pro-rating the sale price valuation across assets.[133]

8.129. BT said that Ofcom had identified the correct question in considering the expectations of BT's shareholders. But Ofcom could not then argue that the question was unanswerable, particularly when BT had presented a model that answered the question coherently. BT said that the key issue was what the best available evidence was that could answer the question and that the choice was between BT's Openreach Model and Ofcom's analysis.[134]

8.130. BT argued that its approach clearly had more merit. It also contended that Ofcom's approach was sufficiently flawed to mean that it could not support as large an adjustment to BT's prices as followed from the RAV adjustment.[135]

- *Ofcom's own analysis*

8.131. BT argued that the analysis in Ofcom's Defence had not helped answer the question of whether the company would actually make a windfall gain. Ofcom had carried out its analysis on the basis of investors' expectations being in line with the valuation put in place in the 1989 charge control. It did not understand how shareholders' expectations in 1984 could be evidenced by a charge control in 1989. BT considered that Ofcom might be making the point that BT should have appealed the 1989 charge control; otherwise it considered that Ofcom's argument was circular and was simply restating its illustrative diagram with a start date of 1989.[136]

[129] BT Core Submission (BT), Volume 2, ¶¶173–174.
[130] BT Core Submission (BT), Volume 2, ¶¶175–176.
[131] BT Core Submission (BT), Volume 2, 2nd W/S Tickel, ¶7.
[132] BT Core Submission (BT), Volume 2, ¶177.
[133] BT Core Submission (BT), Volume 2, ¶178.
[134] BT Core Submission (BT), Volume 2, ¶¶179–180.
[135] BT Core Submission (BT), Volume 2, ¶181.
[136] BT Core Submission (BT), Volume 2, ¶¶182–183.

8.132. BT also referred to Ofcom's argument that shareholders' expectations must have been met in the period 1984 to 1989 because the revenues put in place at that time were known at the point of privatization. BT responded with three points:[137]

(a) It said that duct was a long-lived asset and the first charge control period was only five years in duration. This point was reinforced by the changes in valuation approach which had subsequently been made at reviews.

(b) BT said that the 1984 to 1989 charge control was not based on an HCA valuation and did not imply one, but was simply an RPI–X control.

(c) It argued that the charge control at the time was only a guide to revenues and not to returns and so did not inform the issue of shareholders' expected returns.

8.133. BT concluded from the above that Ofcom's analysis was not an attempt to assess shareholders' expectations. Rather it was no more than the illustrative diagram from the 2012 Statement, with an unjustified start date of 1989.[138]

8.134. BT referred to Ofcom's argument that BT must have been contending that shareholders were expecting regulated prices to increase after 1989 in order to substantiate their expectations of returns. BT said that this was not the case and that Ofcom was conflating expectations of revenues and returns (see paragraph 8.132).[139]

8.135. BT went on to refer to Ofcom's argument that BT's case was inconsistent with the price paid for shares in 1993. This was wrong and the Openreach Model addressed the value of the assets at 1984. It said that there were obvious differences in BT's business between 1984 and 1993 which meant that the same modelling could not be used for the latter point, and that BT had not implied that it could be.[140]

8.136. BT said that at the very least, the Openreach Model better approximated reality than Ofcom's or Sky/TalkTalk's analysis. Because only BT's analysis engaged truly with the question of shareholders' expectations, it should be the preferred basis for concluding on the question of the RAV adjustment and its consequences for windfall gains. BT said that, at the very least, Ofcom's approach from its 2012 Statement or from its Defence could not be sustained.[141]

- *Conclusion and relief*

8.137. BT said that the RAV adjustment would reduce charges by approximately £8 per line per year, was unjustified and would distort competition significantly in the access market. Ofcom's analysis in its 2012 Statement and in its pleadings could not survive the scrutiny of this appeal on the merits. BT contended that the Openreach Model better reflected reality than Ofcom's or Sky/TalkTalk's limited analyses which had suggested that windfall gains would be likely to follow from the removal of the RAV adjustment.[142]

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[137] BT Core Submission (BT), Volume 2, ¶¶182–184.
[138] BT Core Submission (BT), Volume 2, ¶185.
[139] BT Core Submission (BT), Volume 2, ¶186.
[140] BT Core Submission (BT), Volume 2, ¶187.
[141] BT Core Submission (BT), Volume 2, ¶¶188–189.
[142] BT Core Submission (BT), Volume 2, ¶210.

8.138. BT said that even if the CC did not accept that BT's approach had more merit, which BT considered it clearly had, then Ofcom's analysis could not stand since it was an unsatisfactory basis for retaining the RAV adjustment.[143]

8.139. BT said that it was willing to accept Ofcom's position that the issue be remitted to Ofcom if the appeal were successful. However, it argued that, consistent with Ofcom's Defence, the remittal should be on the basis that Ofcom had erred in its failure to conclude that pre-1997 assets should be valued using CCA and that the issue for reconsideration should be what an appropriate CCA valuation would be. It reserved its right to maintain its position that its existing CCA valuation was the appropriate one.[144]

Assessment of investment recovery

8.140. This Reference Question requires us to consider whether Ofcom erred in its use of a RAV in valuing BT's pre-1997 duct assets, as claimed in paragraphs 195 to 350 of the NoA.

8.141. The NoA alleges errors of fact and in the exercise of discretion; in our view, the alleged error relates to an area in which Ofcom is entitled to exercise its discretion and, accordingly, it is appropriate to afford it a margin of appreciation.

8.142. BT relies on four key arguments (see paragraph 8.32), namely:

(a) Ofcom's reliance on a theoretical model;

(b) that Ofcom had not made a positive finding;

(c) that Ofcom's criticisms of the Openreach Model were unfounded; and

(d) that the prospect of under-recovery was still plausible.

8.143. As described below, we see these arguments as interrelated and largely resting on the third issue. However, we assess them in turn in the order set out above.

- *Ofcom's reliance on a theoretical model*

8.144. It seemed to us that within the confines of a movement between HCA and CCA, a one-off move from the former to the latter would result in an over-recovery against an HCA valuation. This assumes a monotonically increasing replacement cost and therefore a CCA valuation that is above the HCA valuation for all of its asset life (after the point of investment). The over-recovery arises because, as Sky/TalkTalk explained, the move to a higher NRC under a CCA valuation in this case leads to a higher value of future returns and depreciation than would be needed to deliver the required recovery of the investment under the initial HCA valuation. None of the parties appeared to disagree with this analysis, at least at a theoretical level.

8.145. However, such a conclusion could only follow from Ofcom's theoretical model if the initial valuation of the assets was on an HCA basis. In the context of the duct assets considered in this ground, the initial valuation of the assets acquired at privatization was disputed by the parties. BT and Ofcom recognized that this was the key issue in respect of this reference question (see paragraphs 8.76 and 8.126).

[143] BT Core Submission (BT), Volume 2, ¶211.
[144] BT Core Submission (BT), Volume 2, ¶¶212–214.

8.146. This issue was crucial to determining the validity of the theoretical model in this context. If the initial value that investors needed to recover was based on the privatization price and was not on an HCA basis, the observation we made above on the validity of the theoretical model would fall away, and more detailed analysis would be required.

8.147. If, on the other hand, the initial value were based on an HCA valuation, then this would show the period between 1997 and 2005 in which duct was valued on a CCA basis as a deviation from the path of investment recovery under HCA. As argued by Ofcom (see paragraph 8.71), and not apparently disputed by BT, this period left BT with higher revenues than it would have received should HCA have remained in place between 1997 and 2005. As a consequence, returning to CCA now would exacerbate an existing state of over-recovery in those circumstances. We set out our considerations of this issue of the initial valuation in paragraphs 8.153 to 8.165 below.

8.148. On this basis, we considered that BT's argument here rested on whether the initial value should be assumed to be the HCA valuation or be calculated on the basis of the privatization price.

- *That Ofcom had not made a positive finding*

8.149. On the issue of whether Ofcom had made a positive finding on over-recovery, we found that the 2012 Statement was tentative. However, Ofcom in its Defence responded to BT's argument on this issue by stating that BT had misunderstood its language; that it was referring to a future over-recovery in qualifying its statement with the word 'potential'; and that it had made a positive finding on this issue (see paragraph 8.67).

8.150. We based our assessment on the arguments and evidence put forward in the context of these appeals, as well as the reasoning set out in the 2012 Statement. On the narrow point of whether Ofcom made a positive finding, we accepted its clarification of the language used in the Statement, and on the basis of the 2012 Statement and the Defence we took the view that Ofcom did make a positive finding.

8.151. On the wider point, however, of whether such a finding was adequately supported by Ofcom's arguments and analysis, this depends on the broader assessment of BT's arguments and evidence.

- *That Ofcom's criticisms of the Openreach Model were unfounded*

8.152. In relation to this element of the ground, we first considered the arguments about the initial valuation of BT's assets. We then considered a number of criticisms put forward by Ofcom of assumptions made by BT in its model including, most significantly, the allocation of the privatization price to duct assets.

  - *Privatization price as the basis of valuing duct assets*

8.153. It was clear to us from the pleadings that the most fundamental difference between the analyses of Ofcom and Sky/TalkTalk on the one hand, and BT on the other hand, was the basis of assessing the initial value of the pre-privatization duct assets to be recovered. Whilst the former, implicitly or explicitly, assumed an HCA accounting calculation as the basis of its valuation, BT assumed a value based on the price investors paid for buying the company at privatization. The two different views, recorded in the pleadings, as to whether BT would over- or under-recover its investment absent the RAV adjustment, follow from these alternative assumptions. This is demonstrated by Ofcom's observation that if an HCA valuation in 1989 were adopted as the starting point for analysis rather than the sale price in 1984, then investors would be found to recover their costs even with a RAV adjustment in place (see paragraph 8.87).

8.154. We have considered BT's evidence (see paragraph 8.47 and 8.126) and note that, as pointed out by Mr Corkery, where the asset value of a regulated firm has been valued by a regulator on the basis of the sale price, this has been effected relatively soon after privatization. In the present case, BT is proposing that the privatization price be adopted as a measure of recoverable investment 28 years after the point of sale. Also, it is evident from Mr Corkery's analysis that in other sectors the sale price has been used in valuing a business as a whole rather than a single asset category. We consider this difference in timing and scope to be sufficient for us not to see the proposed use of the privatization price here as 'conventional', contrary to the argument developed by BT (see paragraph 8.54).

8.155. We noted that Ofcom, in its Defence, introduced the terminology of 'the reasonable and legitimate expectations of buyers of BT shares' (see paragraph 8.73) and BT picked up on this in its Core Submission (see paragraph 8.126). In our view, if the concept of the reasonable and legitimate expectations of investors (referred to from here onwards for brevity as 'investors' reasonable expectations') were to be adopted in an assessment of over-recovery, it should ideally be applied at the point in time at which the investment were made. In respect of pre-privatization duct assets acquired by BT's investors, this was 1984.

8.156. We therefore first considered what investors' reasonable expectations might have been in 1984.

8.157. We found that what was reasonable was not dictated by what investors actually paid. Whilst we considered that the privatization price provided us with the best evidence for investors' *actual* expectations, we did not accept it to follow that these expectations were reasonable or legitimate. We agreed with Ofcom that it would not have been reasonable for shareholders to expect the regulator to base its price control on the share price they paid, regardless of what that share price was (see paragraph 8.81). For example, as Ofcom argued, such expectations might have included the prospect of lax regulation of charges (see paragraph 8.24), and it would not seem reasonable and legitimate for investors to expect that such a belief should be fulfilled by the regulator through adopting the ensuing valuation in the RAV. In its response to the provisional determination, BT argued that the CC did not have a basis for rejecting the sale price as the best available evidence for shareholders' reasonable expectations in 1984 and set out three points in support of its argument.[145] However, we consider that BT's response, addressing the question of whether investors' expectations in 1984 were actually reasonable and legitimate, does not address Ofcom's point which is that, as a general matter, investors' expectations do not necessarily bind a regulator. We remain persuaded by Ofcom's argument that the sale price does not provide an appropriate starting point for assessing shareholders' reasonable expectations (see paragraph 8.81).

8.158. We also found that the introduction of an HCA valuation for duct assets at 1989 could not in itself inform us of investors' reasonable expectations five years earlier *at 1984* (see BT's argument in paragraph 8.131). We noted, however, that Ofcom had not argued that the adoption of HCA in 1989 affected the valuation of duct assets at

[145] BT, response to provisional determination, ¶¶38-39.

1984, but rather that it provided an appropriate starting point for the assessment of over-recovery or under-recovery (see paragraph 8.82). In any case, it was clear to us that there was no good reason to believe that investors in 1984 would necessarily have valued BT's assets at an HCA valuation.

8.159. We think Ofcom was correct to recognize that BT, at privatization, was a multi-asset company (see paragraph 8.21) in which investors' expectations of returns related to the business as a whole rather than to specific assets. As Ofcom argued, an understanding of the extent to which investors' expectations at privatization were met would require an assessment of the returns subsequently earned across the whole business (see paragraph 8.22). We found that it is on this 'whole business' basis, rather than in respect of specific asset types, that Ofcom would need to consider whether it frustrated the reasonable expectations of investors at privatization. Taken together, these arguments point to the fundamental flaw in imputing investors' expectations about specific assets at privatization.

8.160. We agree that it was important for Ofcom not to frustrate the reasonable and legitimate expectations of investors (see Ofcom's argument in paragraph 8.73). We have found, however, that there is no convincing evidence of what investors' reasonable expectations might have been *at 1984* in respect of recovery of duct investment.[146] We therefore agree with Ofcom's contention in its 2012 Statement, that there was little that could be said about the value placed on duct at privatization because the expectations of investors were unobservable (see paragraph 8.25). Furthermore, because BT was privatized as a multi-asset company in 1984 under a regulatory regime of RPI–X pricing which required no valuation of duct assets, investors had no reason to form any expectations in 1984 of what would have been the result of such a valuation. We therefore come to the view that it is neither possible nor necessary for us to identify any set of reasonable expectations held by investors in relation to duct assets at privatization *in 1984*.

8.161. We therefore needed to consider the point from which investors' expectations in relation to duct assets might usefully be identified.

8.162. We found that the price control in place at any time was likely to be the most important factor in determining investors' expectations at that time (see Ofcom's argument in paragraph 8.82). We also found that for a long-lived asset such as duct the revenues set in the short term would not, on their own, determine investors' expectations (see BT's argument in paragraph 8.132). Taken together, these two arguments led us to the view that such expectations would be determined, in the largest part, by the valuation approach applied by Ofcom to the duct assets. This valuation approach would underpin the charge control in place at the time and might be expected, at least, to determine the future recovery of the investment in future charge controls.

8.163. We therefore found that the consideration of investment recovery should start at the charge control period beginning in 1989 (see Ofcom's argument in paragraph 8.82). The establishment of HCA in the 1989 charge control provided the first point at which investors had the necessary information to form reasonable expectations about the value they might earn on their duct assets. Investors would have understood at this point that not only would duct investment in the forthcoming charge control period be remunerated on the basis of an HCA valuation but also that pre-privatization duct

[146] In its response to the provisional determination (see BT, response to provisional determination, ¶38), BT argued that the CC should adopt the sale price as evidence of investors' reasonable expectations since it was the only evidence that parties had put forward for shareholders' valuation of duct assets at 1984. We are not persuaded by this argument because we consider the share price an inappropriate basis for valuing reasonable expectations for the reasons set out in paragraph 8.157.

assets, and those constructed between 1984 and 1989, would also be recovered on this basis.

8.164. We understood from the pleadings that this HCA valuation approach subsequently remained in place until 1997, meaning that it was the regulatory valuation approach that should have informed investors' reasonable expectations for all subsequent pre-1997 duct assets, which were the investments in issue under this ground.

8.165. On the basis of these arguments, we were persuaded that it was most appropriate to assume an HCA value as the initial valuation of the pre-privatization duct assets and of those constructed between 1984 and 1989, for the purpose of an assessment of over-recovery in this context.[147]

- *Ofcom's criticisms of assumptions in the Openreach Model*

8.166. Because of our finding in paragraph 8.165, we do not need to consider Ofcom's other criticisms of BT's analysis that were largely of the assumptions made by BT in its modelling. However, we do so below for completeness. As BT argued (see paragraph 8.125), analysis and estimation may be necessary to answer a question of over-recovery which Ofcom accepted needed to be addressed. In our view, the use of assumptions in such analysis and estimation as carried out by BT was always likely to be necessary and such assumptions are always open to criticism. We needed to consider whether the criticisms made by Ofcom are such as to critically undermine the results of the Openreach Model and its conclusions.

8.167. In our view, and drawing on the sensitivity analysis provided by Mr Corkery (see paragraph 8.54), Ofcom's criticisms of BT's calculation of ROCE, the life of duct and the consistency with its own RAV model were not of sufficient impact to persuade us that they critically undermined the integrity of the Openreach Model.

- *Allocating the privatization price to duct assets*

8.168. The criticisms of the calculation and allocation to duct assets of the premium/discount to accounting value in the privatization price seemed to be more fundamental and more important to the validity of BT's modelling.

8.169. On the issue of allocation, we thought that the arguments put forward by Ofcom (see paragraphs 8.76 and 8.78) and Sky/TalkTalk (see paragraph 8.103) articulated clearly why it could be reasonably argued that an allocation of value other than on a pro rata basis could be made to duct. In our view, considering the balance of arguments and counter-arguments for different allocations made in the pleadings, it was not possible to identify with confidence whether duct assets should have constituted a more or less than proportionate element of the overall price paid for the company by shareholders at privatization.

8.170. Further, on the issue of whether the calculation should have been made as a discount with reference to a CCA valuation, rather than as a premium with reference to an HCA valuation, we were not persuaded one way or another. The sensitivity of the results as highlighted by Ofcom (see paragraph 8.77) alerted us to how the conclu-

[147] In its response to the provisional determination (see BT response to provisional determination, ¶43), BT appears to argue that CC's approach is inconsistent in finding that the adoption of HCA in 1989 could not have informed shareholders' valuations at 1984 but then applying an HCA valuation in such a way as does so. BT's argument fails to recognize that we are not suggesting that an HCA valuation informed shareholders' valuations of duct assets prior to 1984, but rather that it should have done so after 1989, including in respect of pre-1989 investments.

sion to be drawn from the analysis could be very sensitive to the difficult and judgemental choice of allocation approach.

8.171. As both BT and Ofcom appeared to accept, this allocation exercise was about disaggregating the value of a homogeneous vertically integrated asset base, and there would be no single right answer on this subject. BT itself described the exercise as 'hypothetical' (see paragraph 8.54). On this basis, we did not consider that BT's approach was shown to be wrong. Nor did we consider that alternative assumptions for the allocation of value to duct assets, such as those offered by BT and Sky/TalkTalk, would have been more appropriate. We found that the use of a 'sale price' was inappropriate in valuing a single asset in such a business as BT's (see Ofcom's reasoning in paragraph 8.21), and we noted that the closest regulatory precedent put forward by Mr Corkery was in respect of the valuation of an entire demerged company (see paragraph 8.47). In our view, Ofcom was correct to state that the implicit amount paid by investors for duct could not be clearly identified (see paragraph 8.23).

8.172. We saw some logical merit in BT's argument that such uncertainty on the appropriate allocation of value to duct should lead to the conclusion that a pro rata approach was the most reasonable assumption for such an analysis, since it reflected a 'neutral' allocation that was weighted neither more nor less to duct than to other assets (see paragraph 8.128). However, under this argument, a pro rata approach (whether it be on the basis of an HCA or CCA valuation) would be adopted not because it was the best allocation but rather because, in the absence of any firm insight into what the best allocation was, it might minimize the variation between the allocation adopted and that unknown best allocation. In our view, if a pro rata allocation were adopted on those grounds, the results of the ensuing analysis would need to be treated with a low degree of confidence.

8.173. As BT explained, use of the privatization price as the initial basis of valuing duct made it necessary for assumptions to be made about the allocation of shareholders' value of the overall business to the duct assets they acquired (see paragraph 8.54*(a)*).

8.174. Therefore, whilst we found that some of the modelling critique put forward by Ofcom was insufficient to weaken BT's case significantly, we also found that Ofcom was right to identify the allocation of the privatization price to duct assets as a weakness in BT's analysis, albeit in our view an unavoidable one if the privatization price were to be adopted. Ofcom did not need to perform such modelling because it started from an HCA valuation of the specific assets rather than a sale price for the overall company.

8.175. Given our view that HCA was the most appropriate approach for the initial valuation of the pre-privatization duct assets (see paragraph 8.163), we determined that Ofcom *could* rely on its theoretical model in making its assessment of over-recovery (see paragraph 8.148). Therefore, whilst we did find strength in some of Ofcom's arguments on the other modelling issues, we put little weight on these in our assessment.

- *That the prospect of under-recovery is still plausible*

8.176. In our view, the analysis of over- and under-recovery should give a clear result according to what measure of initial asset value is used for assessing the extent of investment recovery. If BT's approach were accepted, then the analysis should dispel the prospect of over-recovery and similarly for under-recovery were Ofcom's approach assumed.

8.177. On this basis, we did not consider the analysis put before us ‘uncertain’ in this way but rather considered that it rested on the question of the appropriate basis of the initial asset valuation. Since, as set out above, we found an HCA valuation to be the most appropriate approach for these purposes, it was our view that Ofcom could rely on its theoretical model in making its assessment and that under that theoretical model, an under-recovery was not a plausible outcome that would result from a return to a CCA valuation on the pre-1997 duct assets. We therefore disagreed with BT’s argument that under-recovery was still plausible.

- *Summary of our views on BT’s four arguments*

8.178. In our assessment we identified that the key issue was whether the assumed asset value in the assessment of over-recovery should be based on the privatization price rather than an HCA valuation as applied by Ofcom. We found above that this was the principal issue in respect of Ofcom’s assessment of BT’s modelling but also for the other aspects of BT’s arguments.

8.179. We found that for the purposes of assessing the presence of over- or under-recovery in this current context, BT’s arguments did not lead us to conclude that Ofcom was wrong in assuming an HCA valuation as the initial investment in its analysis in the way that it did (see paragraph 8.165). Rather we found that an HCA valuation was the most appropriate approach to assume in establishing the initial value in this question of over-recovery.

8.180. In our view, BT’s sale price in 1984 cannot properly be used to assess investors’ reasonable and legitimate expectations for the recovery of investment in duct because the company was sold as a multi-asset business and without any clear indication of the regulatory valuation of duct assets to be applied in future charge controls. We concluded that the 1989 charge control, which introduced an HCA valuation of duct, was the first point at which such expectations could properly be formed.

8.181. Therefore, we concluded that none of BT’s four complaints on Ofcom’s alleged errors (see paragraph 8.140) indicated that Ofcom had erred. Nor did we agree with BT that Ofcom’s analysis was insufficient or its reasoning inadequate in the decision it reached (see paragraph 8.112). We also found that Ofcom was justified in making the finding it made (see paragraph 8.151).

8.182. On this basis, we also found that BT’s secondary case should not be upheld, since it too was explicitly based on BT’s argument for the recovery of its privatization price.

Part (b)—Economic arguments

8.183. This section considers the economic arguments raised by the parties as part of this Reference Question. We begin by explaining different concepts of efficiency used in the arguments (paragraphs 8.184 to 8.188). We then set out each party’s arguments (paragraphs 8.189 to 8.228). Finally we give our assessment of their arguments (paragraphs 8.229 to 8.242).

Concepts of efficiency in this section

8.184. There are three concepts of economic efficiency referred to in this Reference Question. This section briefly summarizes them. In general, the language used below is taken from the statement of Mr Culham for Ofcom,[148] but we do not think the other parties would contest these definitions.

- *Productive efficiency*

8.185. Productive efficiency involves minimizing the costs of production (ie using the lowest cost technology). It is affected by decisions to build, expand or improve competing networks of various types.

- *Allocative efficiency*

8.186. Allocative efficiency involves allocating resources to produce the services which consumers value most. It generally implies that charges should be set based on forward-looking (avoidable) costs, since when deciding which of two options is the more efficient, it is only the difference in extra costs between them that needs to be taken into account. In this particular case, we understand that the sunk costs of BT's duct network are large relative to its forward-looking costs,[149] which implies that the price of access to that network should be low.

- *Dynamic efficiency*

8.187. Dynamic efficiency involves doing new things, or doing old things better, through investment, innovation and competition. It is affected by both the regulated company's incentives to invest and competitors' incentives to invest.

8.188. The concepts of productive and allocative efficiency may sometimes be viewed as 'static' efficiency in contrast to dynamic efficiency.[150]

Summary of Ofcom's Statement

8.189. Ofcom summarized its view on economic arguments in the 2012 Statement:[151]

> It will often be the case that prices set on the basis of CCA asset values provide appropriate incentives for investment and consumption. CCA will often be superior to HCA as a basis for pricing because in many situations it more closely approximates the costs of the resources needed to provide a service today, rather than at some time in the past when the necessary assets were first acquired. In other words, CCA is likely to be superior to HCA because it is often a better approximation of forward looking costs.
>
> This is only true, however, if the assets in question will actually require replacement. In most cases, replacement after a period of a few years is probably a reasonable assumption. However, if, as in the case of duct, replacement is not likely and the asset is a 'sunk asset', then the cost of replacing that asset is not taken into account as part of the forward-looking costs. If setting prices to achieve allocative efficiency were the only objective, they would not therefore be set on a CCA (or

[148] Ofcom Defence (BT Appeal), W/S Culham, ¶12.
[149] See paragraph 234 below.
[150] See, for example, BT NoA, 1st W/S Tickel, ¶86.
[151] 2012 Statement, ¶¶A1.26–A1.27.

indeed HCA) basis but rather on the basis of forward-looking costs, excluding all sunk costs.

8.190. Ofcom noted that:

> We are not proposing that it is appropriate to set charges which value Openreach's duct on the basis of marginal or incremental costs … Rather, we are illustrating that … allocative efficiency can be achieved on the basis of forward looking costs. We agree that pricing on the basis of the RAV is likely to involve some sacrifice of allocative efficiency, but this is because it leads to prices which are *above* the true forward looking cost of using Openreach's ducts.[152]

8.191. Ofcom said that it had distinguished between possible harm (in terms of deterring efficient investment) in theory and likely harm in practice:

> We agree that, in principle, the RAV adjustment may reduce the incentives for investment in competing access networks, relative to valuation on a full CCA basis. However, the relevant questions are whether, if the full CCA value of BT's duct assets were reflected in charges, such competing investment would be efficient, and whether it would be likely.[153]

Ofcom went on to say that the forward-looking incremental costs of creating a new duct network would almost certainly be higher than the forward-looking incremental costs of using BT's existing network; and that Openreach had significant economies of scale and scope which it would be difficult for a competing fixed network operator to beat. Ofcom concluded that its approach was unlikely to postpone efficient competitive entry to a material degree.[154]

8.192. Ofcom said that, in theory, these prices may also affect incentives to invest in mobile broadband networks, but any effect was likely to be limited because its other recent work had found that mobile and fixed broadband access were in different economic markets and that substitutability between fixed and mobile broadband would be limited in the near future. It said that, in any event, 'correct' (ie efficient) signals for investment by other fixed or mobile operators were given when the charge for use of Openreach's duct reflected the forward-looking costs of that duct.[155]

8.193. Ofcom was also concerned that a return to CCA valuation would not be competitively neutral because:[156]

(a) LLU usage expanded significantly after the 2005 reductions to LLU charges.

(b) An increase in LLU and WLR charges could encourage substitution to other networks (such as Virgin Media (VM) or mobile broadband) which might not be efficient.

(c) It would send a signal about regulatory consistency over time, eg because it could undermine the business cases of LLU operators (at least at the margins of roll-out), which could lead to the reversal of roll-out and/or a perception that future investment might later be undermined.

[152] 2012 Statement, ¶¶A1.30–A1.31, emphasis in original.
[153] 2012 Statement, ¶A1.34.
[154] 2012 Statement, ¶¶A1.36–A1.37.
[155] 2012 Statement, ¶¶A1.38–A1.39.
[156] 2012 Statement, ¶¶A1.41–A1.46.

8.194. Ofcom also considered productive efficiency (ie cost minimization). It said that these considerations implied that charges should be set to reflect Openreach's forward-looking duct costs, whereas CCA could encourage inefficient investment in competing network build. Ofcom also noted that the RAV adjustment would not distort the choice between wholesale inputs (MPF, WLR+SMPF, PIA[157]) if it was reflected in the charges for these services in a consistent way.[158]

8.195. Ofcom considered the importance of regulatory stability, and said that it would be appropriate to take this into account alongside other factors which might or might not suggest that a change in policy was desirable. In this case, it was of the view that other factors supported a consistent approach to duct valuation and continued use of the RAV adjustment.[159]

8.196. Finally, Ofcom considered the recovery of sunk costs. It noted that disregarding sunk costs may be consistent with allocative and productive efficiency, but not with encouraging dynamic efficiency. If investors believed that their costs, once sunk, would be regarded by the regulator as irrelevant for pricing purposes, they would be reluctant to invest in assets which could be regarded as sunk once the investment had been made. However, it considered that departing from forward-looking costs and making the RAV adjustment was consistent with the recovery of sunk costs and hence with maintaining incentives for investment and dynamic efficiency.[160]

Summary of BT's Appeal

8.197. In its Core Submission, BT put forward two overarching points in this regard. First, it said that Ofcom had not made out any clear case for departing from its usual approach, which was to use CCA because of its superior investment incentives. Second, it said that Ofcom had accepted that BT should recover its efficiently incurred costs of duct assets. This meant that economic arguments '[appeared] to be of theoretical interest only' and the key question was the level of those costs.[161]

8.198. We asked BT about this in its hearing, and it said that these issues 'would come back into play in a world in which it were accepted that there was a windfall. On that basis, it is about the forward-looking and the greater build-buy decision-making qualities of a CCA-based approach to price-setting'.[162]

8.199. BT said that the effect of the RAV adjustment was substantially to depress the price of LLU and WLR, and accordingly (on the face of it) to reduce the incentives to invest in alternative infrastructure based competition.[163] BT said that:

(a) Ofcom's analysis of this issue was flawed (and 'superficial'[164]), and its conclusion (that investment in competing networks was unlikely over the short or medium term) was 'incompatible with significant evidence of current and projected investment in the access and related markets'.

(b) Ofcom had no regard to the significant change in competitive conditions (apparently in downstream markets, ie LLU/WLR, although BT was not explicit) since

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[157] BT's duct and pole network is known as Physical Infrastructure Access, or 'PIA'.
[158] 2012 Statement, ¶A1.51.
[159] 2012 Statement, ¶A1.54.
[160] 2012 Statement, ¶¶A1.55–A1.57.
[161] BT Core Submission (BT appeal), Volume 2, ¶¶193–194.
[162] BT, Bilateral Hearing transcript, p28.
[163] BT NoA, ¶207.
[164] BT NoA, ¶283.

2005, even though they were a factor in Ofcom's decision to introduce the RAV adjustment.

(c) Ofcom referred to short-run incremental cost as a potential benchmark for assessing the efficiency of the RAV adjustment, notwithstanding its own position that allowing the recovery of such costs alone was neither a viable nor a realistic basis for the recovery of investments in duct assets.

(d) Ofcom argued that regulatory consistency was a reason for maintaining the RAV adjustment even though the approach had changed twice before and Ofcom had said that its 2005 decision would be reviewed around the present time.

8.200. BT elaborated these points (although not under the same headings[165]) and we take each of them in turn below.[166]

- *Incentives for investment*

8.201. BT did not accept that maintaining the RAV adjustment had no detrimental effect on investment in network infrastructure, and said that Ofcom had accepted that incentives might be reduced.[167] It said that Ofcom had wrongly focused on the question of new entry without also considering the potential effect on investments by existing operators, and that Ofcom did not deal with VM's further point that 'entities that have already invested in competing infrastructures will not contemplate further deployment of infrastructure, or upgrades to their existing investments, if regulated (and de facto benchmark) prices in the market are set at a level which renders them unable to recover their costs'.[168] BT argued that the obvious question, which Ofcom did not ask, was whether other access or competing networks existed; to what extent investment in those networks was being made, contemplated, or apt to be made; and whether any such investment would or might be deterred by setting prices for WLR and LLU at too low a level. BT described Ofcom's analysis of 'this most important issue' as being 'notable for a complete absence of any description of this position in fact'.[169] BT said that this was most stark in relation to VM but also held for other forms of technology such as wireless broadband and satellite, the business cases for which would depend on their ability to compete with the Openreach network.

8.202. Mr Tickel, for BT, said that VM had announced an expansion of its coverage to 100,000 additional homes and was likely to use new technology; and that VM had begun a trial that involved sharing electricity infrastructure to provide access to its network. He said that it was therefore clear that the main competitor to BT in fixed network access provision was continuing to make investments to expand and enhance its capabilities, and that the level of BT's regulated charges would be a factor in its plans. He said that a number of smaller access operators were deploying point-to-point fibre in localized schemes (generally to concentrated areas such as apartment complexes or student campuses); and that other alternative infrastructure providers existed, using technologies such as fibre or wireless broadband.[170] He also

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[165] We have grouped BT's arguments under these four headings because they are the headings used in the summary of BT's case. This does not affect the substance of BT's arguments.
[166] BT also made some further arguments addressed at three points Ofcom made which relate to competition, BT NoA, ¶¶330–337, arguing that none of them could provide support for the RAV adjustment. Since they are not positive parts of BT's case to remove the RAV adjustment and we have not viewed them as part of Ofcom's justification for keeping the RAV adjustment, we do not summarize or assess them here.
[167] BT NoA, ¶¶283, 305.
[168] BT NoA, ¶¶289, 307.
[169] BT NoA, ¶¶309–312.
[170] BT NoA , 1st W/S Tickel, ¶¶120–125.

said that BT's charges would be of relevance to investment decisions in mobile networks and Wi-Fi networks.[171]

8.203. BT also criticized Ofcom's brief consideration of the effect on mobile broadband and described it as:

> hard to reconcile with previous observations by Ofcom that 'fixed and mobile networks are converging as mobile networks reach inside the home and fixed networks move outside the home'… [and] that 'an increase in LLU and WLR charges could encourage substitution to operators of other networks, such as VM or even to mobile broadband and this might not be efficient'.[172]

8.204. BT said that Ofcom's position 'is prone to becoming a self-fulfilling prophecy', ie Ofcom justified keeping the RAV adjustment based on the current lack of investment in other networks *under the RAV adjustment*, and doing so may continue to deter investment that would have taken place *without the RAV adjustment*.

8.205. As to whether it was productively efficient for rivals to build their own networks, Mr Tickel said that Ofcom had done no more than speculate that it might be cheaper overall to use BT's duct or access services rather than for competitors to develop rival networks that bypass BT altogether.[173] However, Mr Tickel did not provide any argument or evidence to suggest that Ofcom's speculation was incorrect.

- *Change in competitive conditions*

8.206. BT argued that when the RAV adjustment was introduced, it was a 'key objective at that time to facilitate competition at the downstream level' and this affected the level of the charge control.[174] BT argued that that goal had been achieved and therefore could no longer provide a basis for the RAV adjustment.

- *Short-run incremental cost*

8.207. BT argued that the fact that duct was a sunk cost was not the reason why Ofcom rejected the CCA basis; it was due to Ofcom's view on windfall gains. It said that Ofcom's approach was guided by dynamic efficiency over allocative and productive efficiency. Therefore, in BT's view, Ofcom's discussion of efficient price signals in the 2012 Statement, paragraphs A1.23 to A1.31 and A1.50 to A1.52, made no contribution to Ofcom's reasoning.[175]

- *Regulatory consistency*

8.208. BT said that market operators could not reasonably have made the assumption that the RAV adjustment would be consistently maintained. It said that Ofcom had explicitly promised a review of the RAV adjustment at or about the present time, and that Ofcom was 'surely required' to carry out such a review on its merits, rather than weighted in favour of the status quo based on a regulatory consistency argument. BT added that a general argument for consistency was undermined in this instance by

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171 BT NoA , 1st W/S Tickel, ¶¶127–130.
172 BT NoA, ¶¶313–314.
173 BT NoA , 1st W/S Tickel, ¶109.
174 BT NoA, ¶¶234–238 & ¶¶327–329.
175 BT NoA, ¶¶294–298.

the fact that the valuation of this duct had already been the subject of two significant changes since 1989.[176]

Summary of Ofcom's Defence

8.209. Ofcom said that:[177]

> Ofcom wishes so far as possible to base prices on forward looking costs, to encourage allocatively efficient switching and investment. In the present case, Ofcom departs from the allocatively efficient price in order to allow cost recovery in the interests of dynamic efficiency, but it would be inappropriate to do so to a greater extent than truly required in the interests of dynamic efficiency. In circumstances where the construction of a competing local access network is unlikely, BT should be permitted to recover its sunk costs, but there is no need to price at a level which will facilitate the construction of competing local access infrastructure (which is unlikely) at the expense of competition based on the use of BT's local access infrastructure (where very substantial progress has been made and is continuing).
>
> BT contends that 'If an operator believes it can develop a network to compete with that of Openreach, it should be encouraged to do so, not to use Openreach's network simply because it has spare capacity available.' Ofcom disagrees. BT and Mr Tickel do not explain why the dynamic gains of doing so would outweigh the obvious static costs. In the present circumstances, for the reasons given above, dynamic efficiency only requires charges to be set at the level required to allow BT to recover its costs.

8.210. A similar position was advanced in Mr Culham's witness statement:[178]

> In my view, it is not necessary to increase the price of BT's lines above the level at which they are currently set, as I believe that the current arrangement sets a good balance between allocative and dynamic efficiency. To increase the charges by the amount proposed by BT seems to me to be incapable of improving on this balance: since it would certainly damage allocative efficiency by moving prices further away [from] forward looking costs; but would in my view be insufficient to make any significant improvement in dynamic efficiency in terms of promoting entry, if the encouragement of increased competition in the deployment of duct were held by the regulator to be important.

8.211. Below we discuss Ofcom's arguments under the same headings as we used for BT's arguments above.

- *Incentives for investment*

8.212. Ofcom contended that it did investigate the state of the market (in its WLA 2010 market review and in Annex 11 of the 2012 Statement), and that the 2012 Statement did address the situation of competitors who were not new entrants.[179] In the 2012

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[176] BT NoA, ¶¶322–324.
[177] Ofcom Defence (BT Appeal), Annex H, ¶¶59–60.
[178] Ofcom Defence (BT Appeal), W/S Culham, ¶86.
[179] Ofcom Defence (BT Appeal), Annex H, ¶¶61–62.

Statement, Ofcom quoted Openreach's response to the November 2011 Consultation:[180] 'Specifically, Openreach noted that "For the purposes of introducing the LLU and WLR charge controls, Openreach agrees with Ofcom's assessment that there has been no material change in the LLU market since Ofcom's review in 2010".'

8.213. Ofcom said that the 2012 Statement did address the situation of competitors who were not new entrants. This appears to relate to two items in the 2012 Statement. The first is the comment that 'BT and VM have both embarked on the roll-out of NGA services and we have seen the beginnings of consumer take up'.[181] The second is the possibility of competitors accessing BT's PIA to deploy their own NGA infrastructure. Ofcom said that it expected the PIA price to reflect the RAV, which would mean that the relative prices of PIA and LLU would be correctly aligned.[182]

8.214. Ofcom said that:

> There was no evidence of other organisations significantly investing in duct provision in the near term. BT's SMP in the provision of local access was unaffected by competition based on LLU and WLR, which uses BT's local access network rather than providing competition for it.[183]

8.215. Ofcom did acknowledge in the Defence, as it had in the 2012 Statement, that the RAV adjustment could in theory deter investment in competing networks:[184]

> In principle, the RAV adjustment might reduce the incentives for investment in competing access networks, relative to valuation on a full CCA basis (because a competitor who built a network at current prices would find it difficult to undercut BT prices which were lower because of the RAV adjustment). However, even valuing duct on a full CCA basis would be unlikely to result in new competing investment which was efficient, such investment being unlikely given the low incremental costs of using BT's duct, and BT's strong economies of scale and scope making it hard for a competitor to achieve lower costs.

8.216. Further to the latter point, Ofcom said that 'the most productively efficient option will often be to use Openreach's duct rather than to build competing duct, and … use of the full CCA valuation would not then give the correct build/buy incentives (because it is above forward-looking costs)'.[185]

8.217. Ofcom said that, with respect to the effects on investment of setting regulated prices at a level which rendered existing companies unable to recover their costs, it was not required to set BT's price control at a level to allow VM to recover its sunk costs, because VM's shareholders would have taken this regulation into account when acquiring their shares. It said that VM's forward-looking costs were 'likely to be low', and upgrades to provide more advanced services would be made on the basis of the incremental value of that investment.[186]

8.218. Ofcom said that further investment in upgrades (by BT, VM, or other players using PIA) should not be disincentivized, because of 'anchor point pricing'. This principle

[180] 2012 Statement, ¶A11.24.
[181] 2012 Statement, ¶3.42.
[182] Ofcom Defence (BT Appeal), Annex H, ¶¶63–64.
[183] Ofcom Defence (BT Appeal), Annex H, ¶17.
[184] Ofcom Defence (BT Appeal), Annex H, ¶24.2.
[185] Ofcom Defence (BT Appeal), Annex H, ¶25.
[186] Ofcom Defence (BT Appeal), Annex H, ¶65.1.

meant that Ofcom ensured that the introduction of new technology did not cause a rise in the price of the services currently provided using legacy technology because investments to provide new services should be self-financing. Furthermore Ofcom said that it should not increase LLU/WLR prices to encourage NGA roll-out, since if this used new duct it would be unaffected by the RAV adjustment (which only affected the price of pre-1997 duct assets).[187]

8.219. Ofcom denied that it failed to engage with effects on investment in mobile broadband networks and said that the correct signals for investment were unaffected by whether the investment was in a fixed or a mobile network. It also said that if substitution to mobile was or became highly material, it would be even more important to set LLU/WLR charges at levels which would encourage allocatively efficient switching.[188]

- *Change in competitive conditions*

8.220. Ofcom said that some LLU operators were continuing to roll out and so downstream competition had not necessarily been fully achieved, and that a return to CCA could undermine the business cases of existing LLU operators, making some roll-out un-economic and stifling future investment.[189]

- *Short-run incremental cost*

8.221. Ofcom disagreed with BT's opinion that large parts of Ofcom's analysis in the 2012 Statement could be disregarded. It said that Ofcom wished so far as possible to base prices on forward-looking costs, to encourage allocatively efficient switching and investment, and departed from that only to the extent necessary to allow cost recovery in the interests of dynamic efficiency.[190]

- *Regulatory consistency*

8.222. Ofcom said that considerations of regulatory stability favoured the continuing use of the RAV adjustment, and the fact that Oftel/Ofcom had found such considerations to be outweighed when making previous decisions in favour of changing the basis of valuation did not mean that they were not an important factor. It said that it 'properly gave appropriate weight to regulatory stability' in the course of its review.[191] It said that BT had no reasonable basis to believe that Ofcom would not give some weight to regulatory stability when it reviewed the RAV adjustment.[192]

Summary of Sky/TalkTalk's SoI

8.223. Sky/TalkTalk supported Ofcom's position. They said that a revaluation of these assets to CCA would push prices further away from the allocatively efficient level, and that there was no good evidence that this would be balanced by considerations of productive or dynamic efficiency.[193] They went on to make several more detailed points:[194]

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[187] Ofcom Defence (BT Appeal), Annex H, ¶65.2, and W/S Culham, ¶84.
[188] Ofcom Defence (BT Appeal), Annex H, ¶66.
[189] Ofcom Defence (BT Appeal), Annex H, ¶76.
[190] Ofcom Defence (BT Appeal), Annex H, ¶¶58–59.
[191] Ofcom Defence (BT Appeal), Annex H, ¶¶26 & 70.
[192] Ofcom Defence (BT Appeal), Annex H, ¶72.
[193] Sky/TalkTalk SoI (BT Appeal), ¶64.2.
[194] Sky/TalkTalk SoI (BT Appeal), ¶¶84.1–84.7.

(a) An increased price would reduce the (allocatively) efficient use of the network and the services provided to consumers.[195]

(b) Revaluation may reduce BT's cost minimization incentives and may encourage (productively) inefficient bypass of Openreach's network.[196]

(c) Revaluation would not improve BT's incentives to invest in the network since new investment would be valued using CCA (supporting a point already made by Ofcom).

(d) By contrast, it was likely to decrease LLU operators' incentives to invest efficiently in further LLU roll-out and new services (mainly because they might not be able to pass on cost increases since significant competitors would not face similar cost increases, namely VM which had its own network, and BT which 'will face only an increase in an internal transfer price'[197]).

(e) Any increased investment in alternative access networks may not increase consumer welfare. Sky/TalkTalk said that the current or projected investment described by BT was either not occurring or unlikely to occur on any material scale;[198] that the impact would be small (equivalent to less than 1.5 per cent of ARPU for VM's cable users even if entirely passed through);[199] and that a reduction in productive efficiency could offset any benefit.[200]

(f) The RAV adjustment remained necessary to ensure effective competition between BT Retail and LLU operators. Sky/TalkTalk disputed the view that downstream competition had been fully achieved and disagreed with BT's contention that the RAV adjustment was designed as a temporary form of entry assistance;[201] and said that removing the adjustment could *distort* competition because since when BT Retail dealt with Openreach it faced an internal transfer rather than a cash transaction, and so BT Retail would not in effect see the same increase in costs and change in incentives faced by LLU/WLR operators.[202]

(g) There was no evidence that revaluation would lead to more effective competition between third party operators of infrastructure (such as VM) and those operators using Openreach's infrastructure, since it depended on a wide range of factors.

Summary of BT's response

8.224. In its Core Submission, BT emphasized that it 'had not sought to argue for a basis of cost recovery which involved a departure from Ofcom's approach in general, nor from the economic principles which Ofcom generally employs in valuing network assets'. It said that its case was that 'Ofcom has not made out any clear case for *departing* from its usual approach, which is to use CCA because of the superior investment incentives which CCA provides'.[203]

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[195] See also Sky/TalkTalk SoI (BT Appeal), 1st W/S Holt, ¶¶3.20–3.26.
[196] They provided an illustrative example in Sky/TalkTalk SoI (BT Appeal), 1st W/S Holt, Annex C, although this example only illustrates that bypass *could* be inefficient.
[197] Sky/TalkTalk SoI (BT Appeal), ¶93.
[198] Sky/TalkTalk SoI (BT Appeal), ¶97 and 2nd W/S Heaney, ¶¶20–24.
[199] Sky/TalkTalk SoI (BT Appeal), ¶98.
[200] Sky/TalkTalk SoI (BT Appeal), ¶99.
[201] Sky/TalkTalk SoI (BT Appeal), ¶¶100–106.
[202] Sky/TalkTalk SoI (BT Appeal), ¶¶107–110, 54–59; and 1st W/S Holt, ¶¶3.50–3.58 & Annex D.
[203] BT Core Submission (BT Appeal), Volume 2, ¶193, emphasis in original.

8.225. BT argued that neither Ofcom's Defence nor Sky/TalkTalk's intervention provided a satisfactory answer to the claim that Ofcom's view on competing investment was likely to become a self-fulfilling prophecy.[204]

8.226. BT said that the 2010 WLA Statement was concerned with a completely different question, namely whether there was sufficient competition in the access market to prevent BT having SMP; whereas the 2012 Statement was concerned with potential investment in alternative networks which may be affected by the price of CRS (ie the subject of this price control).[205]

8.227. With regard to mobile broadband, BT's case was that, if investment incentives had been correctly designed, switching would occur precisely because it was efficient. BT therefore appeared to reject Ofcom's assertion that switching between fixed and mobile broadband may not be efficient.[206]

8.228. Mr Tickel, for BT, argued that, in order to encourage efficient investment in new services, the anchor products needed to be priced on the basis of efficient long-run forward-looking costs. He said that the (alleged) under-pricing of BT's copper-access service caused a risk that this would be viewed as more attractive than the risk of investing in new services and thus distorted such decisions.[207]

Assessment of economic arguments

8.229. In our consideration of the first part of this Reference Question, we were not persuaded that Ofcom was wrong to make a positive finding on over-recovery.[208] Therefore, in order to find that Ofcom has erred, we would have to find that *(a)* the RAV adjustment causes a non-trivial detriment (by de-incentivizing infrastructure investment), contrary to Ofcom's view; and *(b)* that this detriment outweighs considerations of over-recovery.

8.230. In our view, Ofcom's position is that:

(a) It generally wishes to set prices to reflect allocative and productive efficiency (which favours setting a price based on forward-looking costs, which will be below HCA in this case due to the large proportion of duct costs that are sunk).

(b) It is willing to deviate from that principle where it also needs to balance the requirements of dynamic efficiency.

(c) One aspect of dynamic efficiency is that companies should be able to recover their efficiently-incurred costs of investment.

(d) The other aspect of dynamic efficiency is promoting efficient competition, and here Ofcom has balanced the effects of competition in two different markets. It believes that the positive effects of the RAV adjustment on LLU competition outweigh the negative effects on network level competition, given the current and projected states of each market.

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[204] BT Core Submission (BT Appeal), Volume 2, ¶199. BT also said that in the relevant part of its Defence, Ofcom relied on reasoning which was present in the 2012 Statement but not referred to in the discussion of the RAV Adjustment (BT Core Submission (BT Appeal), Volume 2, ¶201); but we view the 2012 Statement as a single publication and so the lack of a cross-reference should not be taken to mean that Ofcom did not rely on it.
[205] BT Core Submission (BT Appeal), Volume 2, ¶202.
[206] BT Core Submission (BT Appeal), Volume 2, ¶207.
[207] BT Core Submission , 2nd W/S Tickel, ¶62b. Mr Tickel also made a number of other comments in ¶62 which are either covered elsewhere in our summary of arguments, or not relevant to the core issues in this question.
[208] See paragraphs 178–181 above.

8.231. Ofcom has tried to balance these considerations by setting price at the level at which BT will recover its investment in pre-1997 ducts, and Ofcom's view is that this is achieved at HCA. Further increasing price to CCA would give BT a windfall gain, would reduce allocative and productive efficiency, could undermine competition at the LLU level, and would not confer any other practical benefits because (in Ofcom's view) it would not be sufficient to promote competition at the network level.

8.232. Contrary to BT's claim that Ofcom had not made out any clear case for departing from its usual approach of using CCA,[209] we consider that Ofcom did explain this in the 2012 Statement.[210]

8.233. BT's view is that increasing price would not lead to a windfall gain; that price should be increased so that (it is likely that) BT will better recoup its investment; and that Ofcom has not carried out a proper analysis of the other costs and benefits of increasing price, ie even putting aside the issue of windfall gain, Ofcom has not demonstrated good reason for departing from the CCA methodology that it generally applies to other assets.

8.234. Many of BT's arguments are premised on its investors being allowed to recover their investments in full. In our consideration of the first part of this Reference Question, we were not persuaded by BT's arguments that under-recovery was a plausible outcome under the RAV adjustment.[211] Therefore these aspects of BT's appeal fall away and the remaining arguments must be considered carefully to see whether they remain valid (since BT did not specifically argue an alternative case in the event that we disagreed with it on investment recovery issues). We have considered the remaining arguments about the effects on allocative and productive efficiency; regulatory consistency; and investment incentives.

8.235. We considered whether increasing the price would reduce allocative and productive efficiency. Ofcom said that it thought BT did not accept the idea that existing duct was a sunk cost.[212] BT told us that the forward-looking costs were not zero (because of maintenance and replacement costs).[213] However, BT did not provide any arguments or evidence in submissions or hearings that they were substantial relative to the overall costs that were being recovered. Therefore we understand that the relevant costs are largely sunk and forward-looking costs are likely to be relatively low: not zero, but less than the HCA valuation of these duct assets. Therefore we conclude that increasing the price would reduce allocative and productive efficiency, as Ofcom said.

8.236. We considered whether BT was right to imply that regulatory consistency was not a valid reason for maintaining the RAV adjustment. We note BT's arguments that the basis of pricing had already changed more than once and that Ofcom had said that it would review the RAV adjustment. All parties should have been aware of the possibility that the RAV adjustment would be removed. However, Ofcom reviewed the RAV adjustment on its merits in the consultation process and we would not expect it to change its approach unless there were good reasons for doing so. Similarly, we think market participants would expect Ofcom to be more likely than not to maintain its position in the absence of obvious reasons to do otherwise. Therefore we do not agree with BT that Ofcom was not entitled to place *some* weight on the benefits to

[209] See paragraph 195 above.
[210] See paragraph 188 above.
[211] See paragraphs 178–181 above.
[212] Ofcom Bilateral Hearing transcript, p131.
[213] BT Bilateral Hearing transcript, pp37–39.

predictability of maintaining the existing arrangement (ie keeping the RAV adjustment), but taking account of the fact that it was known it would be reviewed.

8.237. The remaining question for us is whether the RAV adjustment has detrimental effects on efficient investment by either existing or new competitors.

8.238. It appears to us that Ofcom gave relatively little explicit consideration to further network investment by existing competitors. BT's point that this could become a self-fulfilling prophecy[214] is also theoretically valid, because there is some circularity in basing this on the evidence of limited investment to date. However, BT has put forward little evidence to suggest that removing the RAV adjustment would have significant effects on network competition. We think it was not unreasonable for Ofcom to interpret BT's consultation response[215] as broadly supporting Ofcom's view of the market, even if that was not BT's intention. While it would not affect our reasoning, we note that the points Ofcom allegedly did not fully deal with were raised by VM, which has not decided to challenge Ofcom's decision, suggesting that any effects on VM are not large enough to motivate it to participate in this appeal process. BT did not provide convincing argument or evidence that Ofcom erred.

8.239. It is possible that some investment may be deterred at the margin (eg VM roll-out to new areas) but Ofcom is entitled to balance the effects of this on its objectives. Ofcom also said in its hearing that investments in cable and in other infrastructures in metropolitan areas had all to some degree struggled, with a lot of consolidation between operators, culminating in the merger between the two remaining significant cable operators in 2006.[216] In Ofcom's view, the most viable model of competition was the one based on LLU. It was therefore reluctant to jeopardize the success of that model in order to promote others that were not particularly successful even in the period of full CCA valuation between 1997 and 2005.[217] It suggested that the scale of price increase necessary to make new investment in ducts feasible—which was substantially larger than that at issue in this question—would be very damaging to the LLU model.[218] This seems to us a reasonable argument for the regulator to take into account in its decision. It is difficult for us to assess the exact effect on LLU competition of removing the RAV adjustment, but LLU roll-out is still ongoing and some unbundled exchanges are likely to be marginal, so Ofcom was entitled to weigh up the competing objectives in the price control regime, and BT has not shown that its exercise of regulatory judgement was clearly wrong.

8.240. As to investment by new CPs or CPs in other markets, we are of the view that substitution between fixed and mobile broadband by consumers may be relevant, even if it is not sufficient to place both in the same economic market. As to this and other new investment, Mr Richardson, for BT, said 'I would expect to see over the next three to four years' time an increasing competitive constraint being applied to Openreach's basic copper system by deployment of wireless broadband networks using 4G technology … Openreach is in turn investing in fibre-based services'.[219] In our view, it is theoretically possible that a lower price for access due to the RAV adjustment could deter some investment. However, this should only be a concern if *efficient* investment is deterred, which we discuss below (or if a case had been made out for promotion of competition specifically in new networks at the expense of competition in LLU, which it has not).

[214] Paragraph 211 above.
[215] Paragraph 211 above.
[216] Aside from VM, there are only two very small cable operators still active.
[217] Ofcom Bilateral Hearing transcript, p126.
[218] Ofcom Bilateral Hearing transcript, p127.
[219] BT Bilateral Hearing transcript, p33.

8.241. BT argued that if investment incentives had been correctly designed, switching (between technologies) would occur precisely because it was efficient. Ofcom said in the 2012 Statement that correct signals were given when the charge for use of duct reflected the forward-looking costs of that duct.[220] BT agreed with this.[221] Therefore the main issue here again appears to be whether the current charging methodology captures the forward-looking costs better than BT's proposed alternative and, as explained in paragraph 8.235 above, we think that it does.

8.242. Therefore we are not persuaded that there are good economic reasons to remove the RAV adjustment. Although it is possible in theory that the RAV adjustment could deter investment at the network level, we have not seen any persuasive arguments or evidence that it is likely to deter *efficient* investment. Set against this, the RAV adjustment appears superior on the grounds of allocative and productive efficiency and promotes competition at the LLU level.

Determination

8.243. Accordingly, we find that Ofcom did not err in its use of a RAV in valuing BT's pre-1997 duct assets.

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[220] 2012 Statement, A1.39.
[221] BT hearing transcript, pp36–37.

9. Sky/TalkTalk Appeal

Forecasts of volumes of lines

Reference Question 1(i)

9.1. This section (paragraphs 9.1 to 9.204) sets out our conclusions as to whether the price controls have been set at a level which is inappropriate because Ofcom erred in forecasting volumes of MPF, SMPF and WLR services for the reasons set out in paragraphs 40 to 54 of Sky/TalkTalk's NoA.

9.2. The essence of the Sky/TalkTalk appeal is that it alleges that Ofcom's line volume forecasts for MPF, SMPF and WLR services were too low and that as a result unit costs were set at a level which was too high.

9.3. Our determination is that Ofcom erred in forecasting volumes of MPF, SMPF and WLR services.

Summary of Ofcom's rationale and methodology

9.4. Demand projections for line volumes have an impact on aggregate and unit costs for WLR and LLU services because:

(a) the existence of fixed costs means that unit costs will increase if volumes fall, because the fixed costs must be recovered over fewer lines; and

(b) shifts in demand (eg from WLR+SMPF to MPF) will result in changes to the profile of cost recovery.[1]

Ofcom's modelling of line volumes

9.5. For the purposes of its cost modelling, Ofcom forecasts future demand for a range of services, some of which are relevant here and some of which are outside the scope of the 2012 Statement and these appeals.[2] To forecast volumes for the LLU and WLR charge controls, Ofcom considered the following sources:

(a) Openreach's forecasts of volumes for the period to 2013/14 and Openreach's explanation of the assumptions underlying these volumes;

(b) recent Openreach volumes;

(c) views on and/or forecasts of future product volumes from other CPs who purchase LLU and WLR;

(d) Ofcom current and historical volume data;

(e) existing trends in WLR, MPF and SMPF volumes to see how they compare with the trends shown by Openreach's forecasts; and

[1] 2012 Statement, ¶A2.6.
[2] 2012 Statement, ¶A2.7.

(f) independent forecasts from other sources.[3]

9.6. The main trends in Ofcom's volume forecasts were:

(a) a slight reduction in aggregate demand for copper fixed lines;

(b) a significant shift in demand from WLR+SMPF to MPF; and

(c) a decline in demand for SMPF.[4]

9.7. The Ofcom forecast for WLR + LLU lines is set out in Table 9.1 below.[5]

TABLE 9.1 **Ofcom LLU and WLR volume forecasts**

	2009/10	*2010/11*	*2011/12*	*2012/13*	*2013/14*
WLR+LLU	23,831	23,869	23,736	23,383	23,118

Source: 2012 Statement, Table A2.1.

9.8. In the following paragraphs we summarize the explanation for these forecasts that Ofcom gave in its Statement.

Ofcom's March 2011 and November 2011 Consultations

9.9. In its March 2011 Consultation, Ofcom forecast a reduction in the total number of LLU and WLR lines (ie residential and business copper fixed lines) from 23.8 million in 2009/10 to 22.7 million in 2013/14.[6] It noted that fixed line telephony had been declining year on year since 2002 and that in 2009 the number of copper fixed lines fell by 3.4 per cent (or 1.1 million copper fixed lines), the largest annual decline since 2002. This fall was said to be primarily driven by a growing number of households becoming mobile only. Ofcom gave several potential reasons why a decline in fixed lines might occur:

(a) an increase in the number of mobile-only households—there had been a steady increase between 2005 and 2010;

(b) a reduction in the number of business lines—there had been a decrease of 5.6 per cent in 2009, the largest annual decline since 2002; and/or

(c) a decline in new household development—there had been a decline in the building of new households as a result of the economic downturn.[7]

- *TalkTalk and EE's responses to the Consultations*

9.10. In response to Ofcom's forecast in the March 2011 Consultation, TalkTalk noted that the decline in the total number of fixed lines (WLR and MPF) forecast was too rapid and expressed doubt that the decline in 2011/12 would average around 300,000.[8] TalkTalk presented an alternative forecast of aggregate volumes where the total

[3] 2012 Statement, ¶A2.8.
[4] 2012 Statement, ¶A2.10.
[5] 2012 Statement, Table A2.1.
[6] 2012 Statement, ¶A2.13.
[7] 2012 Statement, ¶¶A2.15–A2.18.
[8] 2012 Statement, ¶A2.21.

number of lines increased by around 100,000 in 2011/12, stayed flat in 2012/13 and then decreased by around 100,000 in 2013/14.[9]

9.11. EE provided detailed comment on Ofcom's forecast of the fixed-line volumes, both in response to the March 2011 Consultation and the November 2011 Consultation. It disagreed with Ofcom's forecast that the total number of copper fixed lines would continue to decline, noting that the growth in mobile broadband (in terms of sales of dongles) had stalled and that the gap between the broadband speeds offered by mobile and fixed providers was widening, which would render mobile-only Internet increasingly unattractive. EE argued that consumers would continue to favour fixed broadband provision. In support, EE provided a report by Enders Analysis which confirmed the continued growth in fixed broadband provision, though it suggested that the rate of change would diminish, as the residential market became saturated.[10]

9.12. EE also noted that, with increasing amounts of content being provided over the Internet, which required customers to have access to high-speed broadband, broadband that could offer such speeds was an increasingly important product to consumers. EE also pointed to the growth of Wi-Fi, which was based on fixed-line access, as a key data access channel for smartphones and other connected devices which were increasing in number. EE said that this would also drive fixed broadband demand.[11]

9.13. In its response to the November 2011 Consultation, EE stressed that Ofcom's volume forecasts should be 'as accurate and up to date as it is possible for them to be' to avoid an over- or under-recovery of costs by Openreach and any 'competitive distortion' between MPF and WLR+SMPF based providers. EE asked Ofcom to update the forecasts used in the March 2011 Consultation to 'assume that the 2011 fixed line volumes will increase rather than decrease'.[12]

9.14. In addition, EE noted that 'Continued growth in overall fixed line volumes, combined with slowing growth of LLU (especially MPF) leads to the inevitable conclusion that WLR access will grow in both absolute and relative volumes during the period of the charge control'.[13]

Ofcom's response and final decision on line volumes

9.15. Ofcom's revised and final volume forecast showed the total number of LLU and WLR lines 'ending at 23.19m [sic] in 2013/14, which is 713,000 fewer lines than in 2009/10 and 751,000 fewer lines than in 2010/11'.[14]

9.16. The final forecasts took account of comments received from stakeholders in response to the March 2011 Consultation and the November 2011 Consultation[15] as well as new data from:

(a) Openreach on fixed-line volumes;

(b) Ofcom research on the number of mobile-only households; and

(c) Ofcom research on the number of cable-based telephony subscribers.[16]

[9] 2012 Statement, ¶A2.22.
[10] 2012 Statement, ¶A2.23.
[11] 2012 Statement, ¶A2.24.
[12] 2012 Statement, ¶A2.25.
[13] 2012 Statement, ¶A2.26.
[14] 2012 Statement, ¶A2.29.
[15] 2012 Statement, ¶A2.28.

9.17. In the Statement, Ofcom considered first the likely effect of mobile-only households on the number of fixed lines. Ofcom said that its volume forecasts in the March 2011 Consultation were based on an estimate that the number of mobile-only homes would grow from 14 per cent in Q1 2010 to 16.9 per cent in Q1 2014.[17] It noted that the most recent data available to it showed that the proportion of mobile-only homes increased by just 1 per cent during 2010 and had remained stable at 15 per cent in Q1 2011 and Q2 2011. In addition, it noted that its Consumer Experience 2011 report also found that the 'requirement [in the UK] to pay for a telephone service in order to receive DSL broadband has constrained the growth of mobile only households'.[18]

9.18. It was Ofcom's view that it had no evidence to suggest that the position (with regard to mobile-only households) would change significantly in the next two years—increases in mobile-only households would be likely to continue but the pace of change had clearly slowed. Its revised volume forecast therefore assumed that the proportion of mobile-only homes would increase only slightly from the current 15 per cent to 15.5 per cent for the charge control period.[19]

9.19. Ofcom stated that despite the advantages of fixed-line broadband over mobile broadband, it expected certain factors to constrain growth in analogue fixed lines during the charge control period.[20] These were:

(a) *Business lines.* Ofcom noted that the number of fixed lines used by business fell by 5.2 per cent year on year (this fall included business lines which are outside the scope of this charge control). It considered that the reduction in use of fixed lines by business would continue during the charge control period even if the economy started to recover.[21] Its research indicated that business users were more likely to switch away from fixed voice to other methods of communication, including VoIP and mobiles, than residential users.[22]

(b) *New household development.* Ofcom's view was that the prevailing macro-economic environment suggested that there was likely to be a significant dampening of demand from new households and new (first-time) fixed-line subscribers.[23] Its view was that it was difficult to predict when homes would be completed and occupied (and hence countable in its volumes) and also what percentage of such developments would be supported by copper-based telecommunications services rather than fibre-based services (ie NGA fibre to the premises (FTTP)). It therefore found it inappropriate to incorporate estimates of increased demand from these initiatives into its service volumes to 2013/14.[24]

(c) *Cable.* Growth in the number of cable connections provided by Virgin Media taken up by subscribers reduced the consumer base available for copper-based analogue fixed lines. However, Ofcom's view was that cable take-up had plateaued[25] and accordingly it assumed that the number of WLR and LLU lines would not be impacted further to a significant degree by cable take-up.[26]

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16 2012 Statement, ¶A2.27.
17 2012 Statement, ¶A2.34.
18 2012 Statement, ¶A2.35.
19 2012 Statement, ¶A2.36.
20 2012 Statement, ¶A2.38.
21 2012 Statement, ¶A2.41.
22 2012 Statement, ¶¶A2.39–A2.41.
23 2012 Statement, ¶A2.42.
24 2012 Statement, ¶¶A2.45–A2.46.
25 2012 Statement, ¶A2.47.
26 2012 Statement, ¶A2.48.

(d) *Next generation access services (NGA).* Ofcom said that NGA was not a significant factor when determining the demand for copper fixed lines during this charge control period.[27]

Summary of Sky/TalkTalk's arguments

9.20. Sky/TalkTalk contended that Ofcom's forecasts of the volumes of WLR, MPF and SMPF services were flawed in that:

(a) Ofcom had failed to provide robust and transparent justification of its forecasting of volumes of MPF, SMPF and WLR services; and/or

(b) Ofcom had failed to take into account (either adequately or at all) recent and highly pertinent data on trends in the volume of those services and had relied to an inappropriate extent on information from BT and market analysis which was out of date. In consequence, it had erred in its assessment of likely future volumes of MPF and WLR lines. It had thereby over-estimated unit (per line) costs for MPF and WLR services.[28]

9.21. Sky/TalkTalk said that Ofcom erred in fact by failing to find that there had been a significant change in the trajectory of actual line volume figures since the data which had been considered in the March 2011 Consultation. They said that Ofcom further made errors of judgement in failing to investigate the significance of that change for its forecasts, in failing to take proper account of other evidence which suggested that line volumes would rise in the future, including a report from Enders Analysis, and in relying upon an outdated report from Analysys Mason. They said that this ground was not merely an attack on the weight which Ofcom chose to attach to the quarterly KPI data from BT. Rather, they submitted that Ofcom had clearly made a prior error in failing to investigate the discrepancy between the recent quarterly KPI data from BT and its previous forecasts (see paragraphs 9.25 to 9.33 below). In Sky/TalkTalk's view, that error fundamentally undermined Ofcom's reasoning.[29]

9.22. Sky/TalkTalk said that Ofcom had failed (either properly or at all) to take account of relevant factual evidence; and in exercising its discretion to adopt the approach it had, it had failed properly to give effect to its duties of transparency and robust justification. In turn, it had failed to give effect to its objectives to promote competition, economic efficiency and consumer benefits.[30]

9.23. Sky/TalkTalk said that although expressed as a 'slight reduction', Ofcom had in fact forecast that the total volume of WLR and MPF products would fall by approximately 750,000 subscribers between 2010/11 and 2013/14.[31]

9.24. They said that broadly, in the March 2011 Consultation, Ofcom forecast future volumes using a combination of historical data and forecasts by Openreach, other CPs and other persons. In particular, the historic, actual data on volumes available to Ofcom consisted of BT's quarterly key performance indicators (KPIs), and BT's annual regulatory financial statements (RFS).[32]

27 2012 Statement, ¶A2.49.
28 Sky/TalkTalk NoA, ¶41.
29 Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶22.
30 Sky/TalkTalk NoA, ¶42.
31 Sky/TalkTalk NoA, ¶45.
32 Sky/TalkTalk NoA, ¶46.

BT's KPIs

9.25. Sky/TalkTalk stated that at the time that the March 2011 Consultation was published, Ofcom only had available to it BT's KPIs up to Q3 of 2010/11 (ie October to December 2010).[33] In the March 2011 Consultation, the historic, actual data on volumes available to Ofcom at that time showed that the number of lines was declining. On this basis, Ofcom forecast that the number of lines would fall by around 700,000 lines between 2011/12 and 2013/14—that is, a fall of around 87,500 lines per quarter.[34]

9.26. Sky/TalkTalk said that Ofcom relied on actual data provided by BT in August 2010 for the period 2007/08 to 2009/10 and actual data provided by BT in January 2012 for 2010/11. It also relied on data provided by BT in January 2012 as to the average actual number of lines in the first half of 2011/12.[35] By contrast, at the time of the 2012 Statement in March 2012, the KPI data was available to Ofcom for the period up to September 2011 (or later).

9.27. Sky/TalkTalk said that Ofcom's volume forecasts and stated methodology were deficient in a number of respects and likely to understate volumes across the charge control period.[36]

9.28. According to Sky/TalkTalk, Figure 9.1 (below) showed both:

(a) volumes which were significantly higher than the corresponding forecasts in the first consultation, such that Ofcom's forecast for 2011/12 was necessarily higher than the corresponding forecast in the March 2011 Consultation (see Figure 9.1); and

(b) the previous downward trend in lines had been reversed in the recent data, giving an upward trend for five continuous quarters.[37]

FIGURE 9.1

Total number of Openreach WLR + MPF lines from section 135 response compared with Ofcom forecast in first consultation

[✂]

Source: Sky/TalkTalk NoA, W/S Duckworth, Figure 2.

9.29. Sky/TalkTalk said that Ofcom did not fully investigate that discrepancy, and made only relatively minor amendments to its forecasts. They said that Ofcom merely changed the starting point for its forecasts but left the trend virtually unaltered at a fall of 618,000 lines between 2011/12 and 2013/14—that is, a fall of some 77,250 lines per quarter.[38] Mr Duckworth stated that this was a relatively minor revision given a discrepancy of over 300,000 between the original forecast for 2011/12 and the forecast used in the Decision.[39] A comparison of the first consultation and final decision together with the January section 135 data can be seen below in Figure 9.2.

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33 Sky/TalkTalk NoA, ¶47.
34 Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶14.
35 Sky/TalkTalk NoA, ¶48A.
36 Sky/TalkTalk NoA, ¶50.
37 Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶15.
38 Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶16.
39 Sky/TalkTalk NoA, W/S Duckworth, ¶4.17.

FIGURE 9.2

Total number of Openreach WLR + MPF lines in first consultation compared with final decision

[✄]

Source: Sky/TalkTalk NoA, W/S Duckworth, Figure 3.

9.30. Sky/TalkTalk said that at the very least, the apparent ending of the previous downward trend and the significant and continued divergence of the actual data from Ofcom's forecasts should have led Ofcom to consider whether its forecasts should be revisited. It was not sufficient to adjust the starting point for its forecasts and to make a minimal adjustment to the forecast trend (as in fact it did). What was also required was to investigate whether the actual data revealed a phenomenon which Ofcom's forecasts did not take into account. Ofcom failed to carry out any proper such consideration or investigation.[40]

9.31. They said that the CC should scrutinize Ofcom's forecasts particularly closely, given that Ofcom's reasoning in the 2012 Statement failed to justify its forecasts robustly. In the Statement, Ofcom did not state what data sets it had taken into account (in particular, as to the time periods used for different sources of data), the weighting or prominence it gave to different data or, importantly, how it took account of recent data. It was not clear until Ofcom filed its Defence whether it had taken the more recent KPI data into account at all.[41]

9.32. They said that in its final 2012 Statement (paragraph A2.27), Ofcom stated that it had revised its volume forecasts to take account of new data, including data from Openreach on fixed-line volumes. However, Ofcom failed to make clear:

(a) precisely what data sets it took into account, and for what periods; and

(b) the method it used to derive its forecasts from such data.

9.33. Sky/TalkTalk said that since the commencement of proceedings, further information, which was not publicly available at the time of the Statement, had been provided to them (or their experts) concerning the approach adopted by Ofcom. That information indicated that Ofcom's approach to forecasting line volumes was deficient in the following respects.

Other relevant evidence

9.34. Mr Duckworth said that Ofcom was supplied with two third-party reports which appeared to be relevant to the forecasting of the number of copper lines:

(a) a report by Analysys Mason entitled 'Fixed and mobile voice services in Western Europe: forecasts and analysis, 2010–2015' by Stephen Sale and Rupert Wood dated July 2010; and

[40] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶19.1.
[41] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶19.2.

(b) a report by Enders Analysis entitled ‘UK fixed telecoms market—Broadband and telephony trends to Q3 2011, Residential broadband projections to 2016’ dated December 2011.[42]

- *The Analysys Mason report*

9.35. Mr Duckworth said that the Analysys Mason report was produced more than 18 months before the Decision was published. The forecasts therefore could not take into account the increase in the number of Openreach lines in 2010/11 shown in the data provided by BT to Ofcom. He said that in light of this he did not consider that Ofcom should have placed significant weight on this report when forecasting the number of copper lines for the purposes of setting the charge control.[43]

- *The Enders Analysis report*

9.36. Mr Duckworth said that the Enders Analysis report did not provide direct forecasts of copper line usage but did provide forecasts of fixed (ie not mobile broadband) residential broadband. He said that this suggested that residential broadband would continue to increase.[44]

9.37. He said that because the Enders Analysis forecast that Virgin Media, the only large player not reliant on Openreach infrastructure, would lose market share over the forecast period, this indicated that the number of broadband subscribers using Openreach would continue to increase.[45] He said that this provided support for his hypothesis that fixed broadband penetration would continue to increase which would support the continued growth in Openreach copper lines.[46]

Mr Duckworth’s forecasts

9.38. Mr Duckworth said that the BT data and forecasts made it clear that Ofcom did not significantly alter the trends for the two years from 2011/12 in the forecast provided by BT, even though the forecast had proved to be far too pessimistic for 2010/11 and 2011/12. Given the size of the divergence, he believed that it would have been reasonable for Ofcom to review the forecast fully in the light of all of the available information.[47]

9.39. He said that based on the confidential information supplied, it would be reasonable to expect the total number of Openreach copper lines to grow at a rate of approximately 20,000 lines a quarter from the base year 2010/11. The Enders Analysis report provided support for the hypothesis that this change in trend was likely to be sustained due to increases in penetration of broadband services among households.[48]

9.40. He said that based on the information now provided by BT, but not available to Ofcom when it made the decision, BT now contended that it made an error and the number of Openreach copper lines in the base year (2010/11) was overstated in Ofcom’s model by [✂] lines. He said he was not in a position to assess whether Ofcom would have known about this error at the time the decision was made, had it further reviewed the volume forecasts in the light of the data available at the time of

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[42] Sky/TalkTalk NoA, W/S Duckworth, ¶4.23.
[43] Sky/TalkTalk NoA, W/S Duckworth, ¶4.24.
[44] Sky/TalkTalk NoA, W/S Duckworth, ¶4.25.
[45] Sky/TalkTalk NoA, W/S Duckworth, ¶4.26.
[46] Sky/TalkTalk NoA, W/S Duckworth, ¶4.29.
[47] Sky/TalkTalk NoA, W/S Duckworth, ¶4.31.
[48] Sky/TalkTalk NoA, W/S Duckworth, ¶4.32.

the Decision. He said that he therefore performed a sensitivity analysis on two alternative bases: both taking account of the error asserted by BT, and not taking it into account.[49] These are shown below in Table 9.2.

TABLE 9.2 **Mr Duckworth forecasts of MPF + WLR**

					'000
	2009/10	*2010/11*	*2011/12*	*2012/13*	*2013/14*
Ofcom model	23,831	23,869	23,736	23,382	23,118
Duckworth forecast using Ofcom base year estimate	23,831	23,869	23,949	24,029	24,109
Difference	*0*	*0*	*213*	*647*	*991*
Duckworth forecast corrected for BT error	[✂]	[✂]	[✂]	[✂]	[✂]
Difference	[✂]	[✂]	[✂]	[✂]	[✂]

Source: Sky/TalkTalk NoA, W/S Duckworth, Table 12.

9.41. He said that the impact using these forecasts on charge control prices was set out in Tables 9.3 and 9.4.

TABLE 9.3 **Duckworth change in prices based on Ofcom published estimates**

			£/line/year
	2011/12	*2012/13*	*2013/14*
WLR Basic	–0.68	–2.19	–3.41
WLR Premium	–0.68	–2.20	–3.43
MPF	–0.64	–2.01	–3.10
SMPF	–0.03	–0.10	–0.16

Source: Sky/TalkTalk NoA, W/S Duckworth, Table 13.

TABLE 9.4 **Duckworth change in prices based on BT's corrected estimates**

				£/line/year
	2010/11	*2011/12*	*2012/13*	*2013/14*
WLR Basic	0.46	–0.23	–1.72	–2.94
WLR Premium	0.46	–0.23	–1.72	–2.95
MPF	0.44	–0.21	–1.58	–2.67
SMPF	0.03	–0.01	–0.08	–0.13

Source: Sky/TalkTalk NoA, W/S Duckworth, Table 14.

Impact of alleged error

9.42. Sky/ TalkTalk said that the evidence indicated that there had in fact been a turning point in the overall number of copper lines since September 2010. Whether or not that upward trend would continue, or would continue at any particular rate, it was clear that it could not be presumed that the previous downward trend would continue:

(a) It was likely that the recent trends in the number of Openreach WLR and MPF lines, namely a small but sustained increase, would continue.

[49] Sky/TalkTalk NoA, W/S Duckworth, ¶4.33.

(b) This was because there were good reasons to believe that this was not merely a one-off increase, but a trend with real causes that were likely to continue, the most likely cause being that it was due to increasing fixed broadband use among residential customers. This was also consistent with the Enders Analysis report relied upon by Ofcom in the 2012 Statement which forecast increases in fixed residential broadband over the charge control period and therefore also cast doubt upon Ofcom's forecasts.

(c) The reconciliation provided by BT between its KPI data and the forecasts provided to Ofcom indicated that movements in the two were relatively close, and supported the view that it was reasonable to rely upon the KPI to forecast line volumes.

(d) It was not reasonable for Ofcom to place significant weight on the Analysys Mason report for the purpose of forecasting line volumes since it was out of date.[50]

9.43. They said that this error was likely to have a material impact on the controlled prices: Ofcom previously estimated that a reduction in the forecast demand of 100,000 subscribers would result in the cost for MPF rental increasing by 40p per line per year, and Ofcom forecast total demand for WLR and MPF lines to fall by around 750,000 across from FY11/12 to FY13/14.[51]

9.44. They contended that a more appropriate forecast would be to use the latest growth rates taken from BT KPIs (ie around 20,000 net additional lines per quarter) to project forward demand from the last data point. This would lead to approximately 1,000,000 more lines than forecast by Ofcom, leading to a reduction in WLR basic and MPF prices of £3.41 and £3.10 per line per year respectively compared with Ofcom's estimates.[52]

Summary of Ofcom's arguments

9.45. Ofcom said that Sky/TalkTalk had failed to stipulate what they alleged, specifically, to be an error of fact, as distinct from what was alleged to be an error of law, and as distinct from what was alleged to be an error in the exercise by Ofcom of its discretion.[53] It said that the alleged errors, when properly analysed, related to the way in which Ofcom had exercised its discretion in how it had weighed the data on which it made its volumes forecast: the alleged failure to provide a robust and transparent justification was based on the allegation that it failed to give sufficient weight to certain data.[54]

9.46. Ofcom said that there was no error in the way that it exercised its regulatory judgement as to future line volumes: its judgement was both robust and transparent and appropriately weighed all relevant data.[55] In any event, the errors alleged by Sky/TalkTalk failed on their own terms to the extent that they relied on the claim that Ofcom should have forecast an increase in volumes on the basis of giving greater weight to short-term data demonstrating a recent (and very slight) increase in the volume of lines. This reasoning was flawed because:

[50] Sky/TalkTalk Core Submission (Sky/TalkTalk), Volume 1, ¶19.
[51] Sky/TalkTalk NoA, ¶53.
[52] Sky/TalkTalk NoA, ¶54.
[53] Ofcom Defence (Sky/TalkTalk Appeal), ¶A5.
[54] Ofcom Defence (Sky/TalkTalk Appeal), ¶A6.
[55] Ofcom Defence (Sky/TalkTalk Appeal), ¶A8.

(a) the most recent quarterly and monthly data showed that the figures relied upon were inconsistent and could not amount to a 'trend'; and

(b) where historically short-term increases occurred within a context of long-term volume decline, a short-term increase was a much less reliable basis on which to forecast volumes than the long-term decline evidenced by the available data on volumes.[56]

Ofcom's approach to forecasting volumes

9.47. Ofcom said that in exercising its regulatory discretion to estimate volumes, it sought to scrutinize historical data, existing forecasts and the way in which a range of variables (such as figures for mobile-only households or housebuilding statistics) would impact on those forecasts and the assumptions on which they were based. The data relied upon and the way in which Ofcom sought to weigh its indicative force (which, looking to the future, could not be a precise science) was discussed in the 2012 Statement and Ofcom maintained that this approach had been and remained appropriate.[57]

9.48. Ofcom said that it undertook its analysis as follows. It began with Openreach's volume forecasts for financial year 2010/11 but corrected those forecasts with actual volume data for that period that BT provided on 6 January 2012 pursuant to Ofcom's 13th section 135 request. It then adjusted Openreach's volume forecasts for 2011/12 by reference to:

(a) the actual data for Q1 and Q2 provided by Openreach in its response to Ofcom's 13th section 135 request; and

(b) the difference between the most recent estimate of mobile-only households in 2011 (from Ofcom's Communications Market Report 2011) and the estimate used for the forecast presented in the March 2011 Consultation.[58]

9.49. It said that it then derived its forecasts for 2012/13 to 2013/14 by:

(a) using Openreach's forecast as a starting point;

(b) identifying and scrutinizing the assumptions on which Openreach made its forecasts;

(c) adopting assumptions to the extent that they withstood scrutiny; and

(d) adjusting the forecasts by reference to those assumptions that merited revisiting.[59]

9.50. To the extent that it took account of BT's data, Ofcom said that it did not simply rely on that data but subjected it to a rigorous process of cross-checking by reference to the following, further sources of data:

(a) Ofcom's Communications Market Report 2011, published on 4 August 2011, which set out actual data for:

[56] Ofcom Defence (Sky/TalkTalk Appeal), ¶A9.
[57] Ofcom Defence (Sky/TalkTalk Appeal), ¶A10.
[58] Ofcom Defence (Sky/TalkTalk Appeal), ¶A12.
[59] Ofcom Defence (Sky/TalkTalk Appeal), ¶A13.

(i) mobile-only households (quarterly);

(ii) fixed lines used by businesses (yearly); and

(iii) businesses switching to VoIP/other methods (yearly);

(b) Ofcom's Consumer Experience 2011 Report, published on 6 December 2011, which identified factors influencing increase in number of mobile-only households;

(c) 'Virgin Media Investor Centre' reports between Q1 2010 and Q3 2011, which provided actual data on the number of cable telephony subscribers;

In order to consider the possible impact on fixed-line volumes of the NGA plans of BT, TalkTalk Group and Sky, Ofcom also considered:

(d) the *Financial Times* report of 31 October 2011 on BT's superfast broadband roll-out plan;

(e) TalkTalk's Interim Management 2012 Statement of 8 February 2011;

(f) a conference call with Sky as to its September 2011 results;

(g) BSkyB's Q1 results of October 2011, and in particular slide 7 which provided evidence of a decline in 'churn' (this was in contrast to TalkTalk's assertion that Ofcom's implied MPF churn rate 'looks low');

(h) an Enders Analysis report of December 2011; and

(i) BT's monthly and quarterly volume reports (KPIs) on LLU and WLR. The data is not audited and is subject to revision after the end of the relevant financial year. By the time Ofcom published the draft Statement, it had received detailed KPI monthly data up to November 2011. Ofcom did not have a full set of detailed data for December 2011 until 15 March 2012, after the date on which the 2012 Statement was published.[60]

9.51. In forecasting future volumes, Ofcom said that it also took specific account of:

(a) Openreach's forecasts of volumes for the period to 2013/14 and Openreach's explanation of the underlying assumptions;

(b) views on and/or forecasts of future product volumes from other content providers which purchased LLU and WLR; and

(c) independent forecasts from other sources.[61]

9.52. Having considered the evidence in its 2011 Communications Market Report and various other sources, Ofcom considered that there would continue to be a reduction in the use of fixed lines by business, and concluded that it was unlikely that there would be a net increase in demand either due to the building of new households or

[60] Ofcom Defence (Sky/TalkTalk Appeal), ¶A14.
[61] Ofcom Defence (Sky/TalkTalk Appeal), ¶A15.

new fixed-line subscribers. It therefore made no upward correction in volume forecasts on the basis of these factors.[62]

9.53. As a result of its analysis, Ofcom identified the main trends in its volume forecasts as follows:

(a) a slight reduction in aggregate demand for copper fixed lines, from 23.87 million in 2010/11 to 23.12 million in 2013/14; the word 'slight' was correctly used in so far as a drop of 750,000 subscribers from 2010/11 to 2013/14 constituted 3.14 per cent of the total starting volume (i.e. 23.87 million);

(b) a significant shift in demand from WLR+SMPF to MPF;

(c) a decline in demand for SMPF from 2010/11 to 2013/14, although slightly less than forecast in the March 2011 Consultation, given the higher total number of lines; and

(d) a slowdown in the trend towards mobile-only households against that assumed by BT, evidenced by Ofcom's own research on this trend.[63]

9.54. It said that consequently it exercised its regulatory judgement to conclude that there should be an upward adjustment in the assumptions made as to the total MPF, WLR and SMPF lines at the end of the charge control period. It contended that this position represented an entirely appropriate exercise of its regulatory discretion.[64]

Ofcom's approach to forecasting volumes was robust and transparent

9.55. Ofcom said that it rejected the allegations that it 'failed to provide robust and transparent justification of its forecasting of volumes of MPF, SMPF and WLR services' for the reasons summarized below.[65]

- *The forecast methodology was robust*

9.56. Ofcom rejected the assertion that it had failed to make clear the method it used to derive its forecasts from the data it used.[66] It set out its approach to the forecasting of volumes in both the March 2011 Consultation and the 2012 Statement and neither Sky nor TalkTalk raised any objection to that approach. More particularly, it did not accept, if this is what was being suggested, that it was required to provide a line-by-line algorithm or narrative of how its forecasts were reached.[67]

- *The forecasting was transparent*

9.57. Ofcom said that it rejected the allegation that the basis for its volume forecasting lacked transparency. It said that the data used for its volume forecasting was set out clearly in the Statement. In particular:

(a) paragraph A2.8 of the 2012 Statement listed all the data sources it used for the purpose of forecasting;

[62] Ofcom Defence (Sky/TalkTalk Appeal), ¶A16.
[63] Ofcom Defence (Sky/TalkTalk Appeal), ¶A17.
[64] Ofcom Defence (Sky/TalkTalk Appeal), ¶A18.
[65] Ofcom Defence (Sky/TalkTalk Appeal), ¶¶A19–A20.
[66] Ofcom Defence (Sky/TalkTalk Appeal), ¶A21.
[67] Ofcom Defence (Sky/TalkTalk Appeal), ¶A22.

(b) references to external or other Ofcom data sources were footnoted throughout Annex 2 of the Statement; and

(c) the 2012 Statement expressly considered a range of macroeconomic factors that could affect fixed-line demand.[68]

9.58. It said that despite this, Sky/TalkTalk asserted that:[69]

> Ofcom forecast future volumes using a combination of historical data and forecasts by Openreach, other CPs and other persons as set out at §A2.8 and 1st Duckworth §§4.5-4.8. In particular, the historic, actual data on volumes available to Ofcom consisted of BT's Key Performance Indicators ('KPIs') (published quarterly), and BT's annual regulatory financial statements ('RFS Data').

9.59. It said that this assertion suggested that the only historic data of which Ofcom took account was BT's volume data. This was not the case: neither in the March 2011 Consultation nor in the 2012 Statement did Ofcom state that the historic, actual data on volumes that it used consisted solely of BT's KPIs and BT's annual RFS. In fact, Ofcom's assessment of future volumes took account of:

(a) the most recent Openreach volumes (as to which, see below);

(b) trends in demand for cable (Virgin Media) and mobile services and the interaction between those services and the volumes of fixed lines;

(c) current and historical data held by Ofcom;

(d) existing trends in WLR, MPF and SMPF volumes to see how they compared with the trends shown by Openreach's forecasts; and

(e) independent forecasts from other sources.[70]

9.60. Ofcom said that, in addition, it procured further information on volumes by raising section 135 requests, as follows:

(a) Openreach's response to Ofcom's 3rd section 135 request: this response contained actual product volumes (in the form of year averages) for the financial year 2009/10; it also set out yearly forecasts for financial years 2010/11, 2011/12, 2012/13 and 2013/14; and

(b) Openreach's response to Ofcom's 13th section 135 request: this response contained further actual product volumes for:

(i) financial year 2010/11; and

(ii) the first half of financial year 2011/12, which data was taken from Openreach's management accounts.[71]

9.61. Ofcom said that in the circumstances, it could not be suggested that it only considered historic data provided by BT, nor that this was not transparent on the face of the Statement.[72]

[68] Ofcom Defence (Sky/TalkTalk Appeal), ¶A23.
[69] Ofcom Defence (Sky/TalkTalk Appeal), ¶A24.
[70] Ofcom Defence (Sky/TalkTalk Appeal), ¶A25.
[71] Ofcom Defence (Sky/TalkTalk Appeal), ¶A26.

9.62. It said that Sky/TalkTalk also appeared to imply that although the more recent volume data had become available prior to the publication of the Statement, Ofcom failed to take it into account, either adequately or at all. It said that Mr Duckworth contended that, on the basis of the most recent KPIs available prior to publication, Ofcom's forecasting should in fact have concluded that the number of fixed lines would increase towards 2014.[73]

9.63. It said that it took all available data into account, subject to the need to conclude the 2012 Statement for European Commission review in time: the 2012 Statement expressly referred to the fact that Ofcom had taken into account information from 'Recent Openreach Volumes' (Statement, paragraph A2.8, where the footnote expressly states that those recent Openreach Volumes were derived from 'Openreach's 6 January 2012 response to Ofcom's 13th S135 notice …').[74]

9.64. Ofcom said that it did not request more recent volume data from Openreach for the second half of financial year 2011/12 since this data would not have been known prior to publication of the draft Statement, as fully reviewed data would not be available until after the end of March 2012, and that even indicative volumes for Q3 2011/12 would not be available until February 2012. It said that in order to put in place the charge controls before the expiry of the interim pricing arrangements on 31 March 2012, the 2012 Statement had to be finalized by the end of January/beginning of February 2012. Therefore, the last volume data which could be taken into account before notification of the draft 2012 Statement to the European Commission was that provided in relation to Q2 2011/12 in response to Ofcom's 13th section135 request of 21 December 2011. This pre-dated the availability of the Q3 2011/12 figures. In any event:

(a) even if Ofcom had had the audited Q3 figures, it would not have changed its forecast analysis given the weight it considered was appropriate to give to minor changes in trend data without evidence of long duration; and

(b) any changes to take account of figures that had subsequently emerged would have required Ofcom to renotify its draft 2012 Statement to the European Commission, effectively delaying the implementation of the charge control.[75]

9.65. Ofcom said that in paragraph 48 of the NoA, Sky/TalkTalk additionally asserted that it had failed to make clear precisely what data sets it took into account and for what periods. It said that this alleged lack of transparency was said to flow from paragraph A2.27 of the 2012 Statement which stated that: 'We have revised our volume forecasts to take account of new data from (i) Openreach on fixed-line Volumes …'. Ofcom said that the volume forecasts used actual data from BT for 2009/10, 2010/11 and the first two quarters of 2011/12 as provided by BT pursuant to its 13th section 135 notice. It said that BT had confirmed that this data was itself taken from Openreach's management accounts.[76]

9.66. Ofcom said that in asserting that it failed to set out the precise data sets that Ofcom took into account and for what periods, Sky/TalkTalk again ignored paragraph A2.8 of the 2012 Statement in which it listed all of the data it considered, the footnotes to

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[72] Ofcom Defence (Sky/TalkTalk Appeal), ¶A27.
[73] Ofcom Defence (Sky/TalkTalk Appeal), ¶A28.
[74] Ofcom Defence (Sky/TalkTalk Appeal), ¶A29.
[75] Ofcom Defence (Sky/TalkTalk Appeal), ¶A30.
[76] Ofcom Defence (Sky/TalkTalk Appeal), ¶A31.

which made clear the dates of those sources.[77] It said that it therefore did not accept that it failed to make clear what data sets it took into account.[78]

Substantive criticism of Ofcom's volume forecasts

9.67. Ofcom said that many of Sky, TalkTalk and EE's criticisms of its forecasting related to the weight given to the historical data that Ofcom considered, in the exercise of its regulatory discretion, in its assessment of future volumes. It said that more specifically, Sky/TalkTalk make four substantive criticisms of the exercise by Ofcom of its regulatory judgement in forecasting volumes:

(a) Although data received by Ofcom in January 2012 for 2010/11 and for the period from April to September 2011 showed volumes significantly higher than the corresponding forecasts in the first consultation, and an upward trend, Ofcom did not investigate that discrepancy or amend its forecast trend.

(b) Ofcom relied upon a report by Analysys Mason, which was published in July 2010, and therefore was more than 18 months old by the time of the Statement, and, importantly, pre-dated the change in trend.

(c) Since Ofcom had available to it an Enders Analysis report, which it was alleged cast doubt upon Ofcom's forecasts, it should therefore have investigated whether an increase in line volumes was likely to occur or otherwise have considered the implications of that report in the Statement.

(d) Ofcom did not take adequate account of the available data as to trends up to and including Q3 2011/12 and forecasts for growth thereafter.[79]

- *Ofcom took adequate account of historic volume data*

9.68. Ofcom said that the alleged failure to further investigate or revise its forecasting as a result of 'significantly higher' volume figures for April to September 2011 was false. It said that it amended its volumes forecast before publishing its 2012 Statement to reflect both *(a)* changes in actual product volumes since the prior forecast in the March 2011 Consultation, and *(b)* the contemporaneous state of relevant, external macroeconomic factors. It said that if it had not amended its forecast—as Sky/TalkTalk claimed it had not—then again the forecast in the 2012 Statement would be identical to the forecast in the March 2011 Consultation. But it was not. It said that it stated in paragraph A2.4 that it had made an 'upward adjustment' in fixed-line volumes.[80]

9.69. Ofcom said that it also stated in paragraph A2.29 that its revised forecasts showed fixed-line volumes being 'almost flat' rather than declining (as in the March 2011 Consultation). It said that as to the alleged failure to mention this trend, Ofcom had no robust data to validate the claim that this short-term growth in fixed-line numbers was a genuine trend. To this, Sky/TalkTalk now contended that 'BT has provided a reconciliation of its KPI data to the data and forecasts of Ofcom which indicates that the KPI data is a good indicator of trends in the data used in BT's forecast model'.[81]

[77] Ofcom Defence (Sky/TalkTalk Appeal), ¶A32.
[78] Ofcom Defence (Sky/TalkTalk Appeal), ¶A33.
[79] Ofcom Defence (Sky/TalkTalk Appeal), ¶A34.
[80] Ofcom Defence (Sky/TalkTalk Appeal), ¶A37.
[81] Ofcom Defence (Sky/TalkTalk Appeal), ¶A38.

9.70. Ofcom said that there was no evidence to support this contention: KPIs were not a forecast, they simply presented recent data. Its use of KPI data was therefore tempered by the fact that such data, for any month or quarter, did not, according to BT, go through external audit or other BT checks until the end of the financial year. Therefore it could be subject to significant revisions at financial year end. Ofcom said that this had in fact occurred in so far as BT had recently corrected its KPI figures and it was entitled to have regard to this fact.[82]

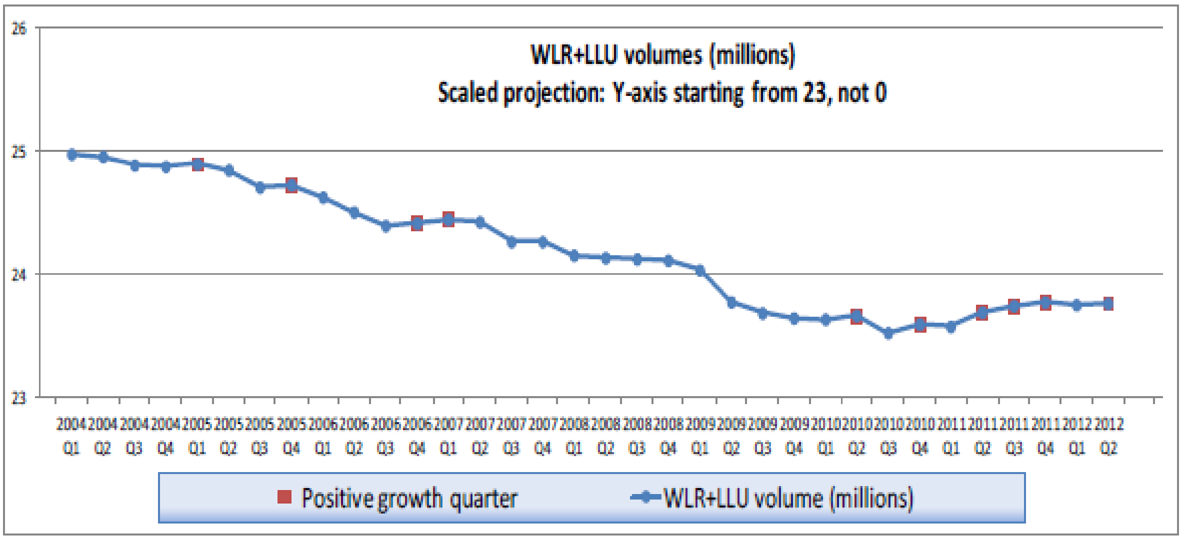
9.71. Ofcom said that there were more fundamental objections to Sky/TalkTalk's reliance on, in particular, the Enders Analysis report to the extent that it was alleged to support the claim that the most recent data had shown an upward trend in volumes. More particularly:

(a) Ofcom rejected Sky/TalkTalk's approach of basing volume forecasts exclusively on the most recent data (for a period of between three and six months) rather than considering or giving appropriate weight to the data that had given rise to very clear trends over a much longer period of time.

(b) Ofcom had always been cautious of accepting permanent turning points until these were conclusively established. The historic downward trend over the last decade had included periodic flattening and changes in direction. This appeared evident from Figure 9.3 below which tracks combined WLR and LLU volumes from Q1 2003/04 to Q2 2011/12.

FIGURE 9.3

WLR+LLU volumes from 2003/04



Source: Ofcom Defence, Annex A, Table on p14.
Note: Years in the chart refer to financial years such that Q2 2012 is Q2 2011/12.

(c) Sky/TalkTalk now acknowledged in footnote 23 of the NoA that BT's data supplied to Ofcom under the 13th section 135 notice contained an error, namely that their actual volumes were lower than that provided to Ofcom. This error highlighted the danger in giving undue weight to recent monthly estimates, particularly before they had been audited.

[82] Ofcom Defence (Sky/TalkTalk Appeal), ¶A39.

(d) Most importantly, both the NoA and Mr Duckworth failed to acknowledge or address the evidence from even more recent data that contradicted their claim that the data showed an upward trend in Openreach fixed-line volumes. The most recent BT data available (provided in July 2012 during disclosure) showed that there was no consistent month-on-month growth. Ofcom set out below (see Table 9.5) the last five quarters of volume data.

TABLE 9.5 **Openreach volume data**

	Q2 2010/11	*Q3 2010/11*	*Q4 2010/11*	*Q1 2011/12*	*Q2 2011/12*
Total Openreach GB volumes ('000)	23,692	23,745	23,775	23,752	23,764

Source: Ofcom Defence, Annex A, Table X.

9.72. Therefore, although volumes began growing again in the second half of 2010/11, it was clear that volumes dropped again in Q1 2011/12 and had not recovered to their end-2010/11 level even in Q2 2011/12. This was contrary to Sky, TalkTalk and EE's claim that volumes had been on an upward 'trend' since Q2 2010/11. This was supported by BT's response to disclosure request 19 (of 9 July 2012), which showed that:

(a) From Q2 2010/11 to Q2 2011/12 volumes increased by 72,000, not 80,000. In any event, the decline in Q1 2011/12 indicated that there could not be an upward 'trend'.

(b) Volumes dropped from Q4 2010/11 to Q1 2011/12 by 23,000. Since 2004, there had been months and quarters when volumes grew but in no case so far was that increase a sustained one. The only discernible trend had been that of decline in fixed-line copper volumes.[83]

9.73. Ofcom said that Sky/TalkTalk had not presented any evidence to question the long-term downward trend, the long-term figures Ofcom relied upon, or, therefore, why Ofcom was wrong to rely on this longer-term view. Nor had they presented evidence to show why it would be justified for Ofcom to prefer the short-term data over Ofcom's long-term perspective.[84]

9.74. It said that Mr Duckworth asserted that the reason for the increase in WLR+MPF volume in the last five quarters 'appears to be' an increase in residential customers (rather than business), for which the 'most likely cause' was increasing fixed broadband use among residential customers, and suggested that this trend would continue, contrary to Ofcom's forecast. It said that these assertions were not based on any clear or direct evidence and amounted to speculation. It presented a detailed critique of Mr Duckworth's analysis.[85]

9.75. Ofcom said that Mr Duckworth nevertheless forecast that there would be an increase of 20,000 copper lines per quarter on the basis of this recent KPI data. It said that neither EE nor Sky/TalkTalk provided any clear evidence for the claim that volumes would increase at the rate of 20,000 lines per quarter for the charge control period. Simply choosing a few recent quarters—thus, ignoring much longer-term trends—and claiming that the figures for those quarters accurately predicted what would happen over the rest of the charge control period could not, without proper analysis

[83] Ofcom Defence (Sky/TalkTalk Appeal), ¶A40.
[84] Ofcom Defence (Sky/TalkTalk Appeal), ¶A41.
[85] Ofcom Defence (Sky/TalkTalk Appeal), ¶A42.

of all the variables that impact on line volumes, be a credible approach to forecasting.[86]

9.76. It said that Sky/TalkTalk also asserted that its assessment of the historic volumes was deficient in that it was alleged to have implicitly assumed that the average number of subscribers for the second half of the year would be the same as in the first half of the year. It presented a table which it said showed that this was not the case.[87]

- *Ofcom did not err in its use of the Enders Analysis or the Analysys Mason report*

9.77. Ofcom's view was that it did not err in its use of the Enders Analysis report or the Analysys Mason report.[88]

9.78. Ofcom said that Sky/TalkTalk's objection in relation to Ofcom's consideration of the Enders Analysis report arose not from the fact that Ofcom did not take account of the report (it did), but from the fact that Ofcom had not given the weight to that report that Sky/TalkTalk would wish. It was true that not all information sources came to a consistent conclusion as to future volumes (for example, there were differing conclusions on the demand/supply for new houses). Ofcom said that it analysed a range of sources and forecast line volumes having assessed that wide range of sources. It said that Sky/TalkTalk had failed to:

(a) acknowledge that there were a range of sources that came to the opposite view to which the Enders Analysis report came; and

(b) set out why it was that Ofcom was wrong to come to the conclusion it did having weighed up information from sources that were not always consistent.[89]

- *Ofcom did take adequate account of the available data*

9.79. Ofcom said that there was no basis for Sky/TalkTalk's assertions that:

(a) Ofcom did not take adequate or proper account of recent data and in particular that pertaining to Q3 2011/12;

(b) Ofcom's forecast of an ongoing decline in volumes was at variance with either:

(i) '*historic trends*': in fact, the most recent data—and the wider considerations which suggested the fall in line volumes continuing—supported Ofcom's forecasting; or

(ii) '*the most up-to-date third party forecasts available at the time of its decision*': the most up-to-date third-party forecasts were not consistent. Ofcom again assessed the existing forecasts in light of historic trends and wider considerations.[90]

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[86] Ofcom Defence (Sky/TalkTalk Appeal), ¶A43.
[87] Ofcom Defence (Sky/TalkTalk Appeal), ¶A45.
[88] Ofcom Defence (Sky/TalkTalk Appeal), ¶¶A46–A47.
[89] Ofcom Defence (Sky/TalkTalk Appeal), ¶A48.
[90] Ofcom Defence (Sky/TalkTalk Appeal), ¶A49.

Additional points from EE SoI

9.80. Ofcom said that in addition to the errors alleged by Sky/TalkTalk, EE also made some further criticisms (see paragraphs 9.81 to 9.88 below) of its weighting of various macroeconomic variables which it took account in assessing future volumes which are not dealt with above.[91]

- *Assessing trends in ISDN lines*

9.81. Ofcom said that EE contended that in recent years the number of ISDN lines had been declining at a much faster rate than LLU lines, partly due to their substitution for broadband services based on WLR+SMPF and MPF, with the number of business broadband copper lines increasing year on year over the last two years. It said that that was not the case and Ofcom's Communications Market Report of 2012 showed:

(a) business broadband lines increasing from 1.5 to 1.7 million lines from 2009 to 2012; and

(b) business PSTN/WLR lines declining from 5.1 to 4.9 million lines over the same period.

Thus, the increase in broadband lines was cancelled out completely by the decline in PSTN (WLR) lines.[92]

9.82. It said that furthermore, EE implied that ISDN was being substituted unit by unit by WLR/LLU. This was not the case. It said that as discussed in the Statement, paragraph A2.39, Ofcom research indicated that business users were more likely to switch away from fixed voice to other methods of communication, including VoIP and mobiles, than residential users. It said that as a result, ISDN volume decline did not imply an equivalent increase in WLR/LLU volumes.[93]

- *Assessing the impact of new homebuilding*

9.83. Ofcom said that it did consider government plans to build affordable homes, but noted in the 2012 Statement that 'New household development is difficult to predict … and is related to the general economic situation', noting that various indicia of macroeconomic performance were weak or declining. It said that it further took account of the Government's funding and planning initiatives designed to increase the number of affordable homes set out in *Laying the Foundations: A Housing Strategy for England*. However, it said that it again concluded:

> While we note these plans, it is difficult to forecast how these will impact on demand for copper lines over the next two years, i.e. to 2013/14, given the strategy's focus on delivery by 2015. It is difficult to predict when homes will be completed and occupied (and hence countable in our volumes). It is also difficult at this stage to determine what percentage of such developments will be supported by copper based communications services rather than fibre based services (i.e. NGA FTTP).[94]

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[91] Ofcom Defence (Sky/TalkTalk Appeal), Part D.
[92] Ofcom Defence (Sky/TalkTalk Appeal), ¶A50.
[93] Ofcom Defence (Sky/TalkTalk Appeal), ¶A51.
[94] Ofcom Defence (Sky/TalkTalk Appeal), ¶A52.

9.84. Ofcom said that EE had asserted that all other things being equal, natural growth in the number of UK households may be expected to increase the number of copper lines in the UK by approximately 572,000 lines between 2010/2011 and 2013/2014. It said that EE contended that in order to prove accurate, the decline in volumes predicted by it in the Contested Forecasts would need to offset this natural growth with a sharp decrease in the proportion of households (or businesses) with copper lines. It said that EE asserted that this was not a reasonable assumption for it to have made.[95]

9.85. Ofcom said that EE's contention was incompatible with the fact that household growth had occurred throughout the last ten years, a period which had nevertheless witnessed a long-term decline in the total number of lines. It also said that in any event, as previously noted, in a long period of economic recession, household growth was unlikely to be as pronounced.[96]

9.86. Ofcom said that in addition, although demand for bandwidth was increasing, it was not evident that this would translate to long-term year-on-year net increases in households with broadband, a fact noted in the Enders Analysis report itself. It was even more unlikely that this would lead to substantially more fixed lines, and there was still a significant proportion of the population that did not have broadband but did have a fixed line.[97]

- *Assessing the impact of NGA*

9.87. Ofcom said that it considered that NGA would not have a significant bearing on WLR and MPF demand during the price control period.[98]

9.88. It said that EE merely asserted, to the contrary, that it was likely that the roll-out of NGA services would improve current copper line speeds, increasing their popularity for both residential and business customers, but presented no evidence to contradict Ofcom's position. It said that it was important to appreciate that the impact of NGA would be to reduce demand for SMPF—and even MPF—when it was provided using WLR. It said that EE suggested that NGA would lead to an addition of WLR/LLU lines, which was wrong. NGA take-up could not be assumed to drive WLR/LLU volume in any simple, direct way.[99]

Ofcom's conclusions

9.89. Ofcom said that Sky, TalkTalk and EE's allegations were in essence assertions as to how they would have weighed this data differently. It said that there was no basis for any suggestion that Ofcom had weighed the data and/or come to a view that exceeded the generous ambit of reasonable disagreement.[100] It said that in circumstances where it had carefully weighed the indicative value of all the data and factors it considered, there could be no basis upon which to impugn its regulatory judgement.[101]

[95] Ofcom Defence (Sky/TalkTalk Appeal), ¶A53.
[96] Ofcom Defence (Sky/TalkTalk Appeal), ¶A54.
[97] Ofcom Defence (Sky/TalkTalk Appeal), ¶A55.
[98] Ofcom Defence (Sky/TalkTalk Appeal), ¶A56.
[99] Ofcom Defence (Sky/TalkTalk Appeal), ¶A57.
[100] Ofcom Defence (Sky/TalkTalk Appeal), ¶A59.
[101] Ofcom Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶15.

Summary of EE's intervention

9.90. EE submitted that two key factual developments, of which Ofcom was aware at the time of the Statement, made it highly unlikely that the historical trend of declining volumes up to mid-2010 would continue in the period up to 2013/14. It said that in the light of these developments, Ofcom should have scrutinized much more closely its own forecasts, which were based on forecasts provided by BT in mid-2010, and amended them accordingly. The two key developments are summarized below.[102]

The main cause of the historical decline in line volumes had ended

9.91. According to EE, the historical fall in volumes was mainly the result of a rapid increase in the proportion of mobile-only households, as many people gave up having a fixed phone line and relied on their mobile phones for voice services. In the last few years, however, this trend had come to an end, as the availability of high-speed broadband using a fixed phone line had become increasingly important to consumers.[103]

9.92. EE said that in the Statement, Ofcom acknowledged this and adjusted its assumptions accordingly. Its view was that Ofcom's forecast that the number of copper lines would decline by 750,000 between 2010/2011 and 2013/14, in line with the historical downtrend, was inconsistent with the fact that the primary driver of this historical trend had ended. Ofcom had not provided any other valid basis for the decline.[104]

There had been a noticeable change in the data on line volumes

9.93. EE said that whereas the historical data up to mid-2010 had shown a consistent pattern of declining line volumes, by the time of the 2012 Statement the KPI data published by BT showed five continuous quarters of increasing volumes. As a result of this and other data provided by BT, it was evident by the time Ofcom made its 2012 Statement that its original forecast underestimated line volumes in the autumn of 2011 by more than 300,000 lines. Ofcom nonetheless went on to forecast that, from that point onwards, the number of copper lines would revert to declining in line with the historical trend from before mid-2010. This assumption failed adequately to reflect the new trend of growth in copper lines.[105]

9.94. In EE's view, it was important that Ofcom should not only rely on forecasts provided by BT. Given its commercial interests, any line volume forecasts provided to Ofcom by BT could be expected to be conservative since higher line volumes reduced the price that BT could charge for the WLR, MPF and SMPF services.[106]

9.95. EE said that to the extent that Ofcom relied on a forecasting model provided by BT as a starting point for its own forecasts, it was important that Ofcom should understand the various inputs into the BT model, and ensure that any inputs capable of having a material impact on the charge control levels were consistent with Ofcom's independent and justifiable findings as to how the market was likely to evolve over the period of the charge control.[107]

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[102] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶8.
[103] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶9.
[104] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶10.
[105] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶11.
[106] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶20.
[107] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶21.

9.96. EE contended that Ofcom placed insufficient weight on recent data from the period leading up the 2012 Statement and too much weight on historical line volume data and forecasts from before mid-2010.[108] Ofcom did not explain in the 2012 Statement why five consecutive quarters of growth (as evident from BT's KPI data) was not a reliable indicator that the historical trend of declining volumes had ended.[109]

9.97. EE's view was that it was necessary for Ofcom to consider evidence on how the main factors that drove changes in line volumes were likely to play out over the charge control period. Historical data could not sensibly be extrapolated into the future without considering the extent to which the causes of any past trend were likely to continue. If the main causes of a historical trend were no longer present in the market (at all or to the same extent), it would plainly not be appropriate to assume that the trend would continue.[110]

9.98. EE said that Ofcom accepted in the 2012 Statement that the proportion of mobile-only homes was no longer increasing to anything like the same extent as in the past. The decline forecast by Ofcom therefore needed to be justified by other factors which should have been clearly explained in the Statement. Ofcom did not set out any such explanation.[111]

9.99. It said that in the Statement, Ofcom explained that the historical trend of declining fixed-line volumes 'was primarily driven by a growing number of households going mobile-only', as many people gave up their fixed lines and began relying only on their mobile phones (or other mobile devices) for voice services (and any Internet access). EE said that it had provided detailed evidence, both during Ofcom's consultation process and in this appeal, that having access to high-speed fixed broadband services had become increasingly important to consumers over the past couple of years.[112]

9.100. EE considered that recent increases in fixed broadband usage, and in particular increases in residential fixed broadband usage, provided the most likely explanation for the five consecutive quarters of growth demonstrated by BT's KPI data leading up to the Statement.[113] It said that Ofcom appeared not to draw any link between this change and the recent data showing that line volumes had begun increasing.[114]

9.101. EE noted that one factor that Ofcom did refer to in the 2012 Statement as likely to cause a decline in line volumes was a fall in the number of businesses subscribing to services provided over copper lines. It submitted that Ofcom was wrong to rely on this factor because:

(a) business lines represented under one-sixth of fixed lines; and

(b) the rates of decline in ISDN lines and/or total numbers of business lines including ISDN lines were not a reliable indicator of changes in the volume of the types of lines that were relevant for determining the charge control (ie when considered in isolation).[115]

9.102. According to EE, it was not clear whether or not Ofcom was relying on any predicted decline in new households as a driver of its forecast decline in fixed lines over the

[108] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶22.
[109] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶23.
[110] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶24.
[111] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶25.
[112] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶26.
[113] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶27.
[114] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶28.
[115] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶29.

charge control period. To the extent that it was, EE contended that Ofcom was wrong to do so. Data from the Office for National Statistics suggested that there would be an additional 227,000 new households each year over the relevant period of the charge control (a figure which was consistent with similar rates of growth over previous historic periods, and other recent forecasts). If one assumed that 84 per cent of these households subscribed to services provided over copper lines, this suggested that this factor would result in an additional 572,000 to 453,000 residential fixed lines between 2010/11 and 2013/14.[116]

9.103. EE said that in its Statement, Ofcom also referred to two other factors that could potentially be drivers for a decline in copper line volumes over the forecast period, namely substitution of copper lines for services provided over fibre or cable.[117]

9.104. Ofcom appeared to have discounted these as possible causes of falling line volumes.[118] EE said that it had therefore assumed that Ofcom's forecast decline in copper lines was not driven by a predicted increase in substitution to either fibre or cable.[119]

Data

9.105. EE said that there were four key sources of data and estimates relating to line volumes:

(a) BT quarterly KPIs;

(b) BT annual RFS;

(c) BT's response on 31 August 2010 to a section 135 information request dated 16 July 2010 (BT's August 2010 Response); and

(d) BT's response on 6 January 2012 to a section 135 information request dated 6 January 2012 (BT's January 2012 Response).[120]

9.106. EE said that the third key source listed in *(c)* above appeared to have played a central role in the development of Ofcom's forecasts. Ofcom stated that the starting point for its analysis was the volume forecasts provided by BT.[121]

9.107. It said that approximately a year passed after these 2010 information responses before, on 29 September 2011, BT met Ofcom to explain how BT had reached its volume forecasts and to answer a number of supplementary Ofcom questions.[122]

9.108. EE said that the fourth key data source (*(d)* above) showed that BT's 2010 volume forecasts, which had provided the basis for the forecasts in the March 2011 Consultation, had significantly underestimated line volumes for the period 1 April 2010 to 31 September 2011 by more than 300,000.[123]

9.109. EE said that despite this, Ofcom continued to assume that volumes would fall broadly in line with the historical downtrend that had been in place until mid-2010. That his-

[116] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶30.
[117] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶31.
[118] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶32.
[119] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶33.
[120] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶38.
[121] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶43.
[122] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶46.
[123] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶52.

torical downtrend provided the basis for BT's forward-looking trend forecasts (generated in August 2010), and had been 'primarily driven' by the rapid increase in the proportion of mobile-only homes in that period—which had now stopped.[124]

Summary of EE's responsive case

9.110. In responding to Ofcom's defence and BT's Statement of Intervention (SoI), some of the key points EE made were:

(a) Ofcom's Defence essentially amounted to listing a number of sources of evidence, asserting that it took them all into account and weighed them carefully, and then contending that the CC should respect Ofcom's conclusions and not scrutinize its reasoning any more closely. The CC would commit an error of law if it accepted this level of response: it would amount to accepting Ofcom's word that its approach was right, without having been provided with a sufficiently detailed explanation of what Ofcom did for the CC to be able to verify that for itself. That would be contrary to the statutory framework and the case law, which made it clear that this was a merits appeal where the detail of Ofcom's approach should be scrutinized rigorously.

(b) Ofcom's approach remained unclear in a number of fundamental respects, in particular in respect of its genuinely forward-looking forecasts for the charge control period itself, ie from 1 April 2012 until 31 March 2014 (much of Ofcom's explanation relates to the period from before the Statement).

(c) Prior to publishing the Statement, Ofcom should have reconsidered its approach and further investigated the issue of likely future line volumes. Ofcom knew that the primary cause of the historical downtrend in line volumes had stalled, and published data showed that line volumes had been rising for 15 months. BT's forecasts, which provided the starting point for Ofcom's own forecasts, had been provided in August 2010 and were almost two years out of date by the time of the Statement. Within BT these 2010 forecasts would already have been replaced by more recent estimates. Ofcom should have requested updated forecasts from BT, have investigated more fully which factors drove BT's forecasts, including how they interacted with one another, and placed more weight on the more up-to-date data that showed that the historical downtrend in line volumes had ended.

(d) Changes in line volumes were the result of the cumulative effect of a number of different factors. Taking into account the limited amount that EE said that it knew about the assumptions made by Ofcom and the BT forecast model on which it relied, it appeared that these factors considered cumulatively should have forecast an increase in line volumes. Ofcom's explanation of why it nonetheless forecast declining volumes was inadequate.[125]

9.111. Further details of EE's arguments on *(b)*, *(c)* and *(d)* are set out below.

- *Ofcom's approach remained unclear in fundamental respects*

9.112. EE submitted that even after the disclosure of additional confidential material by Ofcom and BT to the members of the confidentiality ring, there remained a fundamental lack of transparency in respect of key aspects of Ofcom's approach to forecasting line volumes which placed into question whether or not Ofcom made the

[124] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶55.
[125] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶4.

'right' decision in adopting the volume forecasts set out in the Statement.[126] This was greatest in respect of Ofcom's genuinely forward-looking forecasts for the charge control period, that is from 1 April 2012 until 31 March 2014.[127]

9.113. EE said that Ofcom had explained that the starting point for its forecasts for the period after 1 April 2012 was the forecast provided by BT in August 2010. Accordingly it was necessary to have an understanding of the inputs into the BT model relating to the key drivers of line volumes. This was currently limited.[128]

9.114. It also said that no information about these model inputs could be found in the Statement, Ofcom's Defence or BT's SoI. The only information came from the table on page 8 of the explanatory document provided to Ofcom by BT on 10 November 2011, and this provided only a limited understanding of BT's forecast model.[129]

9.115. EE said that in addition, Ofcom made a number of adjustments to these BT forecasts. Ofcom had not disclosed the calculations behind any of these changes.[130] This lack of transparency meant that neither the parties nor the CC were in a position to verify whether Ofcom's approach was correct, although there were various reasons to suppose that it was wrong.[131]

- *Ofcom should have reconsidered and investigated the issue further prior to the 2012 Statement*

9.116. EE said that there was nothing in either the 2012 Statement or the Defence to indicate that Ofcom appreciated that the stalling of mobile-only growth should affect the relative weight placed on line volume data from before and after when mobile-only growth stalled.[132]

9.117. EE stated that changes in the total number of lines were driven by the cumulative effect of a number of factors. One of these factors, namely the total number of households, would, other things being equal, tend to increase the total number of lines. This was because, regardless of the precise measure or estimate used, hundreds of thousands of new homes were being built each year. Unless one or more countervailing factors caused an even larger reduction in lines, the total number of lines would increase. Up until mid-2010, there was such a countervailing factor, as the proportion of mobile-only households was increasing rapidly. Since then, as Ofcom accepted, the growth of mobile-only households had stalled, such that, over the period of the charge control, this factor would be expected to result in a loss of far fewer copper lines than was the case in previous periods. In the absence of some other material development, the result would be that overall line volumes would increase. This would happen even though the proportion of mobile-only homes was not falling: it was sufficient that the (now smaller) anticipated reduction in the number of lines attributable to this factor was no longer greater than the increase in the number of lines anticipated on the basis of other factors (such as new housebuilding).[133]

9.118. EE's view was that Ofcom erred because, in evaluating the potential significance of the more recent line data from mid-2010 onwards, it failed to take into account its own findings in respect of increases in residential broadband and the proportion of

[126] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶19.
[127] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶24.
[128] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶29.
[129] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶30.
[130] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶31.
[131] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶32.
[132] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶39.
[133] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶41.

mobile-only homes—which suggested that the historical downtrend in line volumes had ended. In its view, it would only be appropriate to forecast a reduction in line volumes that would be consistent with that historical trend if there were good evidence that other mechanisms would begin operating so as (coincidentally) to produce broadly the same trend as existed in the past. It stated that Ofcom had not presented such evidence.[134]

9.119. In responding to a table presented in Ofcom's Defence (Annex A, paragraph 40.5) presenting Openreach volumes between Q2 2011 and Q2 2012, EE said that crucially, data from this period must be seen in its broader context. This period of 15 months in which line volumes grew at a modest rate: *(a)* coincided with the ending of the primary cause of the historical downtrend; and *(b)* stood in sharp contrast to the changes in line volumes during the historical downtrend.[135]

9.120. With regard to statistical evidence that the downtrend had ended, EE said that Mr Reynolds and Mr Young had applied two econometric tests which were particularly suited to identifying whether there was a statistically significant change in the data on overall Openreach lines. These were a t-test and a Chow test.[136] They said that the result of the Chow test confirmed that the data for the period from Q3 2009/10 was significantly better explained using a new regression line than by applying a single regression line over the whole data set.[137] They said that if they were asked to develop a forecast only on the basis of the data series, they would assume that the trend evident in the recent data would continue.[138]

- *The available evidence suggests that Ofcom had strongly underestimated line volumes*

9.121. EE stated that Sky/TalkTalk and it were not suggesting that the forecast for this charge control should be generated solely on the basis of this short-term volume data. Rather, the forecast should also have regard to evidence on how the key drivers of line volumes were likely to operate over the charge control period. This was particularly important given that the market appeared to be in a process of transition, with the primary cause of the historical downward trend having recently stalled.[139]

9.122. EE said that the key factors that drove changes in the total number of copper lines appeared to be common ground between the parties. It said that its limited knowledge of the assumptions made by Ofcom (and BT's forecast model, on which Ofcom relied) suggested that the cumulative effect of these factors would have been to increase line numbers over the period of the charge control:

(a) *The number of new homes that would be completed and would subscribe to services provided over copper lines*. The available evidence suggested that this factor would result in an additional 572,000 residential fixed lines between 2010/11 and 2013/14. This appeared to be broadly consistent with the assumption made by BT for the purpose of generating its August 2010 forecasts.

(b) *The number of mobile-only homes.* In the Statement, Ofcom had accepted that over the charge control period the proportion of mobile-only homes was likely to

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[134] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶42.
[135] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶47.
[136] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, 4th W/S Reynolds & Young, ¶8.
[137] EE Core Submission (Sky/TalkTalk Appeal). Volume 2, 4th W/S Reynolds & Young, ¶8.
[138] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, 4th W/S Reynolds & Young, ¶10.
[139] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶58.

increase by no more than 0.5 per cent (from 15 to 15.5 per cent). Considered in isolation, this factor would tend to reduce line volumes by around 120,000.

(c) *The number of homes that would switch from services provided over copper lines to services provided over cable.* The 2012 Statement said: 'Ofcom assumes that the number of WLR and LLU lines will not be impacted further to a significant degree by cable take-up'.

(d) *The number of homes that would switch from services provided over copper lines to services provided over fibre.* Ofcom's 2012 Statement concluded that: 'FTTP roll-out is currently negligible and its take-up is not expected to be significant for the duration of this charge control'.

(e) *The number of business premises subscribing to services over copper lines.* Ofcom accepted in its Defence that the recent trend in the category of business lines relevant to the WLR and LLU charge control was actually flat and that the percentage of relevant business lines as a percentage of overall relevant lines was in any event small.[140]

9.123. EE's view was that considered cumulatively, these factors suggested that line volumes would increase by several hundred thousand over the relevant period. EE said that this raised the possibility that the decline in volumes forecast by Ofcom was the result of computational errors (perhaps because Ofcom did not fully understand the effect of the various inputs into BT's model on the different forecasts it produced). Alternatively, it was possible that the key drivers of the forecast decline in line volumes were the 'wider macroeconomic considerations' taken into account by Ofcom, in respect of which virtually no details had been provided. EE's view was that either explanation would demand that this aspect of the appeal of Sky/TalkTalk should be allowed.[141]

- *The number of business premises subscribing to services over copper lines*

9.124. EE said that under one-sixth of WLR and MPF lines were business lines[142] and that business lines was one factor that Ofcom had referred to in the 2012 Statement as likely to reduce the number of copper lines. EE submitted that Ofcom was wrong to rely on this factor.[143]

9.125. EE said that Ofcom had now accepted in its Defence that the trend in respect of the relevant category of business lines was flat. However, at the time of the 2012 Statement Ofcom appeared to have assumed that line volumes would fall as a result of an estimated decline in the overall number of business lines, even though the basis for that estimation was a decline in other types of business line that were not relevant to the charge control.[144]

9.126. EE stated that the original BT forecasts showed a net decline of [✄] business lines over the period March 2010 to March 2014. This was made up of a decline in voice lines offset by an increase in broadband lines.[145] EE said that these figures included ISDN 2 lines which were not part of the charge control.[146]

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[140] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶60.
[141] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶61.
[142] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶88.
[143] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶87.
[144] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶87.
[145] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶89.
[146] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶90.

9.127. EE's view was that Ofcom, in its Defence, appeared to accept that these digital lines should not be included in the forecast. Further, in respect of the relevant category of lines, the Defence accepted that, during the period from 2009 to 2011, any decline in business PSTN/WLR lines was 'cancelled out completely' by a corresponding growth in analogue business broadband lines. Consistent with these two conclusions, Ofcom should have made an appropriate upwards adjustment to counteract any contrary assumptions driving predicted volume decline in the original BT forecast model.[147]

9.128. EE stated that it appeared that Ofcom did not do this, but in fact wrongly forecast that line volumes would fall as a result of a decline in the overall number of business lines, even though any such fall would be caused by a decline in other types of business line that were not relevant to the charge control.[148]

9.129. EE said that in its Defence Ofcom stated that 'While business is far smaller than residential, as a result of the changes that Ofcom is predicting, a rapid decline in business still has a big impact on our forecast'.[149]

9.130. It said that this statement would appear to confirm a clear error: Ofcom accepted that the recent trend in the relevant category of business lines was actually flat and that the percentage of relevant business lines as a percentage of overall relevant lines was small, but nonetheless admitted that it reduced its line volume forecast in the 2012 Statement on account of a predicted extremely steep fall in the number of these lines (for which it had no supporting factual evidence).[150]

- *Another possible factor: 4G*

9.131. EE said that it agreed with Ofcom's statement in its Defence: 'that the impact of newer/faster mobile technologies would not be felt on fixed-line demand in the price control period, and was thus not a reason requiring the fixed-line forecast to be adjusted'.[151]

- *Wider macroeconomic considerations*

9.132. EE said that it was possible, although it did not know, that the reason why Ofcom nonetheless forecast a decrease was because of adjustments made in respect of wider macroeconomic factors (although this might simply be confined to the forecast of new households). However, other than indicating in its Defence that it took such factors into account, Ofcom had not explained what adjustments were made in respect of them, what assumptions underlay any such adjustments, and what the evidential basis for such adjustments were. If such factors were responsible for all or part of the decline in line volumes forecast by Ofcom, then Ofcom had manifestly failed to justify its forecast by reference to them, as no details of Ofcom's reasoning or approach had been provided.[152]

[147] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶91.
[148] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶92.
[149] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶94.
[150] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶95.
[151] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶¶96–97.
[152] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶102.

Intervention by BT

9.133. BT said that it agreed with Ofcom that this ground of appeal was no more than a challenge to Ofcom's weighing of the various sources of evidence which were available to Ofcom and taken into account in the preparation of the 2012 Statement.[153]

9.134. It said that it also noted that Mr Duckworth's original report appeared to proceed on the mistaken understanding that Ofcom only had access to actual volume data available in January 2011. In fact, Ofcom was provided with actual data up to Q2 2011/12. It said that this plainly placed a different complexion on Sky/TalkTalk's complaint that Ofcom had misappraised itself of the available evidence.[154]

9.135. BT said that in reaching its forecast as to volumes, Ofcom did not fully accept BT's representations. However, BT did not consider that the judgement that Ofcom reached, having considered the available evidence, could possibly be criticized as 'wrong'.[155]

9.136. BT said that the analysis in Mr Duckworth's third report did not provide any basis for a forecast of growth of 20,000 lines per quarter.[156] BT stated that it therefore considered that this ground of appeal should be rejected.[157]

9.137. BT made further submissions in response to the CC's provisional determination. We consider these in the assessment section below (paragraphs 9.154 to 9.204) but we note here that these submissions did not lead us to change our provisional determination of this Reference Question.

Summary of Sky/TalkTalk's Responsive arguments

9.138. Sky/TalkTalk said that Ofcom's primary response to their appeal was not to engage with the substance of the criticism or to defend its own reasoning. They said that rather Ofcom sought to portray the appeal as an attack on Ofcom's discretion, and therefore to sidestep the issues which were (in Ofcom's view) effectively beyond challenge.[158]

9.139. Sky/TalkTalk said that:

(a) Ofcom had illegitimately sought to take advantage of its own lack of transparency.

(b) The applicable standard of review did not afford Ofcom the 'generous margin of discretion' which it would like to claim.

(c) Ofcom's complaint that Sky/TalkTalk had failed to stipulate what they alleged to be exercises of fact, law and discretion respectively was misplaced and at best purely a semantic one.

(d) Contrary to Ofcom's and BT's submissions, the Appellants' ground was not simply a challenge to Ofcom's weighing of the evidence but that Ofcom made a prior error in failing to take genuine notice of, and investigate, the growth in line

[153] BT Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶26.
[154] BT Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶27.
[155] BT Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶28.
[156] BT Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶29.
[157] BT Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶30.
[158] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶24.

volumes revealed by BT's quarterly KPIs.[159] They said that Ofcom had presented no evidence whatsoever that it did undertake a consideration of this matter or that it had a reasoned basis for not doing so.[160]

Ofcom's description of its approach to forecasting volumes

9.140. Sky/TalkTalk said that even in its Defence Ofcom described only in very general terms how it derived its forecasts for 2012/13 and 2013/14. It provided several examples to substantiate its claim.[161]

- *The 'robustness' of Ofcom's methodology*

9.141. Sky/TalkTalk said that Ofcom actually provided no reasons at all in respect of the robustness of its own forecast. It was no more than the assertion that Ofcom did not have to explain itself.[162]

9.142. They said that for the avoidance of doubt, there was not, as Ofcom sought to suggest, a binary choice to be made between a 'line by line algorithm' and Ofcom's broad assertion that it had 'weighed' the data. Sky/TalkTalk's point was simply that Ofcom should be able to provide a reasoned justification for its conclusions, and that it was telling that Ofcom was apparently unable or unwilling to do so when asked. Without such a framework and explanation, there was a risk of placing inappropriate weight on a given piece of evidence.[163]

- *Transparency*

9.143. Sky/TalkTalk said that providing a list of sources was insufficient to discharge Ofcom's duty of transparency. Importantly, Ofcom did not make clear in what way it relied upon the various sources of data.[164]

Ofcom's arguments in response to Sky/TalkTalk's substantive criticisms

- *Ofcom's case that it did take account of historic volume data*

9.144. Sky/TalkTalk said that Ofcom repeatedly reasserted that over a longer period the historic trend had been downwards, and stated 'That is why the 2012 Statement did not discuss the unaudited reported KPI changes but relied instead on the validated data provided by BT further to an s.135 request'. They said that Ofcom's reasoning simply begged the question of whether it was the shorter but more recent 'trend' or the longer but more historic 'trend' which should be given greater weight. They said that as set out below, Ofcom had given no good reason in its Defence for preferring the latter, whereas the evidence of Mr Duckworth provided good reasons to believe that the more recent trend would continue. The 2012 Statement itself contained nothing at all on this critical issue.[165]

9.145. Sky/TalkTalk said that in support of its contention that there was a continuing downward trend in line volumes, Ofcom relied in the Defence on data which had been

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[159] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶26.
[160] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶30.
[161] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶27.
[162] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶31.
[163] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶32.
[164] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶36.
[165] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶40.

shown to be, and elsewhere admitted by Ofcom to be, incorrect, and which related to the wrong population of lines. They submitted several examples to support this contention.[166]

9.146. Sky/TalkTalk said that in addition, both Ofcom and BT had acknowledged that there had been structural changes in the market which would tend to reduce or reverse the rate of decline. In the Statement, the more rapid decline up to and including 2009 was said to be 'primarily driven by a growing number of households going mobile-only' and Ofcom's forecasts were then said to have included an assumption that 'mobile only households were significantly increasing'. The previous rate of change in mobile-only households had been rapid between 2007 and 2011 with an average of around 1.5 per cent households switching per year, that is around 375,000 lines per year (assuming 25 million households) or around 90,000 lines per quarter. However, Ofcom concluded that this trend in the number of mobile-only households would not continue, stating that the 'pace of change has clearly slowed' and that the proportion of mobile-only homes would 'only increase slightly from the current 15% to 15.5%' over three years. This was a significantly lower growth rate of only around 42,000 lines per year or around 10,000 per quarter.[167]

9.147. Sky/TalkTalk noted that BT had publicly expressed the view that 'copper lines [are] growing', in particular due to new household formation. They said that the net effect of these two factors was such that growth in households was likely to more than offset the fall due to the small rise in mobile-only households which Ofcom predicted. They noted that the only remaining factor which Ofcom identified in the 2012 Statement as driving the historical decline, namely a fall in business lines, was of much less significance as a driver of total line volumes than was the number of residential lines, as there were far fewer business copper lines.[168]

9.148. Sky/TalkTalk said that despite these structural changes suggesting that the pace of decline would decrease or reverse, Ofcom concluded that it was appropriate to forecast a faster rate of decline in fixed-line volumes than the historic average. During the long period of decline from Q1 2003/04 to Q3 2009/10 shown in Ofcom's chart, the average decline was only around 60,000 lines per quarter. However, in the Statement, Ofcom projected a decline of some 618,000 lines from March 2012 to March 2014—that is, of around 77,000 lines per quarter. Sky/TalkTalk stated that this was a striking conclusion, which Ofcom had entirely failed to explain.[169]

9.149. Sky/TalkTalk said that Ofcom claimed that they had 'not presented any' evidence to question the long-term trend, or why it would be justified to prefer the short-term over the longer-term trend.[170] In fact, expert evidence was presented which applied a proper structured analysis to consider the significance of the uptick in quarterly KPIs and assessed whether the recent trend was likely to continue.[171] Ofcom only engaged briefly with Mr Duckworth's evidence and each of Ofcom's criticisms of Mr Duckworth's evidence was misplaced or false.[172]

[166] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶41.
[167] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶42.
[168] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶43.
[169] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶44.
[170] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶49.
[171] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶50.
[172] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶51.

- *Ofcom's case on its use of the Analysys Mason report*

9.150. Sky/TalkTalk said that their point was that Ofcom appeared to have placed some weight upon the Analysys Mason report and that it should not have done so since it was out of date and pre-dated important changes in the trends exhibited by available data. If in fact Ofcom no longer relied upon the Analysys Mason report as itself justifying a continued forecast of decline, then it also followed that Ofcom's continued forecasts of a decline now rested upon only two bases: BT's own forecasts; and the fact that line volumes did consistently decline for a number of years prior to September 2010.[173]

- *Ofcom's case as to the Enders Analysis report*

9.151. Sky/TalkTalk said that Ofcom objected to their reliance on the Enders Analysis report, which forecast continued growth in fixed broadband provision, as casting doubt upon Ofcom's forecasts. Its view was that it was eminently a relevant matter that Enders Analysis was predicting a continued growth in broadband penetration (even if at a slower rate than hitherto).[174]

Sky/TalkTalk's response to BT's case

9.152. Sky/TalkTalk said that BT did not add any significant points in respect of volume forecasts. Their view was that each of its arguments in substance repeated points made by Ofcom.[175]

Conclusion on volume forecasts

9.153. Sky/TalkTalk submitted that Ofcom's forecasts of continuing line volume declines were both striking and apparently unjustified. They said that Ofcom had not been able to explain clearly how the slowing of the trend for some households to rely solely on mobile phones, combined with long-term growth in the number of households, was consistent with its forecast.[176] In short, Ofcom had not come close to justifying its bold conclusion in the Statement.[177]

Assessment

9.154. We considered that the nub of Sky/TalkTalk's appeal was that, first, Ofcom had failed to provide robust and transparent justification of its forecasting of volumes; second, that Ofcom had failed to take into account (either adequately or at all) recent relevant data on trends in the volume of those services and had relied to an inappropriate extent on information from BT and market analysis which was out of date;[178] and third, that Ofcom's volume forecast was deficient and likely to understate volumes across the charge control period.[179]

9.155. Sky/TalkTalk also alleged that Ofcom had failed to act consistently with its statutory duties.[180] In its response to the provisional determination, Sky/TalkTalk clarified that

[173] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶53.
[174] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶54.
[175] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶56.
[176] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶57.
[177] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶58.
[178] Sky/TalkTalk NoA, ¶41.
[179] Sky/TalkTalk NoA, ¶50–51; Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶57. Also, see note on BT/Ofcom responses to the CC's provisional determination at the end of this section.
[180] Sky/TalkTalk NoA, ¶42.

the alleged errors of law arose in turn as a consequence of the alleged errors of fact and/or discretion, and that it had not alleged any other free-standing errors of law.[181]

9.156. In our view, forecasting line volumes is an area which is subject to uncertainty and involves a significant degree of judgement. We therefore judged that in this regard it was right that Ofcom should be afforded a significant margin of appreciation.

9.157. We considered Sky/TalkTalk and EE's representations that Ofcom had failed to take proper account (either adequately or at all) of various reports and data sets. For example, Sky/TalkTalk argued that insufficient consideration had been given to the Enders Analysis report and the most recent KPI data. In their view, Ofcom had not only failed to take proper account of these sources but had also failed to properly investigate discrepancies between these and Ofcom's own line volume forecast.

9.158. We did not find these arguments compelling and we found no evidence that Ofcom's approach to its choice, weighing and use of reports and data sets was defective or that it cast material doubts on the validity of its volume forecast. In our view, Ofcom was, in principle, entitled to take into account a range of sources and to weigh them appropriately.

9.159. Based on the Statement, Ofcom's Defence and subsequent correspondence with us in the context of these appeals, we found that there was no compelling evidence that Ofcom had not properly investigated the differences which existed between reports/ data and its own forecast. For example, we considered that the difference between Ofcom's original forecast and the actual volumes shown in BT's response to the 13th section 135 request was significant. However, in our view the existence of such a discrepancy (even when combined with Ofcom's revised forecasts which continued to forecast a similar trend) was not evidence that Ofcom had failed to investigate the difference properly, especially when it said that it did. We found that this also applied to the other data sources which Sky/TalkTalk said Ofcom had not properly investigated, for example the quarterly KPI data.

9.160. We did not find force in Sky/TalkTalk's submission that Ofcom had relied to an inappropriate degree on forecasts from BT. We did not consider that using BT's forecasts as a starting point and then subjecting them to scrutiny, as Ofcom said it did, could be described as the wrong approach. We considered that Ofcom was correct to use BT's forecasts as one of a number of sources of information.

9.161. We did not consider that Ofcom erred in exercising caution as to whether to accept the existence of a permanent turning point in its forecasting process. While this approach was likely to result in Ofcom placing greater emphasis on historic trends and less emphasis on short-term data, we did not find that this was wrong in principle.

9.162. We also considered Sky/TalkTalk and EE's representations regarding the transparency and justification of Ofcom's forecasts. We found the 2012 Statement to be reasonably clear with regard to identifying the data sources which Ofcom had used, even if it was not explicit as to the end point of every data source. We did not consider such an omission of itself cast significant doubt on the forecasts.

9.163. Having assessed these points of principle in paragraphs 9.157 to 9.162, we then considered whether the forecast was in error, in the sense that the overall aggregate

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[181] Sky/TalkTalk response to the CC's provisional determination, ¶1.23. The alleged errors of law were set out in paragraph 1.19 of its response; these errors were premised on the prior allegations of an error of fact or an error in the exercise of Ofcom's discretion.

forecast was outside the range of reasonable outcomes based on the information which was available to Ofcom at the time it made the forecast. One way of testing if an aggregate forecast is reasonable is to consider the overall implications of each of the key factors underlying the forecast—it was Sky/TalkTalk's and EE's view that the forecast was in error as the primary driver of the historical downtrend (mobile-only homes) had ended and there was no new factor which could explain the fall which was forecast by Ofcom.[182]

9.164. We considered that the 2012 Statement was clear about the key factors driving incremental line volumes over the charge control period.[183] Sky/TalkTalk and EE also agreed that these were the most important factors in relation to forecasting line volumes over the charge control period.[184] These factors were:

(a) mobile-only households;

(b) household growth;

(c) business lines;

(d) cable competition; and

9.165. fibre roll-out (NGA).We did not consider that a line-by-line algorithm was required. However, we considered that it would be necessary for us to be able to understand the approximate numerical impact on the forecast of each of the key drivers identified and we therefore requested this information from Ofcom. A summary of Ofcom's response can be seen below in Table 9.6.

TABLE 9.6 **Ofcom's explanation of the main drivers of the change in the volume forecast, 2011/12 to 2013/14 (ie over the period of the charge control for which actual forecasts were made)**

Driver	*Ofcom's stated effect*
Mobile-only homes	–132,000
Household growth, NGA and other non-PSTN Premium business lines	–150,000
Cable	–130,000
Business lines (PSTN only)	–205,000
Total Ofcom forecast	–618,000

Source: Ofcom letter to CC, 20 December 2012.

9.166. In response to the provisional determination, BT submitted that a disaggregated approach failed to recognize that a range of forecasts might be made against each specific driver, which in turn means that there is a wide range of reasonable forecasts at the aggregate level.[185] It said that it would be wrong to treat Ofcom as having erred if its overall estimate is within the range of reasonable forecasts, even if the CC disagrees with elements of the disaggregated analysis.[186]

9.167. We recognized that there was a range of reasonable estimates for each driver and for the aggregate forecast, but in our view one way of testing if an aggregate forecast is reasonable is to consider the overall implications of each of the key factors underlying the forecast. With this in mind, we considered each of the key drivers (see paragraph 9.164) in turn and then the reasonableness of the overall aggregate forecast.

[182] EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶10. Also see note on BT/Ofcom responses to the CC's provisional determination at the end of this section.
[183] The factors which are important in driving the volume forecasts are dealt with in ¶¶A2.34–A2.51 of the Statement.
[184] EE Bilateral Hearing transcript, p19, Sky/TalkTalk Bilateral Hearing transcript, pp18–19.
[185] BT response to CC's provisional determination, 11February 2013, ¶73.
[186] BT response to CC's provisional determination, 11 February 2013, ¶74.

Mobile-only households

9.168. Ofcom was explicit in its forecast for mobile-only households. It was also clear in its 2012 Statement that the historic fall in copper lines was primarily driven by a growing number of households going mobile-only.[187] It forecast an increase of such households from 15 to 15.5 per cent between 2011/12 and 2013/14, which represented a significant slowing in this trend compared with previous years.[188] It told us that this amounted to a loss of around 132,000 lines.[189] EE estimated it similarly at being equivalent to a loss of 120,000 lines between 2011/12 and 2013/14.[190] BT said that a loss of 132,000 lines was one of a number of reasonable estimates but that it would also have been wholly reasonable for Ofcom to forecast a reduction of 264,000 lines against this factor.[191]

9.169. The previous rate of change in mobile-only households was said by Sky/TalkTalk to have been much more rapid. Between 2007 and 2011 it was said to be an average of around 1.5 per cent of households a year, amounting to a loss of around 375,000 lines a year (assuming 25 million households) equivalent to 750,000 lines over a two-year period (such as the one between 2011/12 and 2013/14).[192]

9.170. We considered that this factor must exert an incrementally negative effect on the line volume forecasts, albeit significantly less so than had been the case in the recent past, and Ofcom's forecast was consistent with that.

Household growth

9.171. We considered that Ofcom was clear in the 2012 Statement that it took a conservative view with regard to new household development.[193] However, Ofcom did not provide an explicit estimate of the approximate impact which this factor had on its forecast. EE's view was that this factor would support the creation of an additional 190,000 lines a year, or 380,000 lines over the period 2011/12 to 2013/14. EE thought this was broadly consistent with the assumption made by BT for the purpose of generating its August 2010 forecasts.[194] Sky/TalkTalk estimated the effect of new households, based on historical trends, at approximately 180,000 potential new customers a year, equivalent to 360,000 over the period 2011/12 to 2013/14.[195]

9.172. BT said that its medium-term plan (MTP) for 2010/11 reflected information that 'new builds' would be 120,000 per year during the charge control period. BT said that there was ample reason for Ofcom to take the position that the rate of growth in the stock of available property and the pace at which it was occupied would not follow the straight-line projection of growth in households implied by the ONS forecasts. BT also said that any assessment of household growth needed to reflect the impact on uptake of mobile-only, cable and fibre. It said that a starting estimate of 100,000 new households a year (slightly lower than suggested by BT's MTP), adjusted for the impact of mobile-only, cable and fibre, would lead to an estimate of growth in copper lines of just over 50,000 a year due to household growth.[196]

[187] 2012 Statement, ¶A2.15.
[188] 2012 Statement, ¶A2.36.
[189] Ofcom letter, 20 December 2012.
[190] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶60b.
[191] BT response to CC's provisional determination, 11 February 2013, ¶¶77–80.
[192] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶42.
[193] 2012 Statement, ¶¶A2.42–A2.45.
[194] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶60.
[195] Sky/TalkTalk Bilateral Hearing transcript, p20.
[196] BT response to CC's provisional determination, 11 February 2013, ¶96–101.

9.173. In our view, the effect of growth in the number of households on the number of lines should be positive.

9.174. Ofcom said that household growth had occurred throughout the last ten years, a period which had nevertheless witnessed a long-term decline in the total number of lines.[197] In its subsequent correspondence during this appeal, Ofcom told us that the effect of household growth, NGA and non-PSTN Premium business lines was a loss of around 150,000 lines between 2011/12 and 2013/14, but it did not separately set out the impact of each of these factors (see Table 9.6).[198]

9.175. Given the negligible impact on the forecast from NGA (see paragraphs 9.180 to 9.183 below) and our view that household growth must itself have a positive effect on line numbers, Ofcom's forecast implied that a very substantial fall in non-PSTN Premium business lines must be driving the fall which it had forecast. However, we understand that non-PSTN Premium business lines are not a significant proportion of LLU business lines. We therefore judged that a forecast loss of 150,000 lines between 2011/12 and 2013/14 due to the combined effect of household growth, NGA and non-PSTN Premium business lines must be wrong.

Business lines[199]

9.176. Ofcom clearly considered that the recent reduction in use of fixed lines by business would continue during the charge control period, even if the economy started to recover.[200] Its view was that although business lines were a far smaller category than residential lines (as a percentage of total lines), a rapid decline still had a significant impact on its forecast.[201] It said that business PSTN/WLR lines declined from 5.1 to 4.9 million lines (a fall of 200,000) between 2009 and 2011[202] and it told us that it forecast that PSTN Premium lines (which it said were nearly always business lines) would fall by approximately 205,000 between 2011/12 and 2013/14.[203]

9.177. Sky/TalkTalk told us that the trend in business lines was consistently downwards over time.[204] EE contended that the trend in business lines was not negative and that that Ofcom was wrong to rely on this factor.[205] Its view was that the original BT forecasts showed a net decline of [✂] business lines over the period March 2010 to March 2014 but that this was made up of a decline in voice lines offset by an increase in broadband lines.[206] EE said that this figure included ISDN 2 lines, which were falling and which were not part of the charge control.[207]

[197] Ofcom Defence (Sky/TalkTalk Appeal), ¶A54.
[198] Ofcom letter, 20 December 2012.
[199] In this section we use business lines to mean PSTN/WLR Premium lines. These lines are nearly always business lines. However, Sky/TalkTalk noted that some businesses use WLR Basic / MPF services and therefore the movement in total LLU/WLR business lines could be higher or lower than the movement in just PSTN/WLR Premium lines. (Sky/TalkTalk response to provisional determination, ¶¶ 9.1–9.7.) BT estimated that in total there were 200,000 such lines (WLR Basic / MPF lines used as business lines). (BT response to CC's provisional determination, 11 February 2013, ¶102.) As such, we considered that any movement in such lines, either positive or negative, was unlikely to be material to the overall outcome.
[200] 2012 Statement, ¶A2.41.
[201] Ofcom Defence (Sky/TalkTalk Appeal), Annex A, fn 56.
[202] Ofcom Defence (Sky/TalkTalk Appeal), ¶A50.
[203] Ofcom letter, 20 December 2012.
[204] Sky/TalkTalk Bilateral Hearing transcript, p22.
[205] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶87.
[206] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶89.
[207] EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶90.

9.178. BT said that the 2012 Statement recorded a fall of 5.2 per cent in total business lines in 2010 alone.[208] It submitted that a two-year reduction of 5.2 per cent would be reasonable and that this would amount to 253,000 lines.[209]

9.179. Based on the evidence, we assessed that business lines were likely to exert an incrementally negative effect on the forecast and that Ofcom's forecast of a loss of 205,000 lines was consistent with that.

Cable competition and fibre roll-out (NGA)

9.180. Ofcom was clear that cable take-up had plateaued and that it would therefore not impact the number of lines to a significant degree. It was also clear that NGA was not a significant factor when determining line volumes.[210]

9.181. Sky/TalkTalk and EE agreed that cable and NGA were not significant drivers of incremental change in the volume of lines over the forecast period.

9.182. BT said that even a modest increase in Virgin Media's market share of exchange lines of 0.5 per cent would result in the loss of 173,000 lines. BT submitted that such an estimate would have been reasonable.[211]

9.183. Ofcom told us that cable competition led to an estimated loss of 130,000 lines in its forecast over the period 2011/12 to 2013/14.[212] It appeared to us that the fall in copper lines due to cable competition was inconsistent with Ofcom's view in the Statement that cable take-up had plateaued. We noted that this also seemed inconsistent with Ofcom's view that the change in the proportion of mobile-only homes would 'increase slightly' when the impact was also a loss of 130,000 copper lines; and was in contrast to the decline in business lines which Ofcom said had a *significant* impact on its forecast (see paragraph 9.176) when the impact was a decline of 205,000 copper lines. These inconsistencies may not in themselves be sufficient for us to decide that Ofcom's aggregate forecast was incorrect, but they contribute to our overall judgement that Ofcom's aggregate forecast cannot be reconciled with its statements about the component elements.

Our view on the overall accuracy of the aggregate line volume forecast

9.184. Sky/TalkTalk, EE and Ofcom seemed to be in agreement on the key drivers of incremental line volumes (of which there are effectively three, as cable and NGA were agreed to have little impact).

9.185. Viewed cumulatively, we could not reconcile Ofcom's forecast (of a decline of 618,000 lines in the years between 2011/12 and 2013/14) with the approximate impact expected from the three most important factors driving the forecast—households, mobile-only homes and business lines. Household development and mobile-only homes would together be expected to generate an incrementally positive number of lines over the forecast period between 2011/12 and 2013/14. This is because, based on Sky/TalkTalk and EE's evidence (see paragraph 9.171), we would expect the positive effect of household development over these two years to outweigh the negative effect of the growth in mobile-only households (of 132,000

[208] We understand that this figure includes business lines (such as ISDN 2) which are not part of this charge control.
[209] BT response to CC's provisional determination, 11 February 2013, ¶¶81–82.
[210] 2012 Statement, ¶¶A2.47–A2.49.
[211] BT response to CC's provisional determination, 11 February 2013, ¶¶83–86.
[212] Ofcom letter, 20 December 2012.

lines). That is, we would expect household development to account for growth of more than 132,000 lines over two years (ie more than 66,000 lines a year).

9.186. As a result, only declines in business lines can explain how, despite the positive net effect on line volumes of household growth plus mobile-only households, Ofcom forecast a fall in the overall number of lines of 618,000 between 2011/12 and 2013/14.

9.187. Ofcom's own forecast for the fall in business lines is 205,000 (plus some additional losses from non-PSTN Premium business lines which it has not quantified). Therefore, although we recognized that Ofcom should be afforded a margin of appreciation in this area and that there were a range of reasonable forecasts, we did not consider that Ofcom's aggregate forecast fell within that range. As such, we concluded that Ofcom had made an error in the exercise of discretion.

9.188. BT submitted that, based on its view of the impact of each of the key drivers of the forecast, an aggregate forecast of a loss of 590,000 to 600,000 lines between 2011/12 and 2013/14 was reasonable.[213]

9.189. We did not consider that BT's overall aggregate forecast was within the range of reasonable outcomes given the available evidence on the key drivers of the forecast. In addition, our view was that BT's estimates for the impact of:

(a) mobile-only households (–264,000);

(b) household growth (+100,000); and

(c) cable competition (–163,000 to –173,000)

were all at the bottom of the range of possible outcomes for each factor such that when considered in aggregate they produced a forecast (–600,000) that was not within the range of reasonable outcomes. The evidence provided by BT therefore did not cause us to change our view on this issue.

9.190. BT said that it had two significant concerns regarding the CC's approach. These were that:

(a) Ofcom had not used a disaggregated methodology to reach its volume forecasts. Given that the CC upheld Ofcom's methodology, it was wrong for the CC to require Ofcom to produce forecasts on a different basis and to assess whether Ofcom erred on that basis.

(b) BT had not previously had an opportunity to respond to the evidence provided in Ofcom's letter of 20 December 2012, and therefore took the opportunity to do in its response to the provisional determination.[214]

9.191. With regard to *(a)*, we set out below in paragraph 9.200 onwards how the NoA led us directly to consider a disaggregated approach. We explain our use of the disaggregated approach in paragraphs 9.163 to 9.188. In our view, Sky/TalkTalk's criticisms of elements of Ofcom's process (such as its use of data sets) can be separated from its criticism that Ofcom's final forecast was deficient. We considered that the overall aggregate forecast should be approximately reconcilable with the key factors which were driving it.

[213] BT response to CC's provisional determination, 11 February 2013, ¶104.
[214] BT response to CC's provisional determination, 11 February 2013, ¶¶66–67.

9.192. With regard to *(b)* above, we noted BT's views but these did not affect our conclusion for the reasons explained above.

Materiality

9.193. In this section, we consider the materiality of the mistake identified above based on the approach set out in paragraph 1.60.

9.194. We considered Sky/TalkTalk's submission that forecasting volumes rising at 20,000 per quarter[215] would result in approximately 1,000,000 more lines than forecast by Ofcom, leading to a reduction in WLR basic and MPF prices of £3.41 and £3.10 per line per year respectively compared with Ofcom's estimates.[216] This amounts to approximately 3.5 per cent of the 2012/13 charge control for both WLR Basic and MPF.

9.195. We also considered Sky/TalkTalk's view that Ofcom had previously estimated that a reduction in the forecast demand of 100,000 subscribers would result in the cost for MPF rental increasing by 40p per line per year. This amounts to just under 0.5 per cent of the 2012/13 charge control.[217]

9.196. We judged that the Sky/TalkTalk forecast (of line volumes rising at 20,000 per quarter) was not necessarily an appropriate benchmark by which to measure the size of the error. Therefore, we could not estimate the likely proportionate impact of the error on the price control. Nevertheless, line forecasts are of considerable significance in establishing the charge controls; therefore any correction to these forecasts would be likely to have a material effect on the charge controls. We did not consider that the additional effort which Ofcom would have been required to expend to obtain clarity on this issue would have been significant given that Ofcom was in any event making forecasts. We did not find that any other of the other factors listed in paragraph 1.60 were relevant.

9.197. We considered that the question of whether or not it would be proportionate for this error to be corrected should be explored further in the remedies phase.

9.198. It is therefore our judgement that the mistake is material.

Determination

9.199. Accordingly, we find that Ofcom erred in forecasting volumes of MPF, SMPF and WLR services.

Our views on the parties' response to the provisional determination

9.200. In response to the CC's provisional determination, both BT[218] and Ofcom[219] submitted that the CC's description of the third limb of Sky/TalkTalk's appeal (see paragraph 9.154) was not part of the NoA.

9.201. We took the view that Sky/TalkTalk's NoA, supported by their Core Submissions and EE's Intervention, alleged that Ofcom's volume forecast was deficient and likely to

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[215] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶58.
[216] Sky/TalkTalk NoA, ¶54.
[217] Sky/TalkTalk NoA, ¶53.
[218] BT response to the CC's provisional determination, 11 February 2013, ¶62.
[219] Ofcom response to the CC's provisional determination, 11 February 2013, ¶¶19–25.

understate volumes across the forecast period. In reaching that view, we had regard to:

(a) The allegation in the NoA[220] that Ofcom's forecasts are deficient and that Ofcom has not taken into account the recent change in trend in line volumes. The NoA also identifies[221] some of the potential drivers for this change in trend (which it was alleged Ofcom had not taken into account), and whether these drivers were likely to change in the forecast period. Some of the drivers identified in the evidence supporting this allegation were:

(i) the number of households;[222]

(ii) household income;[223]

(iii) competing infrastructure such as cable;[224]

(iv) fixed to mobile substitution (mobile-only homes);[225] and

(v) increasing fixed broadband use.[226]

(b) Sky/TalkTalk's Core Submission which developed this line of argument and said that Ofcom could not explain clearly how the slowing trend for some households to rely solely on a mobile phone, combined with long-term growth in the number of households, was consistent with its forecast.[227]

(c) EE's Intervention (Core Submission) in which it pursued this line of argument.[228] Its responsive case also built further on the analysis in Mr Duckworth's 1st Witness Statement as to why the trend in volumes had changed. It submitted that the available evidence suggested that Ofcom had strongly underestimated line volumes and it analysed the forecast using a disaggregated approach based on the factors identified by Ofcom in its 2012 Statement (which it submitted were common grounds between the parties).[229] These factors were: growth in the number of households; growth in mobile-only households; cable and fibre substitution; and business lines.[230]

9.202. In our view, there is a clearly identifiable allegation, initially made in the NoA and further developed in the Core Submissions and Intervention, that Ofcom's forecast was deficient because the forecast had failed to take into account key trends and it had therefore underestimated line volumes.

9.203. We took the view that Ofcom's aggregate forecast appeared to be at odds with the available evidence on the key drivers of demand. We were unable to attribute this to a specific element in the forecast without further clarification from Ofcom. This was because the 2012 Statement did not provide a line-by-line algorithm or a breakdown of the impact of the key drivers of demand which it had identified. The absence of

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220 Sky/TalkTalk NoA, ¶¶50–51B.
221 Sky/TalkTalk NoA, ¶51. As evidence supporting this allegation, see WS Duckworth 1, ¶¶4.26–4.37 & 4.38–4.41.
222 Sky/TalkTalk NoA, ¶51, WS Duckworth 1, ¶¶4.27.1, 4.29 & 4.40.1.
223 Sky/TalkTalk NoA, ¶51, WS Duckworth 1, ¶¶4.27.2 & 4.40.2.
224 Sky/TalkTalk NoA, ¶51, WS Duckworth 1, ¶¶4.30, 4.40.5.
225 Sky/TalkTalk NoA, ¶51, WS Duckworth 1, ¶¶4.37& 4.40.4.
226 Sky/TalkTalk NoA, ¶51, WS Duckworth 1, ¶¶4.36 & 4.40.3.
227 Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal) Volume 2, ¶57.
228 EE Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶9.
229 EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶¶58–102.
230 EE Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶60.

such information did not in and of itself mean that the forecast was flawed, but it did mean that we required further clarification from Ofcom.

9.204. Without this further information, it was possible for the appellants to identify that Ofcom's forecast was deficient at an aggregate level (as they did) but it would not have been possible for them to identify specifically which of the factors in the Ofcom forecast was incorrect. With the benefit of this further clarification from Ofcom, we were able to conclude that the error was attributable to two specific elements of the line volume forecast (cable and household growth). In our view, therefore, Ofcom's forecast was deficient since it had not taken into account the recent changes in trends in line volumes; in particular, it had not properly taken into account two specific drivers of recent changes in trends—primarily household growth but also cable. This is in line with the specific allegation set out in Sky/TT's NoA and as supplemented by the Core Submission and EE's Intervention.

10. Sky/TalkTalk Appeal

Service levels and fault rates

Reference Question 1 (ii)

10.1 This section (paragraphs 10.1 to 10.109) sets out our conclusions as to whether the price controls have been set at a level which is inappropriate because Ofcom erred in its assessment of fault repair costs for reasons set out in paragraphs 55 to 66 of Sky/ TalkTalk's NoA.

10.2 The essence of Sky/TalkTalk's appeal is that the fault rate on MPF lines will fall significantly over the charge control period due to the falling proportion of 'young' lines in the total MPF customer base. Ofcom should have built into its modelling the effect of the changing proportion of young MPF lines on fault rates.

10.3 Our determination is that Ofcom erred in its assessment of fault repair costs.

Summary of Ofcom's rationale and methodology

10.4 Openreach repairs faults on LLU lines and this cost needs to be allocated to the different types of LLU services in the Ofcom model. This is done by combining service levels (which is the subject of a separate appeal by BT) with fault rates (the subject of this reference question) to derive a usage factor, which is then used to allocate repair costs between different services.

TABLE 10.1 **Usage factor calculations for WLR, MPF and SMPF**

	Actual fault rate	*Service level usage*	*Usage factor*
WLR basic	1.0	1.0	1.0
MPF	1.04	1.057	1.10
SMPF	0.15	1.057	0.16

Source: 2012 Statement, Figure A4.23.

10.5 Openreach provided Ofcom with actual fault information for the period May 2009 to January 2011, which it used to determine the fault rate usage factors which can be seen above in Table 10.1.[1]

10.6 During the consultation period TalkTalk said that fault repair costs for MPF were excessive when compared with WLR, as the MPF base year fault rate (in 2009/10) was distorted by the higher proportion of 'young' lines used by MPF, which it alleged had a higher propensity to fault than older lines.[2]

10.7 A line being transferred from one provider to another (due to the customer changing providers) is known as a 'migration'. A newly-installed line (for example, to a new house) is known as a 'new provide'. Where a line has not been used for some time (for example, a new owner decides to reconnect), it is known as a 'stopped line takeover' (also a 'start stopped line'), which is a form of migration.

10.8 Ofcom considered that it was reasonable to assume that new provides were more likely to fault than older lines because, anecdotally, fault rates rose with increased

[1] 2012 Statement, ¶A4.282.
[2] 2012 Statement, ¶A4.287.

provisioning activity. However, Ofcom stated that TalkTalk provided no data to support its assertion that the proportion of 'young' lines was greater for MPF than WLR lines.[3] Ofcom's reasons for rejecting an adjustment to account for the changing proportion of young lines were set out in the 2012 Statement:

> … both TTG and Openreach's responses support the fact that there are higher levels of observed MPF faults vs. WLR. TTG's argument as to why costs should move from MPF to WLR would be valid if the situation in 2009/10 was not representative of future trends, either because of the mix of new lines or end users differing propensities to report faults.
>
> As set out in the volume annex, MPF connections are forecast to rise compared to WLR connections over the forecast period, it is unlikely the proportion of 'Young' MPF lines would fall significantly vs. WLR during the Charge Control. We conclude that the base year MPF fault rate is not distorted and make no adjustment for 'Young Lines'.[4]

10.9 Therefore Ofcom's view was that actual faults were an appropriate basis for the fault rate usage factors. It concluded that the data supplied by Openreach supported a fault rate usage factor of 1.0 for WLR, 1.04 for MPF and 0.15 for SMPF.[5]

Summary of Sky/TalkTalk's arguments

10.10 According to Sky/TalkTalk, this ground of appeal alleges mixed errors of fact, law and discretion: Ofcom had failed properly to take account of relevant factual evidence; and in exercising its discretion, it had failed properly to give effect to its duties of transparency and robust justification. In turn, it had failed to give effect to its objectives to promote competition, economic efficiency and consumer benefits and ensure technological neutrality.[6]

10.11 Sky/TalkTalk said that Ofcom was in error in failing to take account of the changing age profile of the populations of MPF lines, and the effect that this would have on the numbers of repairs required. In particular, its approach was inconsistent with the implications of its own modelling of forecast volumes:

(a) It was important that the recovery of fault repair costs from services reflected the causal relationships between services and faults.

(b) A significant driver of fault levels and fault repair costs was faults in newly-installed lines, rather than faults on existing lines. Other things being equal, fault levels and fault repair costs were therefore likely to be higher (per in-service line) for younger populations of lines. The lines referred to by Sky/TalkTalk as 'young lines' for these purposes were MPF and SMPF lines within a month following new provides, single migrations and mass migrations, and WLR lines within a month following new connections and transfers/takeovers.

(c) Ofcom accepted both that the proportion of 'young lines' was presently higher among MPF lines than WLR lines, and that such young lines were likely to experience a higher fault rate than established lines (2012 Statement A4.288). Sky/TalkTalk said that the data considered by Mr Duckworth showed this to be true (see paragraphs 10.14 to 10.30 below).

[3] 2012 Statement, ¶A4.288.
[4] 2012 Statement, ¶¶A4.303–A4.304.
[5] 2012 Statement, ¶A4.306.
[6] Sky/TalkTalk NoA, ¶56.

(d) Further, on the basis of Ofcom's own projections, the proportion of young MPF lines would fall dramatically between Ofcom's sample period and 2013/14: new installations as a proportion of the MPF customer base were forecast to fall from 72 per cent in 2009/10 to 26 per cent in 2013/14. The fault rate in the population of MPF lines could be expected to fall as the proportion of young MPF lines fell.

(e) By contrast, Ofcom's volume forecasts indicated that there was not likely to be a comparable reduction in respect of the fault rate for WLR lines across the charge control period, because the proportion of young WLR lines was anticipated to remain broadly stable.[7]

10.12 Sky/TalkTalk said that despite this, Ofcom chose to forecast MPF fault rates on the basis of historic data (the actual levels of fault repairs for WLR and MPF from May 2009 to January 2011), without making an adjustment to account for the changing maturity of the population of MPF lines.[8] Sky/TalkTalk said that analysis was in error. They said that fault rates based on historical data were unlikely to be a good estimate of fault rates in 2013/14, for the reasons set out above, as on the basis of Ofcom's own volume forecasts the proportion of MPF lines accounted for by 'young' lines would be likely to fall significantly over the charge control period, as the total population of MPF lines increased. By contrast, the proportion of total WLR lines accounted for by 'young' lines would be likely to remain fairly stable. The incidence of fault rates for MPF lines could therefore be expected to decline materially over the period of the price control, but Ofcom failed to account for this.[9]

10.13 Sky/TalkTalk said that, if Ofcom's fault repair cost did not reflect the changing proportion of young lines, it would overestimate the faults related to MPF service and hence overestimate the MPF rental cost.[10]

Evidence presented by Mr Duckworth

10.14 Mr Duckworth presented evidence assessing Ofcom's view that the base year fault rate for MPF was not 'distorted'. He split his analysis into two parts:

(a) evidence that there was a causal relationship between installation and reported faults, shown by higher fault rates when a line was first installed; and

(b) evidence that the forecast ratio of installations ('new lines') to the number of lines in service would vary over time.[11]

- *(a) Evidence on fault rates over the lifetime of a line*

10.15 Mr Duckworth said that the evidence of a causal relationship between installation and fault reports could be analysed by comparing the rate of fault reports for those lines which had been recently installed with the rate of fault reports for lines which had been in service for a number of months. If the rate of fault reports for lines recently installed was much higher than the long-run fault rate, then this would indicate that there was a correlation between installation and fault reports.[12]

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[7] Sky/TalkTalk NoA, ¶60.
[8] Sky/TalkTalk NoA, ¶61.
[9] Sky/TalkTalk NoA, ¶62.
[10] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶26.
[11] Sky/TalkTalk NoA, 1st W/S Duckworth, ¶6.13.
[12] Sky/TalkTalk NoA, 1st W/S Duckworth, ¶6.14.

10.16 He said that in order to examine the potential causal relationship between installation and fault reports he was provided with data on reported faults by both Sky and TalkTalk.[13]

- *Sky data*

10.17 Mr Duckworth said that he had been provided with information on all of the relevant faults reported by customers of Sky whose broadband and voice service was delivered over MPF for the period of weeks 36 to 39 of 2011/12 (March 2012).[14]

10.18 He said that Figures 10.1 and 10.2 below summarized the results of his analysis for exchange faults and access faults expressed as a four-week fault rate (ie the number of faults expected within a four-week period). He said that this showed that the fault rates per subscriber were much higher than the long-term trends in the first 28 days of a line being installed, with the fault rate then falling to the long-term level.[15]

FIGURE 10.1

Access fault rates by time since installation

[✄]

Source: Sky/TalkTalk NoA, 1st W/S Duckworth, Figure 15, p52.

FIGURE 10.2

Access fault rates by time since installation

[✄]

Source: Sky/TalkTalk NoA, 1st W/S Duckworth, Figure 15, p53.

10.19 Sky/TalkTalk told us that there was nothing special about the particular time period chosen. They told us that comparing the level of fault data for the period of weeks 36 to 39 (used to generate the charts above) with other four-week periods from June to October 2012 showed a largely consistent picture, taking into account the growing subscriber base.[16]

10.20 Mr Duckworth said that the charts provided strong evidence that there was a causal relationship between installations and fault reports, both for exchange faults and access faults, indicated by a much higher fault rate in the period immediately after installation.[17]

10.21 Sky/TalkTalk told us that to assist with questions raised at their hearing, Sky had undertaken some further data analysis. This data covered the period June to November 2012 and it showed that:

(a) The volumes and types of lines purchased by Sky were broadly similar over the period.

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[13] Sky/TalkTalk NoA, 1st W/S Duckworth, ¶6.15.
[14] Sky/TalkTalk NoA, 1st W/S Duckworth, ¶6.16.
[15] Sky/TalkTalk NoA, 1st W/S Duckworth, ¶6.18.
[16] Towerhouse Consulting letter to CC, 20 December 2012.
[17] Sky/TalkTalk NoA, 1st W/S Duckworth, ¶6.19.

(b) The relative fault rates between early life failures (ELFs) and in-life failures were broadly constant with the ELF rate being approximately [✂] times the in-life fault rate on average.

(c) The relative fault rates between different types of installations were broadly constant over time, with the fault rates being higher for start stopped lines and take-overs than for new lines.[18]

- *TalkTalk data*

10.22 Mr Duckworth said that the TalkTalk data consisted of all faults reported by TalkTalk customers for the weeks ended between 20 October 2011 and 22 April 2012 along with the number of installations and the subscriber base in each week.[19] A summary of the data is shown below in Table 10.2.[20]

TABLE 10.2 **TalkTalk weekly fault rates by time since installation**

per cent

	Access	*Exchange*
Up to 28 days since installation (DOA and ELF)	[✂]	[✂]
>28 days since installation (in life)	[✂]	[✂]

Source: Sky/TalkTalk NoA,1st W/S Duckworth, ¶6.20.

Note: ELF (Early Life Failure) means a line was installed between 5 and 38 days before fault was reported; DOA (Dead on Arrival) means a line was installed between four days or less before the fault report.

10.23 Mr Duckworth said that the data from Sky expressed on an equivalent basis, comparing the fault rate in the first four weeks with the long-run rate of faults for lines which have been in service more than 12 months, is shown in Table 10.3 below.[21]

TABLE 10.3 **Sky fault rates by time since installation**

per cent

	Access	*Exchange*
Up to 28 days since installation	[✂]	[✂]
>28 days since installation (in life)	[✂]	[✂]

Source: Sky/TalkTalk NoA 1st W/S Duckworth, ¶6.23.

10.24 Mr Duckworth said that a comparison of the Sky and TalkTalk data (as shown in Tables 10.2 and 10.3 above) showed broadly similar 'in life' (more than 28 days after installation) fault rates but higher fault rates in the period immediately after installation (up to 28 days after installation). He said that there were a range of potential reasons for the small variations between the data sets:

(a) sampling variation;

(b) methodological differences in the reporting of faults;

[18] Towerhouse Consulting letter to CC, 20 December 2012.
[19] Sky/TalkTalk NoA, 1st W/S Duckworth, ¶6.20.
[20] The data divides the combined number of DOA and ELF faults (combined) by the number of installations in the week and the previous three weeks to provide an estimate of the fault rate for lines in the first four weeks of installation. It divides the number of 'in-life' faults by the number of subscribers less the number of installations in the week and the previous three weeks provides an estimate of the long-run fault rate.
[21] Sky/TalkTalk NoA, 1st W/S Duckworth, ¶6.23.

(c) differences in the sample time period leading to differences due to seasonality or other trends in fault rates; and/or

(d) different underlying characteristics of Sky subscribers/faults and TalkTalk subscribers/faults.[22]

10.25 He said that it was clear from this analysis that there was a strong causal relationship between installation of MPF services and fault reports.[23]

10.26 In response to questions raised during its hearing, TalkTalk told us that it had sought further information on fault rates. It said that this additional data set provided information on the relative level of Openreach faults for different types of provision. These showed that [✄] per cent of provide takeover (a type of migration) orders have a fault automatically escalated to Openreach compared with [✄] per cent of migrations and [✄] per cent of new provides.[24]

10.27 It told us that provide takeovers accounted for [✄] per cent of TalkTalk migrations which implied that migrations/takeovers had a higher fault rate than new provides.[25]

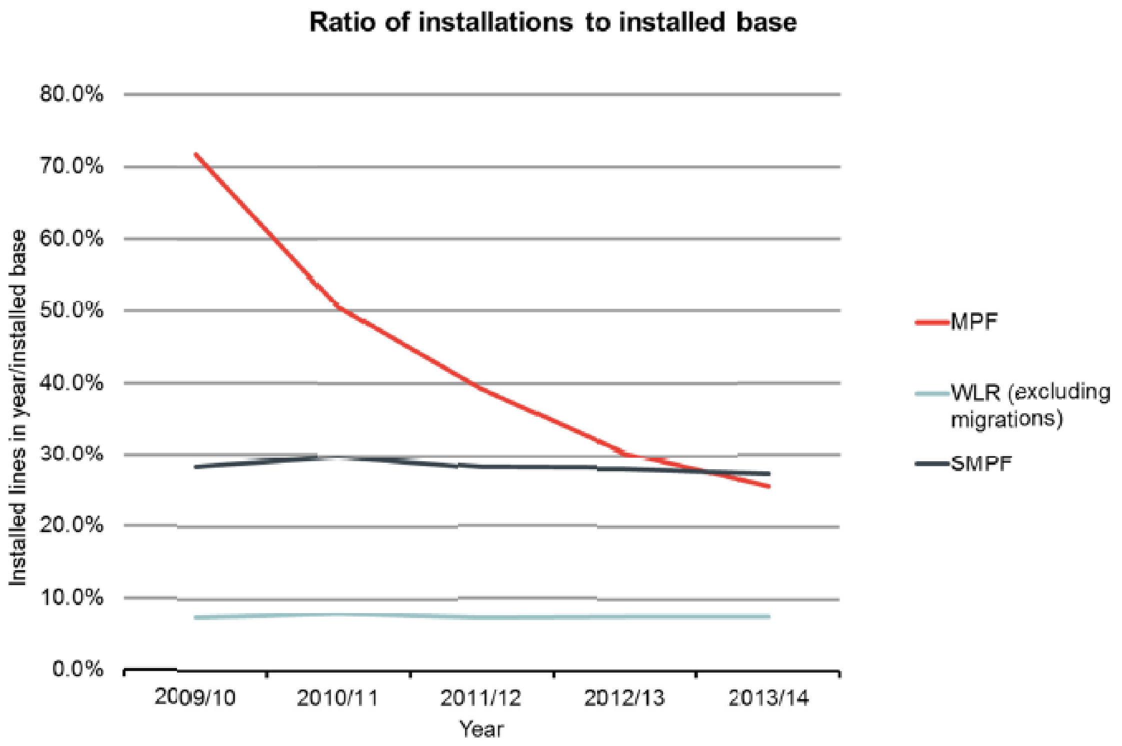
- *(b) Ratio of installations to the subscriber base*

10.28 Mr Duckworth said that Ofcom had forecast and allocated faults assuming that the fault rate per line remained stable for all services. He said that he had identified that there was a clear causal relationship between the installation of lines and fault reports. The resulting faults, when expressed as a rate per line, would only be expected to remain stable over time if the ratio between installations and lines also remained stable.[26] He said that based on the forecast volumes shown in Ofcom's consultation, the ratio of installations to subscriber base is shown in Figure 10.3 below.

[22] Sky/TalkTalk NoA, 1st W/S Duckworth, ¶6.23.
[23] Sky/TalkTalk NoA, 1st W/S Duckworth, ¶6.24.
[24] Towerhouse Consulting letter to CC, 20 December 2012.
[25] Towerhouse Consulting letter to CC, 20 December 2012.
[26] Sky/TalkTalk NoA, 1st W/S Duckworth, ¶6.25.

FIGURE 10.3

Installations as a percentage of total subscriber base



Source: Sky/TalkTalk NoA, 1st W/S Duckworth, Figure 17, based on 2012 Statement, Figure A2.1.
Note: Installations are as defined by 1st W/S Duckworth, Table 9, p56.

10.29 Mr Duckworth said that the chart clearly showed that the forecast proportion of new lines in the MPF base was expected to fall rapidly over the forecast period. While Ofcom noted that the number of MPF connections was increasing over the forecast period, the rate of increase was much less than the rate of increase in the overall subscriber base.[27]

10.30 Mr Duckworth said that the forecast proportion of recently installed lines in WLR and SMPF was expected to remain broadly stable. He said that the WLR estimate shown in the chart excluded migrations from WLR to MPF. As the number of MPF lines increased, he would expect the number of WLR to MPF transfers to increase due to churn between WLR and MPF. As the number of WLR lines was decreasing over time, this would result in the ratio of WLR installations to installed base increasing over time.[28]

- *Impact of the change in the proportion of recently installed lines*

10.31 Mr Duckworth presented an analysis based on the TalkTalk data which showed that as the ratio of installations to the installed base fell over time the implied fault rate per line also fell. The analysis showed that incorporating the effect of young lines resulted in the expected overall fault rate per line falling by approximately [✄] per

[27] Sky/TalkTalk NoA, 1st W/S Duckworth, ¶6.29.
[28] Sky/TalkTalk NoA, 1st W/S Duckworth, ¶6.30.

cent for MPF access faults and by [✂] per cent for MPF exchange faults compared with the fault rate per line based on the historic data.[29]

10.32 He said that by not fully capturing the underlying drivers of faults, in particular related to installation, the Ofcom model would not provide an accurate forecast of fault rates for the MPF service where the ratio between installation volumes and subscriber volumes would change over time. He said that the Ofcom forecasts, based on an assumption of a constant total fault rate per line, would tend to overestimate the faults related to MPF service and hence overestimate the MPF rental cost. In order to correct this over-estimation, one could either:

(a) make adjustments to the MPF fault rate per line used in the cost forecast and cost allocation models reflecting the expected fault rate in 2013/14 based on a lower rate of installation; or

(b) adjust the cost forecast and cost allocation models to reflect the causal relationship between installations and a proportion of faults.[30]

10.33 Mr Duckworth stated that the total cost of repairs (both access network and exchange faults) allocated to MPF in 2013/14 was £14.84 per line per year. A reduction in the amount allocated of around 10 per cent, to take account of a lower rate of installations in 2013/14, would reduce this amount by £1.48.[31] In its NoA, Sky/TalkTalk said that this error would be likely to have a material impact on the controlled prices, as revising Ofcom's cost model to take account of this error would reduce the price of MPF by £1.07 per line per year.[32]

10.34 Mr Duckworth said that as the ratio between installations and subscriber numbers was expected to remain broadly constant for WLR and SMPF services, the Ofcom methodology would not result in an underestimation of faults for these services.[33]

Dropwire and network terminating equipment

10.35 Sky/TalkTalk said that to the extent that the CC accepted that it would be necessary for Ofcom to revise its adjustment to access and exchange fault rates to take account of the higher incidence of faults among young lines, it would also be necessary to make a similar adjustment to Ofcom's forecasts of repairs for dropwire and network terminating equipment (NTE).[34]

10.36 Sky/TalkTalk said that in the March 2011 Consultation, it appeared that Ofcom had allocated all fault repair costs for d-side, e-side and exchange faults in the same way. Following the disclosure by Ofcom of its costs model, it was evident that Ofcom maintained the approach set out in the March 2011 Consultation in the 2012 Statement and that no adjustment had been made for the incidence of 'young' lines. Accordingly, the forecasts for dropwire and NTE faults contained the same error as identified above in relation to access and exchange fault repair costs. The estimate of materiality from Sky/TalkTalk's NoA set out in paragraph 10.33 took account of this adjustment.[35]

[29] Sky/TalkTalk NoA, 1st W/S Duckworth, ¶¶6.31–6.33; Table 10 & Figure 18.
[30] Sky/TalkTalk NoA, 1st W/S Duckworth, ¶6.34.
[31] Sky/TalkTalk NoA, 1st W/S Duckworth, ¶6.35.
[32] Sky/TalkTalk NoA, ¶64.
[33] Sky/TalkTalk NoA, 1st W/S Duckworth, ¶6.36.
[34] Sky/TalkTalk NoA, ¶57.
[35] Sky/TalkTalk NoA, ¶66.

Summary of Ofcom's arguments

10.37 Ofcom said that this ground of appeal sought to add a further level of refinement to its model for predicting the likely level of faults on different kinds of line. It said that the level of sophistication of the modelling was a matter of judgement and it was entitled to a wide margin of appreciation on appeal. In any event, the proposed addition was not justified by the evidence.[36] Ofcom considered the consistency of its approach with its own volume forecasts, the reasons put forward by Mr Duckworth for there being an impact on fault rates and the data submitted by Mr Duckworth.

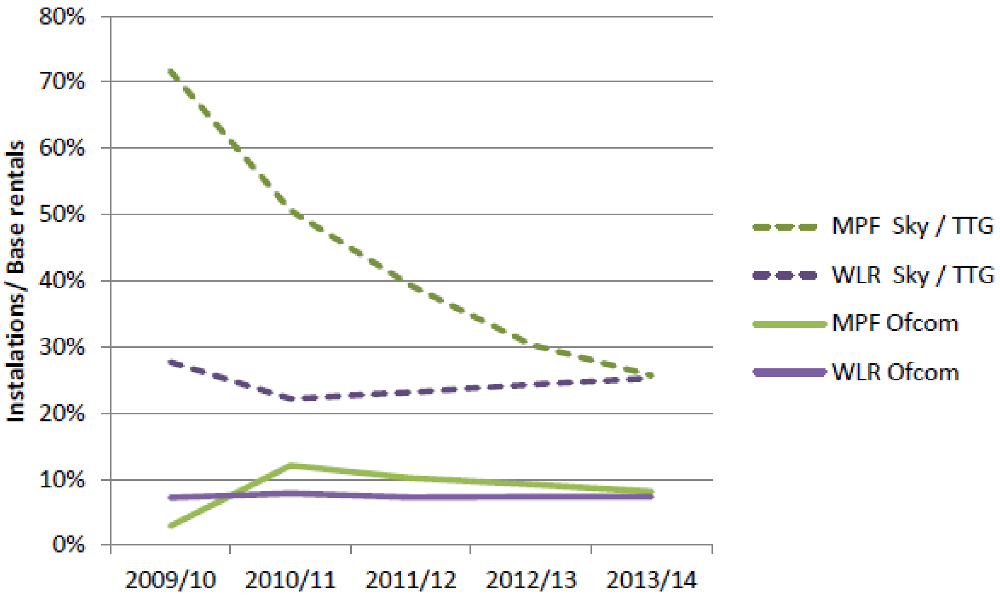
Consistency with volume forecast

10.38 Ofcom stated that Sky/TalkTalk's allegation that it ignored its own volume forecast was incorrect, and was based on a misunderstanding of the 2012 Statement. It said that in its response to the Consultation, TalkTalk did not explain what it meant by 'young' lines. In the NoA, Sky/TalkTalk used a very broad definition, including migrations/transfers. By contrast, Ofcom's usage of the term 'young' lines in the 2012 Statement was limited to lines which had been newly connected or reconnected to the network (ie 'MPF New Provides' and 'WLR New Connections') rather than merely transferred. The difference was significant as Ofcom's definition was restricted to lines where physical reconnection may be required at the NTE, dropwire, network as well as exchange, whereas Sky/TalkTalk's definition was dominated by lines where the only reconnection work may occur at the exchange. Ofcom said that the forecast fall in the proportion of 'MPF New Provides' to 'MPF Rental' compared with the proportion of 'WLR New Connection' to 'WLR Rentals' was much slower than the fall from 72 to 26 per cent relied on by Sky/TalkTalk: Figure 10.4 below contrasts Ofcom's approach with that of Mr Duckworth.

[36] Ofcom Defence (Sky/TalkTalk Appeal), ¶B10.

FIGURE 10.4

Installations as a percentage of total subscriber base



Source: Ofcom Defence, ¶B11.
Note: This chart shows the evolution of 'young' lines over the forecast period. Young WLR and MPF lines as a percentage of the total subscriber base are shown using Sky/TalkTalk's interpretation of 'young' (dashed lines) and using Ofcom's interpretation of 'young' (solid lines).

10.39 Ofcom said that its conclusion that it was unlikely that the proportion of young MPF lines would fall significantly compared with the proportion of young WLR lines during the period of the charge control was therefore not inconsistent with the volume forecasts, and the decision not to make the adjustment sought by TalkTalk was justified.

Potential causes posited by Mr Duckworth unlikely to have a large impact on transfers/migrations

10.40 Ofcom said that there was no robust basis for assuming that transfers and migrations would be likely to have a significant impact on the fault rate for newly installed lines. It said that Mr Duckworth posited three potential reasons why installation could be correlated with faults being reported. It said that few of them could plausibly apply to a migration or transfer:

(a) *The work in provisioning a new service may give rise to faults which are reported shortly after installation.* Ofcom said that transfers and migrations did not usually require physical reconnections to take place on the line outside of the exchange, unlike new connections or new provides, where physical reconnection may be required at the NTE, distribution point (DP) and network. At most, this could only affect predictions for exchange faults, but to do this would require adding a level of refinement to the model which (i) would have been disproportionate; and (ii) could not in any event be justified by the available data. Engineering interventions at the exchange for migrations involve re-jumpering[37] at the main distribution frame (MDF) to connect the copper pairs to the new service provider's network equipment. Whilst the re-jumpering itself could be faulty, there was also

[37] Re-jumpering is the engineering work completed at a telephone exchange to transfer a line from BT to a different unbundled provider or from one unbundled provider to another.

the chance that jumpers for other lines not being migrated could also be interfered with in the re-jumpering process, giving rise to a fault on another line which may be used by a different service provider and/or providing a different service. Ofcom said that Mr Duckworth did not attempt to state what proportion of faults occurred for these reasons.

(b) *There may be latent faults on a line which only become apparent when a new customer starts using the line following installation.* Ofcom said that this appeared to concern the provision of a new line where a component of the line (either E-side or D-side) was being used for the first time (or first time in a while), rather than merely migrations or transfers. If it was intended to cover the situation where a new customer took over an existing line and was less tolerant of faults than their predecessor, this seemed unlikely to be a very common occurrence.

(c) *The customer may be less tolerant of faults with a new service.* Ofcom said that there might be faults which were acceptable to the customer if a line was used only for voice calls which became unacceptable when a customer took a data service, as noted in the 2012 Statement (paragraph A4.286). However, this would only generally be expected in the case where the end-user took the data service for the first time (it said that there was a theoretical possibility that a consumer might become more sensitive to a fault on their broadband when they changed broadband providers, but it was very difficult to quantify how frequent, if at all, such circumstances were). Given that total broadband penetration was reaching saturation point and Ofcom forecast MPF+SMPF lines to grow by only 3.5 per cent a year to 2013/14, Ofcom said that one could conclude that most migrations and transfers were of lines on which broadband was already provided and therefore were unlikely to reveal latent faults of this kind.[38]

Mr Duckworth's new data

10.41 Ofcom said that the data provided by Mr Duckworth did not distinguish between new provide/new connection and migrations/transfers, so could not demonstrate that migrations/transfers had a material impact on fault rates. Further, Mr Duckworth himself noted that there were differences between the Sky data and the TalkTalk data which might be caused by 'different underlying characteristics of Sky subscribers/faults and TalkTalk subscribers/faults'. Ofcom stated that in the circumstances it was not at all clear that the data now relied on by Mr Duckworth would have led it to alter its approach if it had been provided during the administrative process.[39]

Dropwire and NTE faults

10.42 Ofcom said that Sky/TalkTalk suggested that amendments should also be made to the figures in the model for dropwire and NTE faults. It said that the data used for dropwire/NTE faults showed that MPF lines were slightly less prone than WLR to suffering such faults, by virtue of a usage factor of 0.97.[40]

10.43 Ofcom said that the fact that this was very close to the combined 1.02 for WLR and SMPF might be regarded as supporting the view that it was only engineering interventions (ie new connections and provides and not transfers) that gave rise to increased faults. This was because there were less likely to be engineering interven-

[38] Ofcom Defence (Sky/TalkTalk Appeal), ¶B13.
[39] Ofcom Defence (Sky/TalkTalk Appeal), ¶B17.
[40] Ofcom Defence (Sky/TalkTalk Appeal), ¶B18.

tions closer to the end-user than at the exchange end of the line. In the case of transfers and migrations, work would only be generally required in the exchange. With new connections and new provides, engineering interventions in the network may be required in addition to that at the exchange. Where a line had previously been provided but subsequently ceased to a customer location, a dropwire may already exist that could be reused. This would result in more interventions at the street cable level (for example, wiring at the cabinet to re-connect D and E side copper) than at the dropwire. Therefore as dropwires were the least likely to be modified for 'new installations', the fault rate incidence should be the most similar for different products.[41]

BT's Intervention

10.44 BT said that, as witness Mr Hunt explained, Sky/TalkTalk's analysis fell at the first hurdle:

(a) Faults on all line types had a number of causes, which applied equally to copper lines irrespective of whether those lines carried MPF or WLR services.

(b) There was actually a higher fault rate on MPF than on WLR, because faults on lines carrying broadband services were more common than faults on lines carrying voice services, and faults on voice services carried over MPF were more frequently reported than on voice services carried over WLR.

(c) In contrast, the age or 'youth' of the line was not a material factor. A detailed analysis of actual faults carried out by BT showed that the proportion of total faults on MPF lines which were 'early life faults' was very small, and that removing early life faults made no material difference to the fault rate.[42]

10.45 BT said that the conclusions of the analysis of fault rates carried out by Mr Duckworth for Sky/TalkTalk were flawed and could not be relied upon.[43]

Mr Hunt's analysis comparing the in-life fault rate

10.46 Mr Hunt said that Openreach monitored both the ELFs and overall fault rate on its services.[44] He said that first, the ELF data measured the proportion of MPF or WLR completed orders which resulted in an Openreach fault within the first month of these orders being completed (measured as 30 days for WLR and 28 days for MPF). The average ELF rate over the period January to September 2011 was [✄] per cent for MPF and [✄] per cent for WLR.[45]

10.47 He said that, secondly, Openreach measured the overall fault rate (Access Plus) on its services across all elements of the copper access network for which Openreach was responsible.[46]

10.48 Mr Hunt said that Openreach did not generate reports of in-life fault rates excluding ELFs. Accordingly, in order to carry out this analysis for the purpose of this appeal, he had to extract the (Access Plus and ELFs) underlying fault data for the study period (October 2009 to January 2011) using existing management information system sources to determine whether, for every individual fault included in the

[41] Ofcom Defence (Sky/TalkTalk Appeal), ¶B19.
[42] BT Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶33.
[43] BT Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶34.
[44] BT SoI (Sky/TalkTalk Appeal), W/S Hunt, ¶15.
[45] BT SoI (Sky/TalkTalk Appeal), W/S Hunt, ¶16.
[46] BT SoI (Sky/TalkTalk Appeal), W/S Hunt, ¶17.

Access Plus data set, it had occurred within the first month of an order being completed (eg installation, migration or transfer, addition or removal of a feature) on the line. If it had, the fault was removed from the data set.[47]

10.49 He said that having extracted the underlying Access Plus and ELF fault data, he compared the two data sets, using the fault ID (unique number/identifier which enabled each fault to be identified) to identify the Access Plus faults which were also ELFs. This then enabled all data items which were ELFs to be removed from the Access Plus data set.[48]

10.50 Mr Hunt said that it was important to note that the effect of removing ELFs from the Access Plus fault data set had resulted in the removal of legitimate in-life faults from the Access Plus results and therefore had provided a conservative view of the in-life fault rate contribution. That was because the ELF data was over-inclusive as it assumed that all faults that occurred within the first month of an order being completed were as a consequence of the order activity, even though some were genuine, unrelated in-life failures (eg faults resulting from network degradation/wear and tear, when network components like cables reached the end of their lives or when local flooding caused catastrophic failure of a cable) or intervention faults on a shared component. Therefore, it was not appropriate for this analysis to be relied upon for any other purpose other than to test Mr Duckworth's conclusion.[49]

10.51 Mr Hunt said that to test Mr Duckworth's conclusion that installations drove the overall fault rate on MPF lines, he had used the above data to calculate the in-life and ELF contributions to the overall fault rate for MPF lines over the same reporting period of October 2009 to January 2011, and plotted the result in the chart below. For completeness of the analysis, he had also calculated the in-life and ELF contributions to the fault rates in the exchange and on the line which Mr Duckworth had used in his analysis. If Mr Duckworth's view was correct, then the in-life fault rate should be significantly lower than the ELF fault rate (ie the red line in Figure 10.5 should be below the blue line).[50]

FIGURE 10.5

MPF overall fault rate and in-life and ELF contributions

[✂]

Source: BT SoI, W/S Hunt, Figure 1, p9.

10.52 Mr Hunt said that the graph showed that the in-life contribution was much greater than the ELF contribution. He said that Mr Duckworth incorrectly concluded that the 'youth' of the lines carrying MPF services was the primary driver of the overall fault rate. He said that the above conclusions were still valid when the data was split between faults in the exchange and faults on the line as Mr Duckworth had done in his analysis.[51]

10.53 He said that Mr Duckworth used different subscriber groups to calculate the ELF and the in-life fault rates. For the TalkTalk ELF rate (including DOA), Mr Duckworth divided the number of ELF faults 'by the number of installations in the week and the previous three weeks' and used this to generate 'an estimate of the fault rate per new

[47] BT SoI (Sky/TalkTalk Appeal), W/S Hunt, ¶20.
[48] BT SoI (Sky/TalkTalk Appeal), W/S Hunt, ¶21.
[49] BT SoI (Sky/TalkTalk Appeal), W/S Hunt, ¶22.
[50] BT SoI (Sky/TalkTalk Appeal), W/S Hunt, ¶23.
[51] BT SoI (Sky/TalkTalk Appeal), W/S Hunt, ¶24.

subscriber in the first four weeks since installation'. For the TalkTalk in-life fault rate, Mr Duckworth conducted a similar exercise by dividing the number of in-life faults by the number of existing subscribers (ie the total number of existing subscribers less installations in the week and the previous three weeks). He said that in doing so, Mr Duckworth derived an average per subscriber fault rate for two distinct periods and subscriber groups based on two separate data sets. These average fault rates could not be compared with each other in order to assess whether it was the number of ELFs or the number of in-life faults which drives the overall fault rate on MPF lines. This is because the analysis does not calculate the relative contribution of ELFs and in-life faults to the total number of faults which occur across all subscribers over the overall time period. Furthermore, it was also worth noting that apparently Mr Duckworth's analysis yielded different results when applied on an equivalent basis to the Sky data, suggesting that other factors might be involved.[52]

10.54 Mr Hunt said that his analysis showed that a very low volume of faults was attributable to ELFs, even when included migrations and transfers were included. He said that on the basis of this work, he agreed that Ofcom was correct that it would have been disproportionate and unjustified to have separately modelled early and in-life faults.[53]

10.55 BT said that accordingly it submitted that no reduction to the proportion of fault rate costs which were allocated to MPF was warranted, and this ground of appeal should be rejected.[54]

Summary of Sky/TalkTalk's responsive arguments

Consistency with volume forecast

10.56 Sky/TalkTalk said that Ofcom asserted that it had adopted a narrow definition of 'young lines' in the 2012 Statement (new provides only), whereas Sky and TalkTalk had adopted a broad definition (new provides and migrations).[55] They said that it was not clear that Ofcom was correct to say that it had adopted a narrow definition. Ofcom did not define 'young lines' in the 2012 Statement and parts of the 2012 Statement appeared to assume a broad definition.[56]

10.57 Mr Duckworth explained how it was perfectly reasonable for him to assume that the definition of 'young lines' in Ofcom's 2012 Statement included both new provides and migrations and why an analysis based on this broader definition was appropriate.[57]

10.58 According to Sky/TalkTalk, if Ofcom did adopt a broad definition, then its conclusion was inconsistent with Ofcom's own volume forecasts, as those volume forecasts implied that 'young lines' (on the broad definition) would fall more swiftly in respect of MPF lines than WLR lines.[58] Conversely, if Ofcom had adopted a narrow definition as it now claimed, then it followed that Ofcom must have misunderstood TalkTalk's argument as put in the Consultation, although it sought to avoid saying so. It was clear, therefore, that Ofcom discounted TalkTalk's argument on a false basis: either it relied on a conclusion as to the future proportion of 'young lines' which was inconsist-

52 BT SoI (Sky/TalkTalk Appeal), W/S Hunt, ¶25.
53 BT SoI (Sky/Talk/Talk Appeal), W/S Hunt, ¶26.
54 BT Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶35.
55 Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶64.
56 Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶65.
57 Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, 4th W/S Duckworth, ¶¶6.7–6.16.
58 Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶67.

ent with its own growth forecasts or it was not addressing TalkTalk's argument at all.[59]

10.59 Sky/TalkTalk said that even on Ofcom's own case the arguments in its Defence were no more than an attempt to explain, after the event, a decision taken on the basis of a misunderstanding. It would not be appropriate to afford Ofcom any 'margin of appreciation' in this regard.[60]

Ofcom's new arguments

10.60 Sky/TalkTalk considered Ofcom's new arguments separately in respect of faults in the exchange (exchange faults); in the access network (access faults) and in the dropwire and network terminating equipment (dropwire and NTE faults).[61]

- *Exchange faults*

10.61 According to Sky/TalkTalk, the core of Ofcom's argument was that new provides involved engineering intervention in the network, whereas migrations did not. It was therefore said to be likely that fault rates would be higher on newly-provided lines, but not on migrated lines. Sky/TalkTalk did not agree with Ofcom's claim; in any event, Ofcom's claim did not assist it in respect of exchange faults, since the engineering intervention involved was the same in respect of both new provides and migrations.[62]

10.62 Sky/TalkTalk said that it now appeared to be common ground between themselves and Ofcom that new provides and migrations would both drive higher exchange faults, and that accordingly, 'young lines' (as defined by Sky/TalkTalk) would have a higher proportion of such faults.[63]

10.63 Sky/TalkTalk said that the only reason asserted by Ofcom in its Defence as to why this error in respect of exchange faults should not be corrected was that Ofcom claimed to have 'a wide margin of appreciation' as to the 'level of sophistication of the modelling' and that correcting it would 'add a further level of refinement to Ofcom's model'. They said that Ofcom did not, in the 2012 Statement, reject the Sky/TalkTalk adjustment on the basis that it considered it 'too sophisticated'; Ofcom rejected the adjustment because it believed (on a false basis) that TalkTalk's argument was wrong. Sky/TalkTalk explained that the adjustment would involve altering a single cell in Ofcom's cost allocation model, and this would not be disproportionate to the difference that it would make to the MPF price.[64]

10.64 Mr Duckworth said that he had amended the cost allocation model to reduce the relative level of exchange faults by [✂] per cent to reflect the forecast reduction in the proportion of young MPF lines. The change in the allocation of frame repair costs would, he estimated, result in the changes to estimated costs of MPF, WLR and SMPF prices shown in Table 10.4 below.[65]

[59] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶68.
[60] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶69.
[61] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶70.
[62] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶71.
[63] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶72.
[64] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶73.
[65] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, 4th W/S Duckworth, ¶6.37.

TABLE 10.4 **Comparison of 2013/14 annual subscription costs with revised repair allocation**

	Ofcom model	*MPF exchange faults reduced by the above percentage*	*Change*
WLR basic	92.65	92.73	0.07
WPR premium	93.37	93.45	0.08
SMPF	8.42	8.47	0.05
MPF	86.85	86.59	–0.26

Source: Sky/TalkTalk Core Submission, v2, 4th W/S Duckworth, Table 3, p42.

- *Access faults*
  - *The impact of migrations on the fault rate for 'young lines'*

10.65 Sky/TalkTalk said that it was implausible that all the elevation in access fault rates shown in the empirical data was due solely to new provides where there had been engineering intervention, as Ofcom sought to suggest. Mr Duckworth said that new provides were a relatively small percentage of overall new installations ([✂] per cent for TalkTalk for the period shown in Table 10.2 above) and only a proportion of these would require engineering intervention. For all newly-installed lines (migrations and new provides), the fault rate is about [✂] times the long-term fault rate. If all the elevation was due solely to new provides and there was no elevation due to migrations, then the elevation on newly-provided lines would be about 20 times that of older lines in the longer run. Sky/TalkTalk said that this did not appear to be consistent with the fact that new installations requiring an engineering visit were more thoroughly tested before handover.[66]

10.66 Sky/TalkTalk said that in any case, there were further good reasons why migrations caused higher fault rates than older lines (and possibly even higher than new provides) even though there was no engineering intervention:

(a) there might be 'latent' faults on a line which only became apparent once a new customer started using the line following installation; and

(b) the customer might be less tolerant of faults with a new service.[67]

10.67 They said that with regard to the first of these two causes, Ofcom asserted without evidence that it was 'unlikely to be a very common occurrence' that a new customer took over an existing line and was less tolerant of faults than their predecessor. According to Sky/TalkTalk, that was inconsistent with the evidence.

10.68 Mr Duckworth said that evidence provided by TalkTalk showed that stopped line takeovers were relatively frequent, being [✂] per cent of all migrations. He said that such migrations would be expected to have elevated fault rates as the line would not have been used for a period of time and thus faults may have accumulated during the period the line was unused and these faults would be reported soon after the line was migrated.[68]

10.69 He said that this was confirmed by evidence provided by Sky (shown in Figure 10.6 below) which showed that ELFs were elevated for stopped line takeovers compared with other types of installations, including 'new line provides', which may include

[66] Sky/TalkTalk Core Submission v2, ¶75, W/S 4th Duckworth, ¶6.30.
[67] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶76.
[68] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶77, 4th W/S Duckworth, ¶6.23.

provisioning work in the access network. He said that this would support a conclusion that stopped line provides had a more elevated fault rate than new provides.[69]

FIGURE 10.6

Early life propensity to fail by order type

[✂]

Source: Sky/TalkTalk Core Submission, v2, 4th W/S Duckworth, Figure 9, p39.

10.70 Sky/TalkTalk said that with regard to the second of these two causes, Ofcom appeared to concur that there was a possibility that new broadband subscribers might be less tolerant of intermittent faults on the line. Ofcom then argued that as broadband subscriber growth slowed in the future there would be fewer migrations with subscribers migrating from voice-only services to voice plus broadband and so a smaller number of MPF installations might experience higher fault rates for this reason. This argument appeared to further support Sky/TalkTalk's contention that the fault rate for MPF in the future would be expected to be lower still as not only would the proportion of recently installed lines be lower but also these recently installed lines would have lower relative fault rates than in the past.[70]

10.71 With regard to change in broadband penetration, Mr Duckworth's view was that the important issue was whether the rate of increase in broadband penetration was expected to change between the period on which fault data was supplied by BT, and the end of the forecast period, ie whether the proportion of new MPF customers who had not taken a broadband service previously was likely to change over time. He said that Table 10.5 below showed that the rate at which the number of broadband lines was increasing dropped rapidly over the period and hence that the elevated fault rate resulting from a new broadband service being newly provided on a line would be expected to fall over the forecast period.[71]

TABLE 10.5 **Forecast number of lines with broadband**

'000

	2010/11	*2011/12*	*2012/13*	*2013/14*
MPF rentals	3,776	5,298	6,098	6,774
SMPF rentals	10,845	10,272	9,733	9,316
Total broadband (MPF+ SMPF)	14,621	15,570	15,831	16,090
Year on year growth (%)		6.5	1.7	1.6

Source: Sky/TalkTalk Core Submission, v2, 4th W/S Duckworth, Table 2, p40.

10.72 Mr Duckworth said that this supported the view that the fault rates for MPF could be expected to fall over time as the proportion of recently installed lines, in particular those where broadband was enabled for the first time, fell. He said that this effect would not have an impact on the fault rate for WLR lines without broadband.[72]

- *The data provided by Mr Duckworth does not distinguish between new provides and migrations*

[69] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, 4th W/S Duckworth, ¶6.24.
[70] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶77.
[71] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, 4th W/S Duckworth, ¶6.26.
[72] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, 4th W/S Duckworth, ¶6.27.

10.73 Sky/TalkTalk said that Ofcom objected that the data analysed by Mr Duckworth 'cannot demonstrate that migrations/transfers have a material impact on fault rates'. They said that this ignored the fact that the data showed a fault rate for 'young lines' (including migrations as well as new provides) which was too high to be accounted for solely by new provides.[73]

10.74 They said that further, the fact that there were differences between the Sky and TalkTalk data (which was to be expected given that they are separate businesses with different operating models) did not cast any doubt on the link between 'young lines' and faults, because the correlation was extremely strong in both sets of data.[74]

- *Dropwire and NTE faults*

10.75 Sky/TalkTalk said that Ofcom dismissed any amendment to the model in respect of dropwire and NTE faults on the basis that 'the data used for dropwire/NTE faults showed that MPF lines were slightly less prone than WLR to suffering such faults'. They said that this missed the point: Sky/TalkTalk's case was not based on what the relative fault rates presently are, nor do they contend that the overall fault rates for WLR and MPF lines would necessarily converge; their case was based on data which indicated that the relative fault rates would change over time, irrespective of whether the MPF fault rate today in some instances was below that of WLR, compared with the reference period used by Ofcom.[75]

Sky/TalkTalk's view of BT's Intervention

10.76 Sky/TalkTalk said that BT argued, first, that broadband lines, including MPF lines, had a higher rate of reported faults than WLR/voice-only lines, and secondly, that ELFs (ie those occurring after the line was newly provided or migrated) were not a material factor in the level of fault rates.[76]

10.77 Sky/TalkTalk's view was that even if it were true that MPF lines had a higher rate of reported faults than voice-only lines, there would be no inconsistency between that and their arguments. Their point was not that there was no difference between MPF and WLR lines in respect of fault rates. Rather it was simply that a major component of the difference, historically, had been due to the higher proportion of 'young lines' among MPF lines than among WLR lines. To the extent that that proportion fell, it would have an effect on the relative fault rate. Moreover, BT provided no evidence, beyond the assertion of Mr Hunt, for its contention that broadband lines had an inherently higher fault rate.[77]

10.78 Sky/TalkTalk said that secondly, the evidence given by Mr Hunt for BT considered the contribution of ELFs to the overall fault rate and concluded that it was not material. However, this did not take account of the relatively small differential which Ofcom posited between the fault rates for MPF and WLR without broadband (a difference of 4 per cent): even though the contribution of ELFs to the overall fault rate was relatively small, it was capable of explaining most of the difference between the rates of MPF and WLR faults on which Ofcom based the cost allocation.[78]

[73] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶80.
[74] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶81.
[75] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶83.
[76] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶84.
[77] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶85.
[78] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶86.

10.79 Mr Duckworth said that Figure 10.7 below compared the BT data on which Ofcom based the 1.04 factor for Access faults against the corresponding data provided by Mr Hunt which showed the fault rate for MPF excluding ELF. Once the ELFs had been removed, the MPF fault rate was similar to that for WLR (for lines without broadband). In particular, he said that the period May 2010 to December 2010, when the MPF fault rate was consistently higher than the WLR fault rate, corresponded with the period where ELF fault rates were elevated and there was a strong correlation between the difference between WLR and MPF fault rates and the number of MPF ELF faults.[79]

FIGURE 10.7

Comparison of BT data on monthly fault rates between MPF and WLR

[✂]

Source: Sky/TalkTalk Core Submission, v2, 4th W/S Duckworth, Figure 10, p44.

Our assessment

10.80 Apart from the issue of admissibility of evidence that was not before Ofcom at the administrative stage, which is dealt with in the introductory section (see paragraphs 1.85 to 1.88), we considered that this question raised three main issues:

(a) the misunderstanding between the parties on the meaning of 'young lines';

(b) Ofcom and BT's views on Sky/TalkTalk's data. Sky/TalkTalk said that when modelling fault rates for MPF, Ofcom should take into account the effect of elevated fault rates in young lines. Ofcom, supported by BT, disputed the impact of young lines and said that such an adjustment was unnecessary; and

(c) Materiality assessment relating to the additional level of refinement to Ofcom's model which would be required to implement Sky/TalkTalk's proposed adjustment.

The misunderstanding regarding 'young lines'

10.81 We consider that the 2012 Statement is clear in paragraphs A4.303 to A4.304 that Ofcom gave consideration to the issue of young lines raised by TalkTalk in the administrative phase, albeit that at this stage they were talking at cross purposes because each attributed a different meaning to the term 'young lines'. Whilst this misunderstanding is unfortunate, we did not consider that it was of great significance in terms of answering the Reference Question because this turns on whether or not the data demonstrates that there is a difference in fault rates between lines, however they are defined. Our view was therefore that it was of greater significance whether the evidence showed that fault rates had been assessed incorrectly thereby leading to the price control to be set at a level which was inappropriate.

10.82 In our assessment we have therefore focused on whether there is a difference in fault rates for young lines, as defined by Sky/TalkTalk, ie new provides and migrations. If there is, then based on Figure 10.3 which showed a fall in 'young lines' as defined by Sky/TalkTalk, it would be necessary to consider whether an adjustment should be made to Ofcom's model.

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[79] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, 4th W/S Duckworth, ¶6.41.

Our assessment of the evidence

10.83 Our assessment of the evidence is structured as follows:

(a) exchange faults;

(b) access faults;

(c) BT's data; and

(d) dropwire and NTE.

- *Exchange faults*

10.84 In our view, the exchange fault rate data presented by Sky/TalkTalk (see paragraphs 10.14 to 10.30 above) appears to demonstrate a relationship between young lines and exchange fault rates. Ofcom raised two specific issues with the plausibility and relevance of this relationship:

(a) that re-jumpering may give rise to a fault on another line which may be used by a different service provider and/or providing a different service (see paragraph 10.40*(a)*); and

(b) that it would be a disproportionate refinement to the model (see paragraph 10.40*(a)*).

  - *Re-jumpering may give rise to a fault on another line*

10.85 We were not persuaded that this argument was relevant. We could see that re-jumpering may give rise to faults on other lines but it did not seem relevant to the issue of fault rates being elevated on young lines. We were not presented with evidence which suggested that re-jumpering affecting other lines would either contribute to or offset an elevated fault rate in young lines. In particular, it seemed likely to us that faults to other lines caused by re-jumpering would be distributed evenly across both old and new lines. As such, we were not persuaded that this detracted from the Sky/TalkTalk exchange fault data.

  - *The level of sophistication in modelling would be disproportionate*

10.86 We considered that this was an issue of materiality rather than a substantive criticism of the data itself. We address this in paragraph 10.106 below.

- *Access faults*

10.87 In our view, the access fault data presented by Sky/TalkTalk (see paragraphs 10.14 to 10.30 above) appears to demonstrate a relationship between young lines and access fault rates. Ofcom raised the following criticism (see paragraph 10.41):

(a) there were differences between the Sky and TalkTalk data which may be caused by 'different underlying characteristics of Sky subscribers/faults and TalkTalk subscribers/faults'; and

(b) the data provided by Mr Duckworth did not distinguish between new provide/new connection and migrations/transfers, so could not demonstrate that migrations/ transfers have a material impact on fault rates.

- *Differences between the Sky and TalkTalk data*

10.88 We considered that although there were some differences in the data presented by Sky and TalkTalk, they were both individually and collectively striking in suggesting a causal relationship between young lines (as defined by Sky/TalkTalk) and early life faults. The fact that the data was from different sources added weight to the likelihood of there being a causal relationship between young lines and fault rates.

- *The data did not distinguish between new provide and migrations*

10.89 We understand that the same type of engineering work normally takes place in the exchange for both new provides and migrations but that this is not the case for access faults. Sky/TalkTalk sought to explain why faults could occur in the access network due to migrations despite no engineering work actually taking place (because the only engineering work was normally completed in the exchange). They said that it was implausible that the elevated access fault rate shown by the data was caused by new provides alone and that 'stopped line transfers' and lower customer tolerance for faults could explain the issue. For it to be true that access faults were caused by new provides alone, the implied elevation in the fault rates on new provides would have to be 20 times higher than that on older lines, which seemed unlikely (see paragraph 10.65).

10.90 This seemed to us to be a powerful point and one that was not properly addressed by either Ofcom or BT. That said, to understand comprehensively the relationship between fault rates and young lines, we would expect the data to distinguish between new provides and migrations, isolating the different effects of different services on fault rates. In response to the provisional determination, Sky/Talk Talk said that relative fault levels for new provides and migrations could be derived from further data that had already been submitted by Sky/Talk Talk during the proceedings (see paragraphs 10.21 and 10.27).[80]

10.91 We considered the reasoning put forward by Sky/TalkTalk to explain the relationship (see paragraph 10.40*(b)* and *(c)*):

(a) *Stopped line takeovers.* We could not conclude on the basis of the data provided (see paragraphs 10.27, 10.68 and 10.69) that stopped line takeovers were a significant proportion of the total migrations for all providers (ie for providers other than TalkTalk) because the only provider for whom evidence was available was TalkTalk. Therefore we could not conclude that the elevated fault rate in the access network was caused by stopped line takeovers. However, this did not seem an implausible argument and the additional data provided by Sky (see Figure 10.6 and paragraph 10.69) added further credibility to it.

(b) *Less tolerance of faults with a new service.* The evidence available did not demonstrate that customers were less tolerant of faults following a migration. However, again this did not seem an implausible argument.

10.92 In summary, we judged that the split in fault rates between new provides and migrations would require further investigation in order to establish firmly a causal link between young lines and access faults. Nevertheless, we believed that the access fault data overall provided striking evidence which was strongly suggestive of a relationship between young lines and elevated fault rates. Whilst the data clearly required some further work in respect of applying a new provide/migrations split, this

[80] The data was provided in a letter to the CC dated 20 December 2012 and covered the period June 2012 to November 2012.

issue did not lead us to doubt our view in paragraph 10.88 of the implication of the relationship we had observed between young lines and fault rates.

- *BT's data*

10.93 We were not persuaded that BT's data addressed the key issue in this question, which is whether there is a causal link between young lines and elevated fault rates. We considered that the only conclusion that we could draw from Mr Hunt's data was that ELFs are a small percentage of overall reported faults. It did not show that young lines do not have an elevated fault rate.

10.94 Given the small difference (of 4 per cent) in the fault rate usage factor between MPF and WLR (based on data which BT provided to Ofcom), we believed that it was still perfectly plausible that young lines could explain some (or even most) of this difference. As such, BT's data did not change our assessment and we considered that BT's data could be entirely consistent with the data put forward by Sky/TalkTalk.

- *Dropwire and NTE*

10.95 Sky/TalkTalk provided no evidence that young lines are associated with an elevated rate of dropwire and NTE faults, and it was unable to isolate these faults within its access network data set. Sky/TalkTalk did not show that Ofcom's submission that dropwires are the least likely part of the access network to be modified was wrong (see paragraph 10.43). We found that Sky/TalkTalk did not present sufficient evidence to suggest a causal relationship between young lines and elevated dropwire and NTE faults.[81]

- *Conclusion*

10.96 We concluded that on balance Sky/TalkTalk's data was strongly suggestive of a causal relationship between young lines and fault rates; in other words, that young lines cause elevated fault rates. The evidence base was less complete for access faults compared with exchange faults since it would be most informative if it were split between new provides and migrations. However, overall we concluded that the evidence base showed that the MPF price control had been set at an inappropriate level because it did not take into account the effect of young lines on MPF fault rates. We considered that Ofcom's error was in the exercise of its discretion.

10.97 We concluded that Sky/TalkTalk did not present sufficient evidence to suggest a causal relationship between young lines and dropwire and NTE faults because no separate analysis of dropwire and NTE faults could be provided.

Materiality

10.98 In this section, we consider the materiality of the mistake identified above based on the approach set out in paragraph 1.60.

10.99 Mr Duckworth suggested that the impact of the accounting for the changing profile of young lines would be to reduce the 2013/14 MPF charge by £1.48.[82] Sky/TalkTalk separately suggested that the impact on MPF would be to reduce the charge by

[81] Sky/TalkTalk said that they agreed with this view but that this issue was not critical in establishing an appropriate remedy to Ofcom's error (Sky/TalkTalk response to CC's provisional determination, 11 February 2013, ¶10.4).
[82] First W/S Duckworth, ¶6.35.

£1.07 per line per year.[83] Mr Duckworth also told us that he believed that the impact of correcting just exchange faults was material.[84]

10.100 BT submitted that the extent to which the proportion of young lines impacted on overall fault rates and associated fault repair costs per line could be derived from the data set provided by Mr Hunt (see paragraphs 10.44 to 10.55). The results of this analysis can be seen below in Figure 10.8.[85]

FIGURE 10.8

Reduction in overall fault rate due to lower percentage of young lines

[✂]

Source: BT's Response to the CC's provisional determination, ¶114.
Note: BT's calculation steps are as follows:
(a) Total faults are split between ELFs and in-life faults.
(b) In-life faults are held constant.
(c) The fault rate for ELFs is held constant, but the total number of young lines is reduced to WLR levels (ie 22 per cent of base) to derive a revised value for total ELFs.
(d) The sum of the in-life faults and revised ELFs gives a revised figure for total faults.
(e) The revised total fault rate can then be calculated and compared with the original data.

10.101 BT said that this analysis showed that the impact for Q1–3 2010/11 was 1.1 per cent, which was substantially less than the impact of around 10 per cent suggested by Mr Duckworth. Based on a range of 0.5–1.1 per cent shown in Figure 10.8, it said that the cost per MPF line per year would fall £0.07 to £0.16, which it said was below 0.1 per cent of the MPF charge control. It said that the error made by Ofcom on this point was not material.[86]

10.102 Ofcom did not make submissions with regard to the materiality of any error.

10.103 Considering the factors set out in paragraph 1.60, we first found that the size of the error was unclear. The range of estimates for the size of the error as a proportion of the MPF charge control was large: BT estimated an impact of 0.08–0.18 per cent; whilst Sky/TalkTalk estimated an impact of 1.2–1.7 per cent.[87] We had a number of concerns about the weight we could place on BT's data for the purpose of assessing materiality. These concerns were principally based on: *(a)* the volume of ELFs that TalkTalk recorded in its data set (see paragraph 14.166) for the same period being greater than those recorded in BT's data set; *(b)* BT's data not capturing MPF to MPF migrations; *(c)* potential measurement inconsistencies over time; and *(d)* BT's use of net additions, not gross additions, to calculate the population of young lines in any one month (these concerns are set out fully in paragraphs 14.174 to 14.183.

10.104 Second, our view was that the treatment of young lines is a factor which may also affect future price controls.

10.105 Third, although Ofcom would have had to further analyse submissions in order to consider the relevant criticisms of Sky/Talk Talk, we consider that this additional work would have been incremental and would not have been so significant as to detract resources from the other aspects of the charge control because the issue had

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83 Sky/TalkTalk NoA, ¶64.
84 Sky/TalkTalk Bilateral Hearing transcript, p39.
85 BT's Response to the CC's provisional determination, ¶¶112–114.
86 BT's Response to the CC's provisional determination, ¶¶115–117.
87 Percentages are of the 2012/13 MPF rental charge of £87.41.

already been raised by TalkTalk and was already under consideration by Ofcom (albeit that it had been misunderstood).

10.106 We considered Ofcom's argument in paragraph 10.40*(a)* that the adjustment required to take account of the effect of young lines on fault rates would be disproportionate and highly complicated. We found that making an adjustment would clearly require consideration of factors including the changes in the proportion of MPF and WLR young lines over the charge control as well as the impact on the fault rate from young lines. The extent of these changes could be relatively rudimentary or could entail sophisticated modelling. Overall, we judged that, given the evidence which Sky/TalkTalk had presented in this area, the additional work required to refine the model would be likely to be proportionate as it would add greater precision to the calculation of the price control in an area where a potentially important driver of fault rates was currently not considered. Having explored this issue further in the remedies phase of the appeal, it remains our view that this is an error which could be corrected through simple changes to Ofcom's model. However, in the time available to us we have been unable to resolve data discrepancies to enable us to correct this error ourselves, which has meant we have had to remit the matter to Ofcom for further consideration (as explained in Section 14).

10.107 We did not find that any other of the other factors listed in paragraph 1.60 were relevant.

10.108 Overall, it is our judgement that the mistake is material.

Determination

10.109 For the reasons given above, we find that Ofcom erred in its assessment of fault repair costs.

11. Sky/TalkTalk Appeal

Cumulo rates

Reference Question 1(iii)

The Reference Question

11.1 This section (paragraphs 11.1 to 11.116) sets out our conclusions as to whether the price controls have been set at a level which is inappropriate because Ofcom erred in allocating cumulo rates between different products using a method based on 'Profit Weighted Net Replacement Cost' for the reasons set out in paragraphs 67 to 96A of Sky/TalkTalk's NoA.

11.2 The essence of Sky/TalkTalk's appeal was that Ofcom's approach to allocating BT's cumulo rates costs to MPF and WLR services did not reflect the causality of these costs and was not sufficiently simple or transparent. It said that the appropriate methodology for allocating such costs would be to seek to apply the principles of the aggregate calculation of BT Group's cumulo rates to individual products. It proposed an alternative methodology which it considered approximated this calculation.[1]

11.3 Our determination is that Ofcom did not err in allocating the costs of BT's cumulo rates.

Summary of Ofcom's rationale and methodology

11.4 Cumulo rates are the non-domestic (business) rates that BT Group pays on the rateable assets within its UK network. The rateable assets consist primarily of duct, fibre, copper and exchange buildings.[2] For the purpose of calculating the charge controls, a proportion of BT's cumulo rates is allocated to WLR and MPF services.

11.5 BT's cumulo rates are calculated in aggregate for all of BT's rateable assets by the Valuation Office Agency (VOA). The cumulo rates are calculated as:[3]

Rateable value x Rate poundage

11.6 The rate poundage is a percentage rate set by Central Government for England and Wales which is applied and updated each year. The rateable value (RV) can be thought of as a market valuation of the annual rental payment for the rateable assets.

11.7 The VOA calculates the RV for BT on the basis of the receipts and expenditure method. This approach estimates the profits of a business that uses the rateable assets and seeks to allocate these profits between a notional tenant (ie user of the assets) and a notional landlord (ie owner of the assets). The notional landlord, for the purposes of the charge control, is the public authority which levies cumulo rates. The notional tenant is BT.

11.8 In BT's case, the VOA's calculation can be summarized as follows:

(a) The revenues are assessed from the services that use the rateable assets.

[1] Sky/TalkTalk NoA, ¶69.
[2] 2012 Statement, ¶A.4.42.
[3] This background description of the calculation of BT's cumulo rates is based on Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶¶7–13, and BT NoA, W/S Malone & Corkery, ¶¶2.1–2.21.

(b) A measure of operating costs relating to those services is deducted.

(c) Also deducted are a maintenance charge for the landlord's assets and the tenants' own capital expenditure.

(d) This gives a 'divisible balance', being a measure of profit from the business.

(e) The tenant's return on its investments is deducted from this.

(f) The residual is taken to be the RV.

11.9 In its 2012 Statement, Ofcom first allocated a proportion of BT's cumulo bill to Openreach.[4] It then allocated the cost of Openreach's cumulo rates to services according to PWNRC.[5] This was also the methodology it had applied at the previous charge control.[6]

11.10 Ofcom considered two other allocation methodologies:

(a) *Net profit.* Ofcom considered this inappropriate because it saw cumulo rates as a tax on rateable assets rather than profit, though it recognized the role of profit in the VOA's cumulo calculation. It said that allocating on the basis of profit could lead to costs being allocated to a product which made little or no use of rateable assets. It also saw profits for individual products as volatile.[7]

(b) *VOA's profit calculations*. Ofcom saw these calculations as complex and hard to replicate. It said that they were not feasible or appropriate to replicate for individual parts of BT for the purpose of allocation.[8]

11.11 Ofcom considered it appropriate to allocate cumulo rates with some link to profits because the VOA determined the cumulo rates themselves with some reference to profits.[9]

11.12 Ofcom saw the benefits of its proposed approach as that it:

(a) reflected the profitability of the assets;

(b) took account of the usage of the network;

(c) was relatively stable; and

(d) was simpler than trying to replicate the VOA's own calculations.[10]

11.13 Ofcom argued that if an allocation methodology did not include the value of the asset base, then it could lead to the apparently counterintuitive situation in which the cost of cumulo rates was allocated to services even though those services did not use rateable assets.[11]

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[4] 2012 Statement, ¶¶A.4.57–A.4.58.
[5] 2012 Statement, ¶A.4.93.
[6] Ofcom, Bilateral hearing transcript, p41, line 5 .
[7] 2012 Statement, ¶¶A.4.69–A.4.71.
[8] 2012 Statement, ¶¶A.4.72–A.4.75.
[9] 2012 Statement, ¶A.4.67.
[10] 2012 Statement, ¶A.4.79.
[11] 2012 Statement, ¶A.4.65.

11.14 It also argued that its approach was consistent with the principles underpinning the VOA's valuation approach and was therefore consistent with the principle of cost causality.[12]

11.15 Ofcom expected that the cumulo allocation to WLR and LLU should be similar. This was because they should enjoy the same rate of return and little or no difference in usage of the rateable assets.[13]

11.16 Ofcom recognized the difficulties in allocating cumulo rates costs. The VOA had been unable to offer advice on the allocation because the cumulo rates methodology was based on the use of aggregate figures.[14]

Summary of Sky/TalkTalk's arguments

11.17 Sky/TalkTalk alleged that Ofcom's error was one of fact, law and in the exercise of discretion.

11.18 Sky/TalkTalk said that BT's cumulo rates were a significant cost and that Ofcom's model had allocated, in 2013/14, around one-third of BT's total cumulo rates bill to these two products: £[✂] million to WLR and £[✂] million to MPF. The approach to allocation could have a significant effect on the charge control.[15]

11.19 Sky/TalkTalk said that whilst Ofcom had applied a PWNRC allocation method, instead a close approximation to the method actually used by the VOA could be used (they termed this the 'Proxy RV'[16] method). It said that such a method would reflect the causality of the costs, unlike Ofcom's approach, and would be simpler and more transparent.[17]

11.20 Sky/TalkTalk said that Ofcom had not understood the VOA's approach and had not fulfilled its duties properly in exercising its discretion over choosing a methodology for allocation of the cumulo costs.[18]

11.21 Sky/TalkTalk said that the VOA's method was based on a measure of profits. So long as BT had some rateable assets, it was its profits that would determine the level of those rates.[19] Sky/TalkTalk's expert witnesses, Mr Johnson and Mr Stevens, argued that the fall in BT's cumulo rates over recent years, as the number of MPF lines increased and the revenue in the VOA's calculation reduced, showed that cumulo rates were driven by profit rather than by rateable assets.[20]

11.22 It was, therefore, natural to allocate the costs of cumulo rates between products on the basis of their relative profitability. This accorded with the principle of causality, that is that the price of a service should reflect the costs of providing it.[21]

11.23 Sky/TalkTalk's expert witnesses, Johnson/Stevens, described an approach that they said could be readily implemented and that purported to be a simplified version of the VOA's calculation. However, recreating the VOA's approach in full was not possible

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[12] 2012 Statement, ¶A.4.80.
[13] 2012 Statement, ¶A.4.86.
[14] 2012 Statement, ¶A.4.87.
[15] Sky/TalkTalk NoA, ¶67.
[16] Sky/TalkTalk NoA, ¶96.
[17] Sky/TalkTalk NoA, ¶¶68–69.
[18] Sky/TalkTalk NoA, ¶70.
[19] Sky/TalkTalk NoA, ¶¶72–74.
[20] Sky/TalkTalk NoA, 1st W/S Johnson & Stevens, ¶4.8.
[21] Sky/TalkTalk NoA, ¶76.

because the VOA's model at present was unable to produce exact results for individual products.[22]

11.24 Sky/TalkTalk set out the benefits of their approach as put forward by Johnson/Stevens. These were:

(a) It was a quick and straightforward calculation requiring only information from the database that underpinned BT's Regulatory Financial Statements (RFS).

(b) It used CCA depreciation, rather than historic costs, and the VOA approach used replacement costs too.

(c) It did not require much confidential data to be used that was not already required in the Ofcom model.

(d) In using RFS data, it used an audited source.

(e) Its results were consistent with BT's total cumulo rates liability of £[✂] million in 2010/11.[23]

11.25 Sky/TalkTalk said that in adopting a PWNRC approach, Ofcom had moved away from a profits methodology and had introduced the value of assets, which was a variable that was not taken into account by the VOA in its calculation.[24]

11.26 Sky/TalkTalk said that Ofcom's reasons for doing so were unclear but that it appeared to be trying to reflect its view of the underlying purpose of the tax rather than the actual calculation. Sky/Talk Talk argued that doing so was not a robust or justifiable method for adopting an allocation method.[25]

11.27 Sky/TalkTalk said that more importantly, Ofcom's reasoning contained two errors. These were that:

(a) Contrary to Ofcom's argument (see paragraph 11.13), the VOA's method did not distinguish between products on the basis of how much they used rateable assets. Ofcom had not pointed to any services that actually did not use rateable assets.[26]

(b) Ofcom was mistaken when it claimed that its approach was consistent with cost causality (see paragraph 11.14) because the VOA's approach was not in fact driven by NRC.[27]

11.28 On the desirable properties of PWNRC, as identified by Ofcom, Sky/TalkTalk said the following:[28]

(a) It reflected the profitability of the landlord's assets: this applied also, and more so, to their proposed approach.

(b) It took into account network usage: this was not desirable because the VOA approach did not do so.

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[22] Sky/TalkTalk NoA, ¶¶77–79, and 2nd W/S Johnson & Stevens, ¶2.11.
[23] Sky/TalkTalk NoA, ¶¶80-–83.
[24] Sky/TalkTalk NoA, ¶84.
[25] Sky/TalkTalk NoA, ¶¶85–87.
[26] Sky/TalkTalk NoA, ¶89.
[27] Sky/TalkTalk NoA, ¶90.
[28] Sky/TalkTalk NoA, ¶91.

(c) It was relatively stable: this was unsubstantiated and Ofcom had not argued that this was of higher priority than cost causality.

(d) It was simpler than replicating the VOA calculation: Ofcom's approach was not transparent because other parties did not have the BT model. Also Ofcom could have used a simplified version of the VOA model, as proposed by Johnson/ Stevens.

11.29 Sky/TalkTalk summarized their criticisms of the PWNRC model as follows:[29]

(a) In using NRC, where the VOA did not, it did not deliver cost causality.

(b) It did not distinguish between individual products on the basis of relative profits.

(c) It relied on BT's internal models and so was not transparent to other parties.

11.30 Sky/TalkTalk summarized their complaint by saying that rather than use the natural and obvious approach which closely reflected the VOA methodology, Ofcom had adopted a complex and opaque alternative which did not reflect the VOA approach and which gave anomalous results.[30]

11.31 They said that Johnson/Stevens had estimated that an approximation to the VOA's calculations would allocate (per line) £[✂] to WLR and £[✂] to MPF.[31] The calculations and narrative around these figures was described in some detail in the second witness statement of Johnson/Stevens.

11.32 Johnson/Stevens said that a more complicated full receipts and expenditure calculation had proved impossible to replicate and that they had adopted the Proxy RV method as a practical implementation.[32]

11.33 Sky/TalkTalk also raised a further argument in the 'fact check' that their expert witnesses, Johnson/Stevens, performed on the transcripts of BT's and Ofcom's bilateral hearings.[33]

11.34 Johnson/Stevens argued that the cumulo rebates that had arisen since 2005 were mainly or solely a result of the increase in number of MPF lines, which in most cases related to a switch from WLR to MPF. They argued that these rebates arose because each MPF line contributed less to BT's cumulo bill than did each WLR line.[34] They explained that this was the case because the entity modelled by the VOA (BT's UK Wholesale Activities) profited more from WLR lines than it did from MPF lines. Johnson/Stevens also explained in a footnote that this higher level of profitability was because BT retained the traffic 'downstream' for WLR.[35]

11.35 Johnson/Stevens claimed that they had made this point in their previous three witness statements. However, we could not find this argument in any of their previous statements. In our view, the section they specifically referred to in their third witness statement (which quotes from their first witness statement)[36] draws on their

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[29] Sky/TalkTalk NoA, ¶93.
[30] Sky/TalkTalk NoA, ¶94.
[31] Sky/TalkTalk NoA, ¶95.
[32] Sky/TalkTalk NoA, 2nd W/S Johnson & Stevens, ¶2.11.
[33] Sky/TalkTalk letter to CC, 4 January 2013, Annex A, pp1–2.
[34] Sky/TalkTalk letter to CC, 4 January 2013, Annex A, ¶2.2.
[35] Sky/TalkTalk letter to CC, 4 January 2013, Annex A, ¶4.7.
[36] Johnson/Stevens refer to Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), 3rd W/S Johnson & Stevens, ¶3.8.

observation of past rebates to make the different argument that profits rather than assets were the driver of BT's cumulo rates liability (see paragraph 11.21).

11.36 On this basis, we considered that Sky/TalkTalk inappropriately took the opportunity to introduce this new argument, considerably after the time of the main pleadings, in the form of a letter that purported to comment on the factual accuracy of statements made in BT's and Ofcom's hearings.

11.37 In this case, however, we chose to consider Sky/TalkTalk's argument because it purported to provide direct evidence for the appropriateness of a greater allocation of cumulo rates to WLR than to MPF, which was an important issue for our assessment of this ground. We also chose to consider some of Sky/TalkTalk's other arguments on rebates in our assessment of BT's Appeal on cumulo rates (see Section 3). In that context, we gave BT and Ofcom the opportunity to answer some specific questions raised by the points made by Sky/TalkTalk. Part of their responses were relevant to this point and these relevant parts are summarized in paragraphs 11.63 and 11.72).

Summary of Ofcom's Defence

11.38 Ofcom did not accept that it had made an error. It understood the VOA approach but considered that it was not an appropriate approach for allocation. Ofcom had judged that the PWNRC approach was more appropriate for its purposes[37] and Sky/TalkTalk was criticizing Ofcom's exercise of its regulatory discretion.[38] Ofcom also argued that, since Sky/TalkTalk's approach had not been put to Ofcom in the course of the review, Ofcom's decision should only be disturbed if Ofcom had exceeded the generous ambit of reasonable disagreement, which it had not. On this basis, it was not necessary to consider Sky/TalkTalk's latest methodology.[39]

11.39 Ofcom argued that absent any error it was not necessary for it to consider the alternative methods proposed by Sky/TalkTalk. However, in its Defence, it went on to set out the flaws that it perceived in Sky/TalkTalk's Proxy RV method.[40]

11.40 Ofcom described the VOA's approach. In doing so, it said that cumulo rates were a tax on assets, calculated with reference to the profits made on those assets, rather than a tax on profits per se. The VOA's approach was applied in aggregate and did not differentiate between markets in which there was SMP or allocate costs between assets in such markets, whereas Ofcom was required to do so in its calculations. As an aggregate approach, it could not be suggested that the VOA's approach should be adopted for the allocation of costs to specific assets and products. The VOA and Ofcom therefore had different tasks and needed to adopt different approaches to tackle them.[41]

11.41 Ofcom described its PWNRC approach and how it allocated cumulo rates costs to assets and activities. It said that 'profit' referred to the ROCE in each market and NRC was the depreciated NRC value of capital employed. PWNRC multiplied the two above terms for each asset type in question (which were split between access, wholesale and residual markets), to give the wholesale profit by asset type.[42]

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[37] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶4.
[38] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶5.
[39] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶47.
[40] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶6.
[41] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶7–13.
[42] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶¶14–15.

11.42 It said that the 'landlord's' proportion, derived from the VOA's calculations,[43] was applied to each asset to provide a proxy for the profit obtained on those assets. This was then used to allocate costs across assets, with a subsequent split between Openreach and other parts of BT.[44]

11.43 Ofcom then used this analysis to allocate cumulo rates between Openreach's products, through:

(a) first, allocating costs to activities; and

(b) second, allocating activities to products.[45]

11.44 Ofcom argued that the benefits of the PWNRC approach were that:

(a) As with the VOA, it used a measure of profit in its allocation.

(b) It was used within the RFS and so was audited.

(c) In using broad market returns rather than separate returns for each product, it was stable and not prone to the effects of variations over product life cycles.

(d) It was simple to calculate for a number of reasons: it required only one year's data; profit figures, NRC figures and an outline of the allocation method itself were published in the RFS; and the method was consistent with Ofcom's wider cost allocations.[46]

11.45 Ofcom said that Sky/TalkTalk were contending that cumulo rates should be allocated directly to products, rather than first to assets and activities. This had also been Sky/TalkTalk's position during the consultation. Sky/TalkTalk had argued then that cumulo rates should be allocated across services on the basis of net profits.[47]

11.46 Ofcom agreed that profits were relevant (see paragraph 11.11). It had, however, rejected an approach to allocation based on the net profit of products because, without reference to assets, such an approach could have counterintuitive results (see paragraph 11.13).[48]

11.47 Ofcom also argued that using current profitability would allocate higher costs to products which currently enjoyed higher profitability. It considered it to be more appropriate to allocate costs with reference to profitability at the end of the control period when products could be expected to be earning their regulated returns. On this basis, the same allocation could be expected across LLU and WLR.[49]

11.48 Ofcom argued that it had exercised its judgement in the choice of the PWNRC approach and had considered all the relevant factors. It said that it was appropriate to allocate costs to assets and then to products. In having regard also to profit in doing so, PWNRC was consistent with, but simpler than, the VOA methodology. It said that Sky/TalkTalk had not identified any sound reason to impugn Ofcom's decision.[50]

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[43] Ofcom, Bilateral hearing transcript, p42, lines 22–23 .
[44] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶15.
[45] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶¶16–17.
[46] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶18.
[47] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶¶19–20.
[48] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶¶21–22.
[49] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶23.
[50] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶24.

11.49 Ofcom said that Sky/TalkTalk had not only failed to identify any error in Ofcom's approach, but had also put forward a series of competing approaches. It had considered the alternative put forward in the course of the review and had rejected it for sound reasons. It would also have considered the subsequent methodologies in the course of the review if they had been put to Ofcom at the time.[51]

11.50 Ofcom went on to address Sky/TalkTalk's approach as set out in the second witness statement of Johnson/Stevens. It had three main criticisms of their approach.[52]

11.51 First, Sky/TalkTalk had taken three attempts to formulate an approach that they had described as more 'obvious and natural' than Ofcom's. In doing so, the results had changed significantly between approaches. Specifically, the ratio of the WLR to MPF allocation had moved from 1.2 to 1.9 to 3.1 in the latest approach. Ofcom said that it was hard to justify such a high ratio and it seemed to emerge from the way in which Sky/TalkTalk had modelled costs rather than any inherent difference between the cost of providing the services.[53]

11.52 Ofcom said that in their first witness statement, Johnson/Stevens had proffered three alternative methods. The NoA was not clear as to which method it was referring to in its comments about approximating the VOA approach and being simple and transparent.[54]

11.53 Ofcom also said that in their second witness statement, Johnson/Stevens had not been able to adopt the method they had preferred in their first statement (the two-stage approach) but had instead developed the subsidiary approach from the first statement to become the Proxy RV method.[55]

11.54 Sky/TalkTalk had failed to mention in their NoA that the preferred method from the first Johnson/Stevens witness statement had been rejected and Ofcom noted that it itself had said in its 2012 Statement that the VOA's calculations could not be replicated (see paragraph 11.10). Sky/TalkTalk had not acknowledged that the Proxy RV method had been significantly altered from the first witness statement to the second.[56]

11.55 Ofcom's second criticism was that, contrary to Sky/TalkTalk's claims, the Proxy RV method was not a close approximation to the VOA's methodology. The formula was a considerable simplification of the VOA method and did not estimate the contribution of each product as it purported to do.[57]

11.56 It said that a method that sought to replicate the VOA's method should produce results close to those of the latter. However, Annex B of Johnson/Stevens' second statement showed that their Proxy RV method calculated a rateable value for BT of £[✄] million. The published rateable value for BT's English assets at April 2010 was a fraction of that amount at £[✄] million. On this basis, the proposed Proxy RV method could not be considered as a rough approximation to the VOA method, let alone a replication of it.[58]

[51] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶¶25–26.
[52] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶27.
[53] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶¶28–30.
[54] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶¶31–32.
[55] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶¶33–34.
[56] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶¶35–36.
[57] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶38.
[58] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶39.

11.57 Ofcom also argued that in the Proxy RV method the NRC of non-rateable assets were not calculated on a product basis but rather on a market basis. Johnson/Stevens had not tied their analysis to underlying assets or to an assessment of profitability of all products, but had only split off two products (WLR and LLU) from a market. Ofcom said that this was contrary to Johnson/Stevens' suggestion that the formula was applied to all products. It also raised the question of which products Sky/TalkTalk considered it appropriate to recover the balance of the 34 per cent of cumulo rates costs which had been allocated to the Wholesale Fixed Analogue Exchange Line market, given that the latter contained only WLR rental and connection products.[59]

11.58 Third, Ofcom argued that Sky/TalkTalk's approach was very sensitive to changes in methodology and assumption. It identified a number of changes in assumption and approach that had been made between the preferred methods in Johnson/Stevens' first and second witness statements. Ofcom argued that these had a significant effect on the results emerging from the methodologies.[60]

11.59 Ofcom then went on to argue that the Proxy RV method did not offer the advantages over Ofcom's approach that Sky/TalkTalk had claimed for it. Contrary to Sky/TalkTalk's claim, it could not be fully explained to and discussed with third parties because some of the information in the Proxy RV method was confidential.[61]

11.60 Ofcom said that Annex B of Johnson/Stevens' witness statement showed that the approach was not simple or readily comprehensible as Sky/TalkTalk had claimed it was.[62]

11.61 Ofcom said that its PWNRC method was much simpler and more transparent than the Proxy RV method. Ofcom also went on to respond on the benefits that Sky/TalkTalk had alleged for the Proxy RV method in the NoA in the following way (see paragraph 11.24):[63]

(a) Ofcom said that it also used CCA.

(b) It said that the Proxy RV method relied on confidential data and that Ofcom's method used published returns.

(c) Ofcom said that not only did its approach use audited RFS data, the calculation itself was audited by PriceWaterhouseCoopers.

(d) It said that while the Proxy RV method was applied to the figure of £[✄] million, it was not itself consistent with the £[✄] million cumulo liability for 2010/11 because applying a rate poundage of about 40 per cent to an RV of £[✄] million did not give a number close to £[✄] million (see paragraph 11.56).

11.62 We gave Ofcom the opportunity to answer some questions on rebates that were prompted by Sky/TalkTalk's fact check (see paragraphs 11.33 to 11.37). Whilst these were more relevant to BT's Appeal on cumulo rates, we consider that Ofcom made one point relevant to this Appeal.

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[59] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶¶40–41.
[60] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶42.
[61] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶43.
[62] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶44.
[63] Ofcom Defence (Sky/TalkTalk Appeal), Annex C, ¶45.

11.63 In its initial response,[64] Ofcom said that it understood that any changes in rateable value (and hence rebates) resulting from an increase in MPF lines would be driven predominantly by the loss of revenues ‘downstream’ from Openreach. On this basis, and as a result of its position on ‘material changes in circumstances’, it explained that it did not consider that such rebates were relevant for the purposes of the charge control.

11.64 Ofcom subsequently clarified this response. It referred to BT’s letter of 15 February (see paragraph 11.73 below) in which BT accepted that a proportion of rebates *would* be allocable to Openreach in its accounts. It also said that BT had informed it of this position in its August 2011 presentation to Ofcom.[65]

BT’s Statement of Intervention

11.65 BT said that Sky/TalkTalk’s criticisms of Ofcom’s allocation methodology were misplaced. Cumulo rates were a function both of the quantum of assets and their profit-generating capability. It went on to argue that using NRC as a driver of allocation ensured that the relevant (rateable) assets were reflected in the calculation and that the correct relativity between assets was established.[66]

11.66 BT said that Sky/TalkTalk had now accepted that it was impossible to derive an allocation method that reflected the workings of the VOA’s model in detail (see paragraph 11.32). Therefore the appeal was about which approach was the better proxy and that this was a matter of judgement.[67]

11.67 BT said that Johnson/Stevens’ Proxy RV method was not a close approximation of the VOA’s approach. It agreed with Ofcom’s observation in its Defence about the implied rateable value of £[✂] million (see paragraph 11.56). It also said that it did not reflect the VOA approach in some significant respects. If it were accepted that the model was not a remotely good approximation of the VOA’s approach, then the premise for Sky/TalkTalk’s ground fell away.[68]

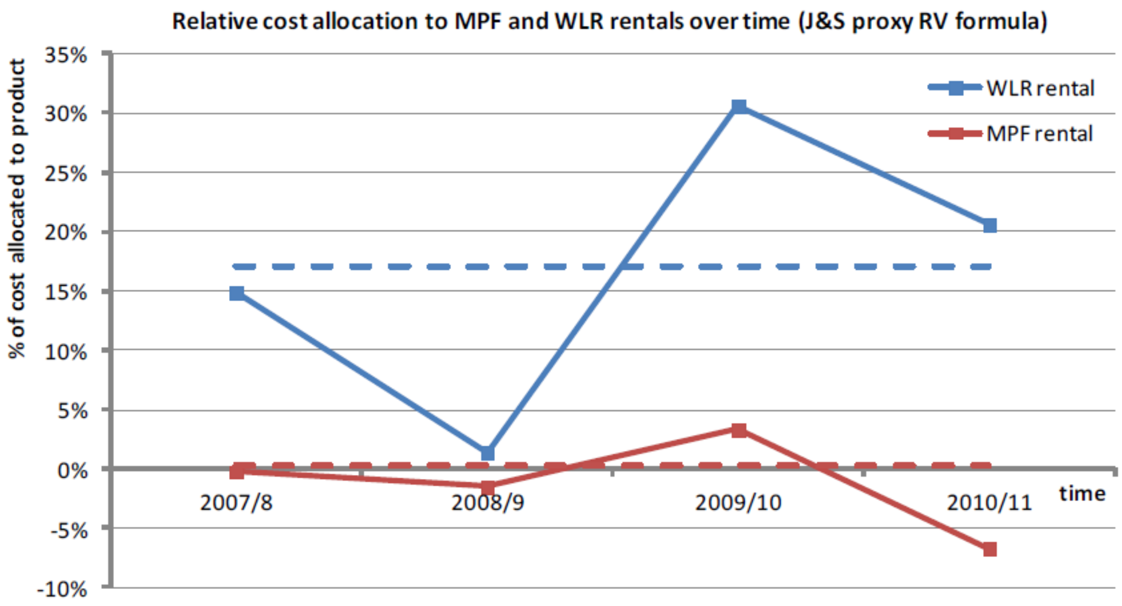
11.68 BT went on to argue that the PWNRC model also reflected a measure of profit in its allocation both in the use of NRC (which represented the present value of future cash flows) and in the profit weighting itself.[69]

11.69 BT’s expert witnesses, Mr Malone and Mr Corkery, argued that the Proxy RV method failed to respect the ‘vacant and to let’ principle, well established in rating law. This principle was that the RV should not depend on the particular use the assets were actually put to, but only the characteristics of the asset and the broader category of use. They said that a copper pair could be used for a number of purposes, including WLR and MPF, but that under the ‘vacant and to let’ principle that choice should have no bearing on the associated RV of that copper pair and nor therefore on the cumulo rates allocated to them. With this principle in mind, they said that it was illogical that Sky/TalkTalk’s Proxy RV method had allocated a materially higher share of cumulo rates to the WLR product than to the MPF product.[70]

[64] Ofcom letter to CC, 14 January 2013.
[65] Ofcom letter to CC, 27 February 2013.
[66] BT SoI (Sky/TalkTalk Appeal), ¶¶39–40.
[67] BT SoI (Sky/TalkTalk Appeal), ¶41.
[68] BT SoI (Sky/TalkTalk Appeal), ¶¶42–43.
[69] BT SoI (Sky/TalkTalk Appeal), ¶44.
[70] BT SoI (Sky/TalkTalk Appeal), ¶¶45–46, W/S Malone & Corkery, ¶¶4.19–4.23.

11.70 BT said that whilst Johnson/Stevens had only extended their approach to WLR and MPF services, Mr Malone and Mr Corkery had extended the modelling to all services. In doing so, they showed that the model gave an unsupportable negative allocation to some services and an unsuitable instability of allocation over time. They also observed that there was considerable variability in results over time, suggesting inconsistent causal relationships over time. They illustrated this in a chart, reproduced as Figure 11.1 below. They said that this meant that the model failed on robustness.[71]

FIGURE 11.1



Source: BT.

11.71 We gave BT the opportunity to answer some questions on rebates that were prompted by Sky/TalkTalk's fact check (see paragraphs 11.33 to 11.37). Whilst these were more relevant to BT's Appeal on cumulo rates, we consider that BT made one point relevant to this Appeal.

11.72 In its initial response,[72] BT told us that rebates anticipated in the current charge control related to an increase in the number of MPF lines that led directly to a reduction in the assets deployed by the rest of BT 'downstream' of Openreach. Therefore any such rebates would not affect Openreach's cumulo rates liability and were irrelevant for the purposes of this charge control.

11.73 BT subsequently told us that its initial position was mistaken. It said that a proportion of rebates arising from an increase in the number of MPF lines *would* flow through to Openreach.[73]

Sky/TalkTalk's response to Ofcom and BT

11.74 Sky/TalkTalk argued that the CC was entitled to review Ofcom's decision even if it were selecting between alternative models. The onus was on Sky/TalkTalk to show

[71] BT SoI (Sky/TalkTalk Appeal), ¶¶45–46, W/S Malone & Corkery, ¶¶4.27–4.31.
[72] BT letter to CC, 14 January 2013.
[73] BT letter to CC, 15 February 2013.

that their method was better. They had done so because their own approach was causal whilst PWNRC was not.[74]

11.75 Sky/TalkTalk argued that Ofcom itself had identified the importance of causality (see paragraph 11.14) and so was inconsistent in its actual selection of method. Ofcom appeared to rely on its conception of what it considered the purpose of cumulo rates were rather than what they actually did. On this basis, they said that Ofcom's decision was unsupportable.[75]

11.76 Sky/TalkTalk said that just because the VOA did not concern itself with the allocation of costs to products did not mean that Ofcom should not identify the causality in the VOA's approach and apply it in its allocation. Mr Malone and Mr Corkery had recognized that the VOA method was the theoretical ideal for allocating cumulo rates costs.[76]

11.77 Sky/TalkTalk said that the cumulo rates calculation was strongly driven by profits. As such, an allocative approach needed to be primarily driven by profits too. There was no basis for BT and Ofcom asserting that PWNRC was a good basis of allocation because of its inclusion of NRC in the calculation. These assertions were based on BT's and Ofcom's views of how the cumulo rates should be calculated rather than how they actually were calculated.[77]

11.78 Sky/TalkTalk said that it did not follow from Ofcom's argument about the effects of allocation by profit (see paragraph 11.47) that such an allocation was wrong.[78]

11.79 Sky/TalkTalk said that their model did not seek to replicate the total cost of cumulo rates to BT and did not need to do so. PWNRC did not do so either. The measure which Ofcom had pointed to as the RV was not so and was instead an intermediate calculation.[79] In Johnson/Stevens' third witness statement[80] and in their hearing, Sky/TalkTalk explained that the Proxy RV method did not calculate the RV exactly because BT had not disclosed the full VOA calculation and therefore instead it was relying on an accounting-based approximation of the calculation.[81]

11.80 Sky/TalkTalk said that, contrary to the Ofcom criticism, the Proxy RV method did address the value of non-rateable assets at the product level but did so through an approximation due to lack of data from BT. The balance of the cumulo rates allocated to the Wholesale Fixed Analogue Exchange Line market (see paragraph 11.57) was allocated to the other products therein such as premium (business) WLR rentals and connections.[82]

11.81 Sky/TalkTalk also sought to address other specific criticisms made by BT (see paragraphs 11.65 to 11.70) in making the following comments:[83]

(a) Their Proxy RV method did not need to model some of the technical features required by the VOA method.

[74] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶¶91–93.
[75] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶94.
[76] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶¶95–98.
[77] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶¶99–103.
[78] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶¶104–109.
[79] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶¶110–112.
[80] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), 3rd W/S Johnson & Stevens, ¶¶5.4–5.8.
[81] Sky/TalkTalk, Bilateral Hearing transcript, pp50–51.
[82] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶¶113–115.
[83] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶116.

(b) The argument put forward by BT in respect of the 'vacant and to let' principle (see paragraph 11.69) had a number of problems with it and did not apply in this case.

(c) A 'negative' allocation would be a cogent outcome for some products, since they could contribute to a reduction in cumulo rates.

(d) The location of rateable assets was irrelevant.

(e) Their method used CCA values whereas PWNRC used both CCA and historic values for revenues and costs.

(f) The greater allocation to WLR than to LLU reflected the greater profitability of the former on a per-line basis.

11.82 In its hearing, Sky/TalkTalk explained that the different levels of profitability for the two services arose from a number of factors. These seemed to include the greater scale of the WLR services and that they were more 'value added'.[84] Sky/TalkTalk also argued that it was the VOA's measure of profitability that was important here.[85]

11.83 Sky/TalkTalk considered that issues of practicality (such as simplicity, transparency, audit and stability) were secondary in importance to reflecting causality. Johnson/Stevens' third witness statement had compared the two approaches and had found that the Proxy RV method was clearly superior on such criteria. On the issue of stability, Johnson/Stevens argued that variability was always going to materialize in annual financial results. They said that averaging over a number of years would smooth this out. The Proxy RV method was averaged over four years because that was all the data that had been provided. They also argued that the VOA's model itself exhibited variability.[86,87]

11.84 Sky/TalkTalk said that Ofcom's allegations of alleged changes in their case mis-characterized its position. Their approach had changed as a result of disclosure of data from BT. Ofcom's tabulation of the movement of results (see paragraph 11.51) was a misunderstanding and misreading of the evidence because such results were separate illustrations and not a progression of versions. The fact that there were different ways of implementing an approximation to the VOA's approach did not detract from the fact that adopting such an approach was simple and obvious, especially when the principle of causality was recognized.[88]

11.85 Sky/TalkTalk said that Ofcom's and BT's criticisms had been shown to be unfounded because:

(a) PWNRC was inconsistent with Ofcom's preference for a causal approach and so its decision to adopt it was not a matter for Ofcom's discretion.

(b) All parties accepted that causality should drive the allocation of cumulo rates. The Proxy RV method was more aligned with causality and was therefore the more principled approach.

(c) The Proxy RV method was robust and transparent.

[84] Sky/TalkTalk, Bilateral Hearing transcript, p44, lines 17–22.
[85] Sky/TalkTalk, Bilateral Hearing transcript, p47, line 19, to p48, line 5.
[86] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶¶118–121.
[87] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), 3rd W/S Johnson & Stevens, ¶5.16.
[88] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶¶122–129.

(d) Sky/TalkTalk's case had not changed over time. They had to make their case in general terms and then refine it on disclosure of information.[89]

Assessment

11.86 This Reference Question requires us to consider whether Ofcom erred in allocating cumulo rates between different products using a method based on PWNRC for the reasons set out in paragraphs 67 to 96A of Sky/TalkTalk's NoA.

11.87 In their NoA, Sky/TalkTalk described the error alleged under this ground as one of mixed fact, law and discretion.[90] Sky/TalkTalk alleged that, in allocating cumulo rates, Ofcom failed properly to understand or appraise itself of the factual basis for allocation of cumulo rates by the VOA.[91,92]

11.88 In our view, the challenge is to the methodology or approach adopted by Ofcom. In our assessment below, we consider whether or not Ofcom had made any factual mistake or whether it had erred in the exercise of its discretion. We noted (see paragraph 1.46) that the allegation of error of law had not been adequately particularized by Sky/TalkTalk.

11.89 In particular, we noted that Sky/TalkTalk did not provide any elaboration in their pleadings of whether the error was one of interpretation or application or both or how it may be said that Ofcom erred either in its interpretation or in its application of its relevant statutory duties. Despite the generality of the allegation in its NoA,[93] Sky/TalkTalk's case regarding Ofcom's compliance with the relevant legal framework focused on the allegations that Ofcom's choice of allocation method did not properly respect the principle of cost causation and that it was not sufficiently simple or transparent. Ofcom's Defence and the parties' subsequent pleadings responded accordingly.

11.90 In our assessment, having addressed the alleged error of fact, we therefore then considered the extent to which the two approaches (the Proxy RV method and the PWNRC method) reflected cost causality and then the extent to which the two approaches offered the merits of transparency and simplicity.

Ofcom's alleged failure regarding the factual basis for allocation of cumulo rates by the VOA

11.91 From our review of Ofcom's Statement, we did not accept that Ofcom failed properly to understand or appraise itself of the VOA's method of calculating cumulo costs.

11.92 Ofcom clearly looked at the VOA model and considered it as a candidate approach for allocating cumulo rates costs to Openreach's products (see paragraph 11.10). It also discussed with the VOA the efficacy of applying the VOA's calculations to individual products. In light of this, we concluded that Ofcom appraised itself

[89] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶132.
[90] Sky/TalkTalk NoA, ¶70.
[91] Sky/TalkTalk NoA, ¶70.
[92] Sky/TalkTalk also alleged a breach of 'the need to allocate costs on the basis of causation'. We understand this to be reference to one of the six principles of cost recovery. As the CC has explained previously, while there is in principle no tension between the statutory test in section 88 of the 2003 Act (and/or other provisions of the 2003 Act) and the six principles of cost recovery, Ofcom is ultimately required to ensure that it complies with its statutory duties (see the CC's final determination of 30 June 2009 in Case 1112/3/3/09 *C&W v Ofcom* (relating to Ofcom's Leased Lines/Partial Private Circuits Charge Control of 2009. We therefore consider the allegation in relation to the principle of cost causation in the context of Ofcom's relevant statutory duties under the Act.
[93] Sky/TalkTalk NoA, ¶70.

appropriately and had an adequate understanding of the model for the purpose for which it was considering it. We therefore did not conclude that Ofcom erred in this regard.

Whether Ofcom's model was deficient

11.93 In considering the allegation that Ofcom erred in the way in which it calculated cumulo rates costs in its model, we have in mind the guidance of the Tribunal in the *MCT Appeals* to which we have referred in paragraph 1.49. In particular:

(a) First, we recall that an appellant must not simply criticize Ofcom's modelling as an imperfect reflection of reality, but must do more than that and show that the model is deficient in the sense that a different model could better approximate reality.[94]

(b) Secondly, we have in mind that an appellant will not necessarily succeed in its appeal where it satisfies that first requirement, and that the construction of a model involves judgement on Ofcom's part. We are conscious that many different ways of modelling a situation may present themselves and each may have advantages and disadvantages, and Ofcom will have had to choose one out of the many. We are therefore slow to criticize Ofcom for picking one model out of many potential alternatives.[95]

11.94 We approached our assessment of this Reference Question accordingly.

11.95 The stated purpose of Ofcom's model was to apportion cumulo rates costs to Openreach's products according to an allocation of such costs to the activities and assets related to those products (see paragraph 11.41). Ofcom appeared to take this approach because it considered that replicating the VOA calculations was 'neither feasible nor appropriate' and that a simplified approach was required (see paragraph 11.10). Ofcom stated that its approach was consistent with the principles underpinning the VOA's calculations (see paragraph 11.14). On this basis, we see that Ofcom and Sky/TalkTalk shared a common objective in their modelling of developing an allocation approach that reflected a simplified version of the VOA's aggregate calculation.

11.96 In light of this, we understood Sky/TalkTalk's criticism of Ofcom's allocation model as not being 'causal' as alleging that Ofcom adopted an approach that did not reflect the principles of the VOA calculation when there was an appropriate alternative approach available to it that would have better reflected the VOA's calculations as would have been applied to individual products.

11.97 We found that the principles of Ofcom's approach did differ from those of the VOA calculation in some key respects, principally in the greater weighting it applied to asset values than to profits. However, both Ofcom and Sky/TalkTalk (see paragraph 11.23) recognized that the VOA's aggregate calculation could not practically be used in its exact form as an allocation methodology. Therefore, we were not persuaded by Sky/TalkTalk's 'in principle' criticisms that Ofcom's model was deficient in not providing a causal approach to allocating cumulo rates. We considered it necessary for Sky/TalkTalk to demonstrate that there was an appropriate and more causal approach available to Ofcom.

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[94] *BT v Ofcom [2012] CAT 11*, ¶279(2).
[95] *BT v Ofcom [2012] CAT 11*, ¶279(3).

11.98 We did not agree with Sky/TalkTalk's complaint that Ofcom's model was deficient for being inadequately simple or transparent. We were persuaded by Ofcom's description of the PWNRC approach that it was relatively easy to understand and logical in its workings. We found that its use of BT confidential data was generally to be expected in such a model.

The availability of a better alternative to PWNRC

11.99 In developing its allocative methodology based on the VOA's calculation, Sky/TalkTalk sought to demonstrate how effectively and appropriately such an aggregation model could be adopted for the allocation of cumulo rates costs.

11.100 From the descriptions of the two approaches in the pleadings, it was clear to us that Sky/TalkTalk's intention was that its methodology, though it was a simplified version of the VOA's calculation, would reflect more closely the workings of the VOA calculation than did Ofcom's approach.

11.101 However, both Ofcom and BT noted in their pleadings that the intermediate results of Sky/TalkTalk's method were some way away from the outcome of the VOA's actual calculation (see paragraphs 11.56 and 11.67). Sky/TalkTalk responded in their Core Submission and at the hearing by explaining that the model was not intended to replicate the overall cumulo rates calculation (see paragraph 11.79) but they did not explain the very significant differential between the output of the Proxy RV method and the VOA's actual calculation. Instead they attributed it to not having sight of the VOA's full calculations.

11.102 We were concerned by the Proxy RV method's aggregate result since we would have expected an allocation method that purported to reflect closely the principles of the aggregate calculation also to be able to replicate the results of that aggregate calculation, at least approximately. We were concerned that in disaggregating the VOA's calculation, the Proxy RV method was not reconciled with the results of the VOA method and considered that this undermined Sky/TalkTalk's claim to have produced a causal model.

11.103 We were also concerned that the judgement and assumptions required in the exercise of simplifying the VOA's calculations were such that there was a wide range of potential models which could claim to be 'close approximations' to the VOA's calculations. We felt that this was demonstrated by the widely divergent results from Sky/TalkTalk's different calculations in the course of the appeal (see paragraph 11.51). Whilst we recognized, per Sky/TalkTalk's arguments, that some of the difference in these results may have arisen from different inputs being made available in the course of the appeal, we considered that in some large part they followed from there being different ways of implementing a simplified VOA calculation, as Sky/TalkTalk themselves stated (see paragraph 11.84).

11.104 Therefore, in respect of Sky/TalkTalk's claim that its model was 'obvious and natural' and 'accords closely to the method used by the VOA' (see paragraph 11.30), we were not persuaded that this was the case. In our view, Sky/TalkTalk's method did not evidence that there was a suitable closer approximation to the VOA calculation that Ofcom could have used for allocating cumulo rates to products.

11.105 We were persuaded that Sky/TalkTalk's Proxy RV method was simpler and more transparent than the PWNRC method in its calculations, in the narrow sense that it was a less extensive calculation that relied on fewer confidential figures from BT.

11.106 However, in a broader sense we were concerned that the Proxy RV method did not offer a simple or transparent approach on the basis of the following arguments put forward by Ofcom and BT, summarized below.

11.107 First, we shared with Ofcom the view that broadly equal allocations between LLU and WLR should be expected given the similarity of these products in their use of the rateable assets and their regulated returns (see paragraph 11.15). We agreed with Ofcom that an allocation that was not primarily based on the products' use of assets could lead to counterintuitive results (see paragraph 11.46). We were not persuaded by Sky/TalkTalk's explanation that differences in the levels of profitability between these services should lead to an allocation of cumulo rates in Openreach's charges to a WLR line that was three times that made to an MPF line (see paragraph 11.82).

11.108 In our provisional determination, we were not persuaded by Sky/TalkTalk's new argument, presented in its 'fact check', that rebates associated with migrations of lines from WLR to MPF demonstrated that Openreach's charges should have a greater allocation of cumulo rates to WLR than to MPF. We accepted BT's and Ofcom's initial explanation that these rebates related to lost profitability (from reduced provision of WLR) 'downstream' of Openreach. Sky/TalkTalk appeared to accept this explanation themselves (see paragraph 11.34). Because Ofcom applied its allocation approach only to Openreach's share of the cumulo rates bill (see paragraph 11.9), we considered that an appropriate allocation method should only take into account cumulo rates liabilities that related to Openreach and not to downstream activities of BT. Sky/TalkTalk's argument for allocating a greater share of cumulo rates to WLR than to MPF appeared to be inconsistent with Ofcom's approach of only allocating Openreach's portion of the cumulo rates bill to WLR and MPF.

11.109 However, since the provisional determination, BT has corrected its position and Ofcom has clarified its response (see paragraphs 11.64 and 11.73). All the parties now appear to accept that some proportion of rebates receivable by BT in relation to WLR lines migrating to MPF *would* flow through to Openreach. On this basis, we no longer consider that Sky/TalkTalk's argument for allocating a greater share of cumulo rates to WLR than to MPF appears inconsistent with Ofcom's approach of only allocating Openreach's portion of the cumulo rates bill to WLR and MPF. However, Sky/TalkTalk did not provide evidence to us that the observed effect of migration between WLR and MPF on the cumulo rates allocable to Openreach pointed towards an allocation closer to their ratio of three-to-one than to Ofcom's broadly equal allocation.

11.110 Second, we found that BT was right to draw attention to the prospect of negative allocations to some products under Sky/TalkTalk's approach, even if they might arithmetically follow from the application of the VOA's calculations to specific products (see paragraph 11.70). We accepted Sky/TalkTalk's explanation (see paragraph 11.81) that a specific product could feasibly, in the VOA's aggregate calculation, be found to provide a saving in business rates. However, we understood that such a negative allocation was particularly sensitive to the allocation of rateable and non-rateable assets to that product. This led us to question whether it was indeed an appropriate exercise to apply a disaggregated version of the VOA's calculation among products that shared, to a high degree, common costs in the form of network assets.

11.111 Third, we were concerned by the volatility in the results, as identified by Mr Malone and Mr Corkery (see Figure 11.1 above) since this was not what we would have expected for regulated products that we understood as having relatively stable costs and revenues on a per-line basis. Sky/TalkTalk responded by saying that this reflected the year-on-year volatility in BT's financial results. We were not persuaded by this response that the volatility was a properly understood and rationalized feature on which a proper allocation methodology should be founded.

Our findings

11.112 We did not accept Sky/TalkTalk's criticisms that Ofcom's approach was deficient in being insufficiently causal, simple or transparent.

11.113 We considered the alternative approach put forward by Sky/TalkTalk but were not persuaded that it offered the close approximation to the VOA's method that Sky/ TalkTalk claimed it to. Instead it appeared to be one of many possible approaches for disaggregating the VOA's calculations and suffered in our view from not being reconciled with the results of the VOA's aggregate calculation.

11.114 Whilst we found Sky/TalkTalk's calculations to be less extensive and less reliant on confidential BT figures than the PWNRC method, we were concerned that it was not simple or transparent as an approach for the reasons set out in paragraphs 11.106 to 11.111.

11.115 On this basis, we were not persuaded by Sky/TalkTalk that a more causal, simple or transparent model was practically available to Ofcom for allocating cumulo rates.

Conclusion

11.116 Accordingly, we find that Ofcom did not err in allocating cumulo rates between different products using a method based on PWNRC.

12. Sky/TalkTalk Appeal

Valuation of duct assets

Reference Question 1(iv)

The Reference Question

12.1 This section (paragraphs 12.1 to 12.78) sets out our conclusions as to whether the price controls have been set at a level which is inappropriate because Ofcom erred in using RPI in order to value duct assets purchased after 1997 within the RAV calculation and/or by failing separately to reflect a 'national discount' in its price index, for the reasons set out in paragraphs 97 to 119 of Sky/TalkTalk's NoA.

12.2 The essence of Sky/TalkTalk's appeal was that Ofcom should have instead adopted an index based on BT's accounting data, which would better reflect BT's actual costs in constructing duct assets. It also considered that Ofcom should have separately reflected a national discount to reflect the economies in rebuilding the entire network at a single point in time.[1]

12.3 Our determination is that Ofcom did not err in using RPI in order to value duct assets purchased after 1997 within the RAV calculation and/or by failing separately to reflect a 'national discount' in its price index .

Summary of Ofcom's rationale and methodology

12.4 In its 2012 determination, Ofcom decided to no longer use the 'absolute valuation' approach to assessing the CCA value of post-1997 duct assets. 'Absolute valuation' is an approach by which the duct assets are valued at an estimate of the current cost of replacing those assets less a hypothetical discount for the scale of replacing such assets nationwide in a short time frame (the so-called 'national discount'). Ofcom's reason for using a different methodology was that it viewed BT's absolute valuation methodology as seriously flawed, opaque and inconsistent and considered that it gave potential incentives to BT to 'game' the process.[2]

12.5 Ofcom decided to continue with a CCA valuation of these assets but considered that many of these risks could be avoided through taking an alternative 'indexation approach' by which the CCA value was adjusted yearly based on a specified index.[3] Ofcom quoted Sky and TalkTalk in their consultation responses as recommending this indexation approach.[4]

12.6 Analysys Mason produced a report for Ofcom reviewing the available indices. These included the General Building Cost Index (GBCI) and the All-in Tender Price Index (TPI), the latter being historically more volatile than the former. They also identified that there were other regulators which had used RPI for indexing asset valuations.[5]

12.7 In considering different indices to apply to the CCA valuation, Ofcom considered that GBCI was preferable to TPI for its robustness in this case. It considered the former to be a useful starting point in assessing changes in the unit costs of duct. However,

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[1] Sky/TalkTalk NoA, ¶98.
[2] 2012 Statement, ¶¶3.83 & A.122.
[3] 2012 Statement, ¶¶A.124–A.126.
[4] 2012 Statement, ¶¶A.118–A.119.
[5] 2012 Statement, ¶¶A.134–A.137.

Ofcom recognized that GBCI did not reflect the national discount which BT assumed could be achieved and Ofcom considered it important to capture this effect.[6]

12.8 Ofcom considered that there was scope for a national discount to be applied in the hypothetical case of rebuilding the entire duct network. It viewed it as difficult, though, to establish a robust figure for such a discount. Ofcom determined that a plausible range could be between 9 per cent (being BT's latest estimate) and 14.5 per cent (as used in BT's most recent accounts).[7]

12.9 Ofcom therefore considered RPI to be the appropriate index for the following reasons:[8]

(a) Its estimated effect on valuation would lie between that obtained using GBCI less a 14.5 per cent national discount and GBCI less a 9 per cent national discount.

(b) RPI was well recognized and was used by other regulators for indexing valuations as well as for price regulation.

(c) Using RPI in this way would avoid the need for estimating an exact figure for the national discount, which would be beneficial since such a figure could change year on year and thereby lead to unpredictable movements in the duct value. Ofcom said that this would also make for a more transparent calculation.

12.10 Ofcom therefore determined to index the post-1997 duct asset value by RPI.[9]

Summary of Sky/TalkTalk's arguments

12.11 Sky/TalkTalk alleged that Ofcom made an error of fact, law and discretion in determining the charge control.[10]

12.12 Sky/TalkTalk said that Ofcom had erred in its decision to index CCA values of post-1997 ducts by RPI for two reasons:[11]

(a) Using an alternative approach of indexing the values with data taken from BT's accounting systems would provide a more robust approach that would be likely to reflect more closely true changes in unit costs and would be consistent with Ofcom's previous approach.

(b) Ofcom should have separately applied a national discount, which it had not properly done, despite its intentions to do so.

12.13 Sky/TalkTalk said that whilst Ofcom had used the absolute valuation approach in the past, changes to BT's methodology since 2005 for calculating such a value had given rise to a 40 per cent increase in value in 2009/10. This had prompted Ofcom to consider there to be serious flaws in BT's methodology. Together with Ofcom's rejection of BT's method for disaggregating the value between pre-1997 and post-1997 ducts, this had prompted Ofcom to consider alternative approaches and to adopt the indexation approach.[12]

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[6] 2012 Statement, ¶¶A.138– A.139.
[7] 2012 Statement, ¶A.168.
[8] 2012 Statement, ¶A.170.
[9] 2012 Statement, ¶A.171.
[10] Sky/TalkTalk NoA, ¶99.
[11] Sky/TalkTalk NoA, ¶98.
[12] Sky/TalkTalk NoA, ¶¶100–107.

12.14 Sky/TalkTalk said that Ofcom had additionally found it appropriate to apply a national discount.[13]

12.15 Sky/TalkTalk said that the Analysys Mason study, commissioned by Ofcom, had found that GBCI was preferable to TPI and that RPI generally increased more slowly than industry price indices but was well understood and widely used.[14]

12.16 Sky/TalkTalk said that it was unclear why Ofcom had then chosen to use RPI and not to apply a national discount. Ofcom appeared to have taken this approach because it considered that applying an index that was below industry-specific indices was a substitute for applying a national discount.[15]

12.17 Sky/TalkTalk argued that such reasoning was flawed. They considered that the index should have been chosen to track changes in the pricing of duct assets as best it could, whilst the national discount should have been included to convert piecemeal capital expenditure unit costs to those applicable to replacing the entire network at once. Ofcom did not and could not argue that the differential between RPI and an industry-specific index was related to the size of a national discount. Ofcom was simply relying on the difference between indices being in the same direction as the effect of applying a national discount.[16] In their Core Submission, Sky/TalkTalk said that it was not credible for there to be any ongoing relationship between the national discount and the difference between GBCI and RPI.[17]

12.18 Sky/TalkTalk also argued that Ofcom had not explicitly compared the available indices, in particular against price trends from BT's own accounting data, which it did not consider using as the basis of the index.[18]

12.19 Sky/TalkTalk said that whilst they agreed with the principle of applying an index and that RPI should correlate to some extent with movements in duct costs (because the latter included labour costs), this correlation would not be strong and could display a systematic bias. This was because:[19]

(a) the cost of non-labour inputs into the assets might not be correlated with general inflation;

(b) wage costs and RPI might move differently in different labour market conditions; and

(c) the labour element of duct costs would vary over time with changes to productivity.

12.20 Sky/TalkTalk said that BT, in the course of calculating its absolute valuation, had produced data on holding gains that allowed them to be disaggregated between those arising from actual unit cost changes and those due to other factors such as methodological changes. Sky/TalkTalk said that Ofcom could therefore have used the price variance data to create a bespoke index for valuing duct assets, whilst

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13 Sky/TalkTalk NoA, ¶108.
14 Sky/TalkTalk NoA, ¶109.
15 Sky/TalkTalk NoA, ¶110.
16 Sky/TalkTalk NoA, ¶111.
17 Sky/TalkTalk Core Submission (Sky/TalkTalk), Volume 1, ¶50.
18 Sky/TalkTalk NoA, ¶112.
19 Sky/TalkTalk NoA, ¶¶113–114.

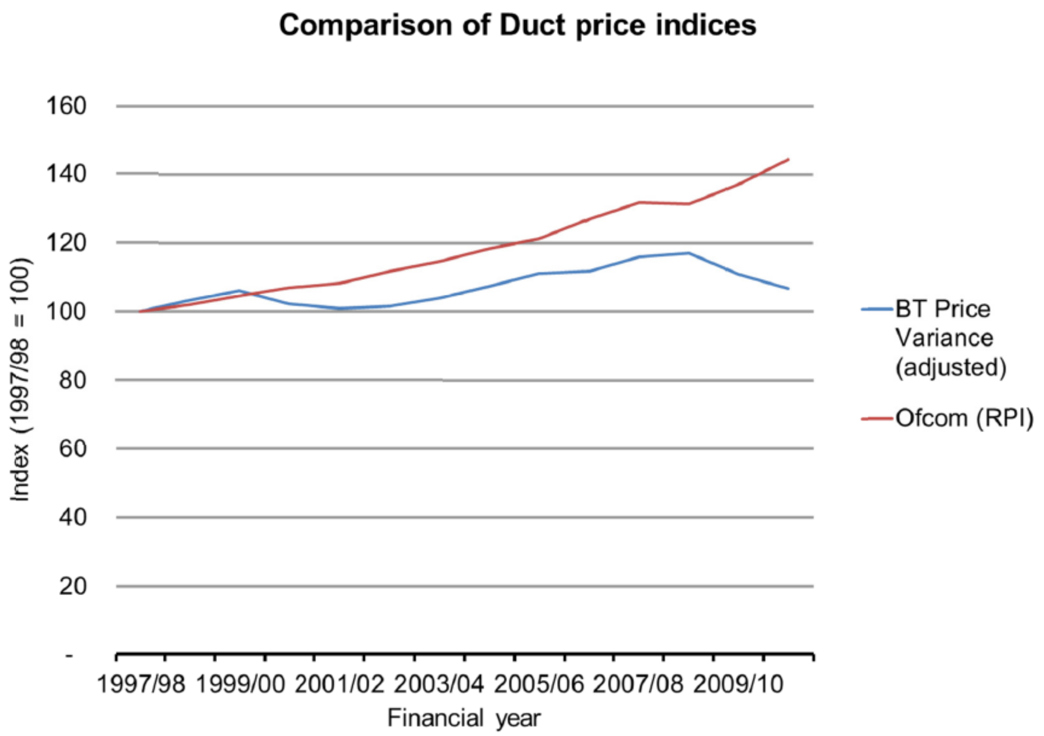
avoiding the effect of methodological issues with which it had been rightly concerned in its 2012 Statement.[20] We refer to this proposal as the 'price variance index'.

12.21 Mr Duckworth said that having removed the effects on holding gains of methodological changes in 2007/08 and 2009/10, he was not aware of any other methodological issues that would affect the reliability of such an index in the relevant period.[21]

12.22 Mr Duckworth concluded that Ofcom had provided little evidence that RPI was a good proxy for the change in unit costs of duct assets and that BT's own price variance data, adjusted for relevant changes in methodology, provided a better index until 2010/11. Sky/TalkTalk argued that this approach would require the estimate of a national discount but that in any case this requirement had not been properly avoided in the adoption of RPI.[22]

12.23 Mr Duckworth provided a chart comparing Ofcom's indexation approach using RPI with Sky/TalkTalk's price variance index.[23] This is reproduced in Figure 12.1 below. The chart showed that RPI growth exceeded that of the price variance index. Mr Duckworth said that this was consistent with a view of BT delivering real efficiency gains.[24]

FIGURE 12.1



Source: Sky/TalkTalk NoA, 1st W/S Duckworth, Figure 12, p45.

12.24 Mr Duckworth estimated the impact of moving to the price variance index as reducing the annual unit cost for an MPF line by £1.61 in 2013/14 (and a similar figure for

[20] Sky/TalkTalk NoA, ¶¶115–116.
[21] Sky/TalkTalk NoA, 1st W/S Duckworth, ¶5.25.
[22] Sky/TalkTalk NoA, ¶¶117–118.
[23] Sky/TalkTalk NoA, 1st W/S Duckworth, Figure 12, p45.
[24] Sky/TalkTalk NoA, 1st W/S Duckworth, ¶5.33.

WLR). It considered this to be material and said that the application of a national discount would make this more so.[25]

Ofcom's Defence

12.25 Ofcom said that in the 2012 Statement it had agreed with Sky and TalkTalk that an indexation approach should be applied in future (see paragraph 12.5). It had considered a number of reports, including that by Frontier Economics as commissioned by Sky and TalkTalk, and a number of indices before deciding to adopt RPI. It had found that RPI delivered changes in prices that fell within the range calculated by applying a national discount to GBCI, which was an appropriate measure of change in duct prices.[26]

12.26 Ofcom said that it had exercised its judgement on this issue and was entitled to a wide margin of appreciation. It said that Sky/TalkTalk were now arguing that it should have used price variance data from BT's own systems which neither Sky/TalkTalk, nor any other party, had previously argued for.[27]

12.27 Ofcom also said that Sky/TalkTalk's arguments were unfounded when they contended that Ofcom needed to apply a separate national discount, since Ofcom's approach already reflected such a discount.[28]

Ofcom's reasons for using RPI

12.28 Ofcom said that it had considered several different indices and had assessed their movements over time (see paragraph 12.6). It had recognized that GBCI indexation was an appropriate starting point for assessing changes in the cost of duct but that it did not reflect a national discount (see paragraph 12.7). Ofcom had found it hard to identify a single figure for this national discount but had considered a plausible range to be between 9 and 14.5 per cent (see paragraph 12.8).[29]

12.29 Ofcom said that RPI achieved a discount to GBCI that fell within this range, was widely understood and used by Ofcom and other regulators and offered a transparent approach without the need to set, or reset annually, a national discount (see paragraph 12.9). It considered RPI to be the appropriate index on this basis.[30]

12.30 Ofcom described indexation as a 'second-best' method of valuation, suitable where absolute valuation was not robust. No index would be ideal and the selection of RPI was an exercise of judgement. Ofcom referred to the Tribunal's observations in the case of MCT (2012) and quoted the Tribunal as saying:[31] '… the Commission was entirely right in being slow to criticise Ofcom for picking one particular model out of many potential alternatives'.

12.31 Ofcom went on to argue that the CC should be even slower to criticize Ofcom in this case, given that none of Sky, TalkTalk or any other party had proposed a price variance index in the course of the consultation exercise.[32]

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[25] Sky/TalkTalk NoA, ¶119.
[26] Ofcom Defence (Sky/TalkTalk Appeal), Annex D, ¶¶6–7.
[27] Ofcom Defence (Sky/TalkTalk Appeal), Annex D, ¶7.
[28] Ofcom Defence (Sky/TalkTalk Appeal), Annex D, ¶8.
[29] Ofcom Defence (Sky/TalkTalk Appeal), Annex D, ¶¶9–11.
[30] Ofcom Defence (Sky/TalkTalk Appeal), Annex D, ¶¶12–13.
[31] Ofcom Defence (Sky/TalkTalk Appeal), Annex D, ¶14.
[32] Ofcom Defence (Sky/TalkTalk Appeal), Annex D, ¶14.

Sky/TalkTalk's Appeal

12.32 Ofcom said that Sky/TalkTalk's complaint was three-pronged and so in its Defence it addressed the following in turn:[33]

(a) that duct costs were not strongly correlated with RPI and that the latter might exhibit systematic bias if used as a proxy for the former;

(b) that Ofcom did not use price trends from BT's own accounting data as a comparison in assessing other indices or as a candidate index in itself, even though this was the most obvious and natural approach to use; and

(c) that the higher growth rate of construction indices over RPI and the national discount were separate issues and could not be traded off as Ofcom had done.

- *Correlation between RPI and movements in duct unit costs*

12.33 Ofcom said that in its March 2011 consultation document it had recognized that indexation could give asset values that diverged from reality over time. However, it considered that over 13 years the scope for significant variation to result from an appropriate index was relatively small. However, such divergence was the inevitable consequence of using any index. It referred to the following comment made by the Tribunal in the case of *MCT (2) [2012] CAT 11*:[34]

> no model can, ever, perfectly reflect reality … It is not enough for an appellant to say that a model is an imperfect reflection of reality. That is a truism that take (sic) the argument no further. An appellant must do more than that and show that the model is deficient in the sense that a different model could better approximate reality.

- *Sky/TalkTalk's proposal to use price variance data*

12.34 Ofcom said that it did not accept that Sky/TalkTalk's proposed use of price variance data from BT was a better approach than RPI. It said that RPI was better and more reliable for its purposes.[35]

12.35 Ofcom said that Sky/TalkTalk's proposed price variance index increased at a lower rate than did RPI and showed a downward trend in 2009/10 and 2010/11 as a result of BT moving to a single contractor, which it termed a 'one-off event'. Such price reductions did not relate to the underlying cost of ducts and were unlikely to continue as a trend in future. If the effect in 2009/10 were removed, the resulting index would be close to RPI in 2009/10. The NRC valuation of post-1997 duct would resultantly increase from £2.0 billion to £2.2 billion, which was close to the figure of £2.3 billion that would be obtained using RPI.[36]

12.36 Regardless of this, Ofcom argued, an index using price variance data was not a good proxy for the value changes on post-1997 duct. This, said Ofcom, was because it suffered from many of the flaws Ofcom had identified with BT's absolute valuation approach.[37]

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[33] Ofcom Defence (Sky/TalkTalk Appeal), Annex D, ¶15.
[34] Ofcom Defence (Sky/TalkTalk Appeal), Annex D, ¶¶16–17.
[35] Ofcom Defence (Sky/TalkTalk Appeal), Annex D, ¶18.
[36] Ofcom Defence (Sky/TalkTalk Appeal), Annex D, ¶¶19–20.
[37] Ofcom Defence (Sky/TalkTalk Appeal), Annex D, ¶21.

12.37 Ofcom said that BDO, in its report published by Ofcom at the time of the consultation, highlighted that BT's approach relied on a small number of key assumptions, such as the discount factor, which could make future valuations unpredictable. BDO also said that valuations from year to year could be unstable and react to issues other than underlying changes in value. Ofcom added that BT's methodology used write-off calculations which themselves assumed other trends in duct costs, introducing an inconsistency within the approach.[38]

12.38 On this basis, Ofcom argued that an index based on price variance data was not appropriate because of a lack of transparency and stability and because of the number of assumptions it entailed.[39]

12.39 Ofcom said that it appeared that Frontier Economics, which had written a report on behalf of Sky and TalkTalk, also seemed to share Ofcom's view that the risk of residual methodological changes affecting price variance data meant that such a price index would be unreliable.[40]

12.40 Ofcom also argued that adopting a price variance index would require Ofcom to monitor BT's price variance calculations closely in future years. It said that such an approach would not be sufficiently predictable or transparent to support sound regulatory decisions and charge controls. RPI did provide these features and was well recognized, exogenous to BT, not subject to unexpected changes and could be predicted by reference to readily available forecasts.[41]

12.41 In its hearing, Ofcom explained that it saw the exogenous characteristic of RPI as important. In the absolute valuation approach, it was reliant on BT's assumptions in coming up with the value of the assets. It said that these assumptions were interlinked and were quite hard to validate in detail. It said that it had gained some comfort from the RFS being audited but had been nervous about relying on such figures for charge controls. Using RPI would replace this exercise with an external index.[42]

- *The national discount*

12.42 Ofcom said that the national discount was a hypothetical figure and that it was difficult to estimate it with a high degree of accuracy. BT had estimated the national discount to be 45 per cent in 2007/08. When it had moved to using a single contractor in 2009/10, BT had revised this estimate down to 14.5 per cent, in part because of the reduction in prices that had been achieved in moving away from multiple contractors and in part because the new arrangement allowed a more detailed analysis. In the course of the consultation BT then provided a revised estimate from an expert of 9 per cent.[43]

12.43 Ofcom, in its Statement, concluded that a plausible range for a national discount was 9 to 14.5 per cent. It said that it had started with the GBCI index and identified the range for the index having applied discounts of 9 and 14.5 per cent. It had found that RPI fell within this range throughout the period of the charge control. It said that it

[38] Ofcom Defence (Sky/TalkTalk Appeal), Annex D, ¶21.
[39] Ofcom Defence (Sky/TalkTalk Appeal), Annex D, ¶22.
[40] Ofcom Defence (Sky/TalkTalk Appeal), Annex D, ¶23.
[41] Ofcom Defence (Sky/TalkTalk Appeal), Annex D, ¶24.
[42] Ofcom, Bilateral Hearing transcript, p133, line 24, to p136, line 3.
[43] Ofcom Defence (Sky/TalkTalk Appeal), Annex D, ¶¶25—27.

was therefore justified in using RPI as an approximation to GBCI combined with an appropriate national discount.[44]

- *Response to points made in Sky/TalkTalk's Core Submission*

12.44 In its hearing, Ofcom was given the opportunity to respond to the argument raised by Sky/TalkTalk in their Core Submission about Ofcom's equivalent valuation of copper assets (see paragraph 12.53).

12.45 Ofcom said that the index used for copper was much more exogenous than that proposed by Sky/TalkTalk for duct assets, in part because of the availability of a market price for copper. Ofcom was less reliant on BT information for copper assets than it would be for duct assets under Sky/TalkTalk's proposal.[45]

BT's Statement of Intervention

12.46 BT supported Ofcom in arguing that RPI was a better and more reliable index than Sky/TalkTalk's proposed price variance index. It made three points in support of this view.[46]

12.47 First, it said that the price variance index was derived from BT's accounting system, which was not itself designed to produce reliable price indices.[47] Mr Tickel argued that Sky/TalkTalk's approach did not extract all of the effects of methodological changes from the RFS data. He contrasted this with RPI and GBCI, which were derived from statistical systems that were designed to produce such indices. He also noted that they were more appropriate for these purposes because they were exogenous indices.[48]

12.48 Second, RPI was widely used and highly orthodox, and therefore it was hard to see Ofcom as erring in adopting it.[49]

12.49 Third, Sky/TalkTalk's approach was inconsistent in using the index to value the assets but not to forecast BT's costs. Doing so would actually lead to an increase in rental costs.[50]

12.50 Mr Tickel also observed that productivity in the construction industry increased at a slower rate than in the rest of the economy over the period in question. Also construction price inflation exceeded RPI over the period. This suggested that duct prices ought to have increased relative to RPI. This led him to suggest that the price variance index, which gave the contrary result, was incorrect.[51]

12.51 BT concluded that the Sky/TalkTalk challenge was to Ofcom's discretion in choosing one index over another where there were a number of plausible options that produced similar results.[52]

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[44] Ofcom Defence (Sky/TalkTalk Appeal), Annex D, ¶¶28–29.
[45] Ofcom, Bilateral Hearing transcript, p136, line 27, to p137, line10.
[46] BT SoI (Sky/TalkTalk Appeal), ¶49.
[47] BT SoI (Sky/TalkTalk Appeal), ¶49.
[48] BT SoI (Sky/TalkTalk Appeal), 3rd W/S Tickel, ¶¶9–10.
[49] BT SoI (Sky/TalkTalk Appeal), ¶49.
[50] BT SoI (Sky/TalkTalk Appeal), ¶50.
[51] BT SoI (Sky/TalkTalk Appeal), 3rd W/S Tickel, ¶11.
[52] BT SoI (Sky/TalkTalk Appeal), ¶51.

Sky/TalkTalk's response to Ofcom and BT

12.52 Sky/TalkTalk responded to Ofcom's argument that Sky/TalkTalk had not proposed this approach during the consultation period. They said that they did make submissions in favour of using actual price variance data and indicated three places in their submissions where they said they had referred to this approach. Moreover, they said that in any case it was not correct that the CC should be slower to criticize Ofcom in circumstances where an alternative proposal had not been offered by the appellant.[53]

12.53 Sky/TalkTalk responded to Ofcom's criticisms of the price variance approach. As a general comment, they said that Ofcom's criticisms appeared to overlook that Ofcom itself used such an approach for valuing post-1997 copper assets and did not seem concerned about these issues in that context.[54]

12.54 Sky/TalkTalk said that, contrary to Ofcom's argument, it was right not to exclude 'one off events' (see paragraph 12.35). These were valid cost changes that needed to be taken into account. Mr Duckworth argued that failing to take into account such changes would lead to a valuation higher than replacement cost. Sky/TalkTalk also observed that the RFS produced from the same accounting system were audited.[55]

12.55 Mr Duckworth argued that continued use of price variance data would not require any increased level of resource in monitoring of BT's calculations since BT's accounts were monitored and audited by Ofcom in any case.[56]

12.56 Sky/TalkTalk said that no index was likely to be ideal. It was a question of which index was better at reflecting changes in duct costs and the answer was one that reflected actual changes rather than a theoretical proxy.[57]

12.57 Sky/TalkTalk responded to Ofcom's argument that it had properly reflected a national discount by saying that was not the point. Sky/TalkTalk's argument was that Ofcom had done so in an irrational manner which had introduced error in its choice of index.[58]

12.58 Mr Duckworth argued that Ofcom's comparison was flawed when it compared the effect of RPI and GBCI with a range of national discounts applied. He said that Ofcom had been inconsistent in comparing indices some of which had efficiency adjustments and some of which had not.[59]

12.59 Sky/TalkTalk responded to BT's Intervention. They said that BT had not been specific about the methodological effects which they alleged were still present in Sky/TalkTalk's proposed price variance index. They also said that BT was inconsistent because in its appeal BT was arguing for a CCA valuation that was based on price variance data.[60]

12.60 In response to BT's argument about inconsistency (see paragraph 12.49), Sky/TalkTalk said that this was also the same for existing practice in setting allowances for copper and duct assets.[61]

[53] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶¶139–142.
[54] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶144.
[55] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶¶145–146, 4th W/S Duckworth, ¶5.18.
[56] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, 4th W/S Duckworth, ¶5.25.
[57] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶147.
[58] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶151.
[59] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, 4th W/S Duckworth, ¶¶5.29–5.31.
[60] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶¶159–161.
[61] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶¶162–163.

12.61 In response to BT's argument about the similarity of the different indices (see paragraph 12.51), Sky/TalkTalk said that Ofcom had not considered the price variance index that had been proposed and that the results were not in fact similar.[62]

12.62 In its hearing, Sky/TalkTalk responded to the points made by BT and Ofcom about the benefits of an exogenous index (see paragraphs 12.41 and 12.47). Sky/TalkTalk recognized the merits of an exogenous index, at least during the charge control period if not for setting the opening asset valuation, but also argued that it needed to be exogenous in a relevant sense, that is in measuring the relevant prices. They said that Ofcom had not adopted such an index.[63]

Assessment

12.63 This Reference Question requires us to consider whether Ofcom erred in using RPI in order to value duct assets purchased after 1997 within the RAV calculation and/or by failing separately to reflect a national discount in its price index, for the reasons set out in paragraphs 97 to 119 of the NoA.

12.64 The NoA alleges errors of fact and law and in the exercise of discretion. As noted in the Introduction at paragraph 1.46, we find it unsatisfactory that the NoA does not properly explain the alleged error of law. In our view, the nub of this ground of appeal is that, according to Sky/TalkTalk, its proposed methodology for duct indexation is better than Ofcom's method. In considering this key issue, we have taken into account Ofcom's obligations, including those relating to the promotion of efficiency and sustainable competition and benefits to end-users.

Price variance index as 'obvious and natural'

12.65 We were persuaded that a number of difficulties with the price variance approach were real and relevant. Specifically:

(a) a lack of transparency in and reliance upon BT's calculations, which would require Ofcom to monitor BT's calculations closely (see paragraph 12.40);

(b) its reliance upon a small number of key assumptions (see paragraph 12.37); and

(c) its inherent instability (see paragraph 12.38).

12.66 We also consider that these difficulties should be appreciated in the context of the changes to BT's calculations in prior years that caused Ofcom to move away from the absolute valuation approach at this charge control.

12.67 We were not persuaded that the current indexation of copper value and that proposed by Sky/TalkTalk for duct are so similar that the latter should follow from the former as a matter of consistency. In particular, we noted that the case of copper valuation was different as the index was more exogenous and less reliant on BT's calculations, in part because of the availability of a market price for copper.

12.68 On the basis of the above, and in the context of the 2012 Statement, we do not think that the price variance approach was an 'obvious and natural' methodology to adopt. As noted in the Introduction at paragraph 1.49, it is appropriate for a margin of appreciation to be afforded to Ofcom to the extent that different ways of modelling are

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[62] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶¶164–165.
[63] Sky/TalkTalk, Bilateral hearing transcript, p68, line 10, to p69, line 3.

available, each with advantages and disadvantages, and where the methodology proposed by the appellant is not demonstrated to be clearly superior to that used by Ofcom.

- *Appropriateness of RPI*

12.69 We considered Sky/TalkTalk's argument that RPI was unlikely to change with movements in the costs of duct and might even show a systematic bias over time, giving a number of reasons for this view (see paragraph 12.19).

12.70 We noted Mr Duckworth's chart which compared the movements in RPI and the price variance index (see paragraph 12.23). We found that, whilst the latter did not necessarily or accurately represent the 'true' change in duct costs, the chart did give some measure for the scope in deviation between an index specifically focused on duct costs and RPI. The chart suggested that over 12 years a deviation of around 40 per cent arose. We considered this significant in this context.

12.71 In our view, what could be taken from the pleadings on this issue was that there was no good reason to think that RPI would be an accurate year-on-year predictor of movements in an index of duct costs derived from BT's accounting systems. We noted that the divergence between RPI and the price variance index as shown in the chart largely occurred at two particular points. We agreed with Ofcom's argument (see paragraph 12.35) that a large part of the recent divergence was likely to have resulted from the cost savings achieved by BT in moving to a single contractor in this period. We considered this to be an example of the 'one-off' changes to the cost of duct that an economy-wide index such as RPI would not reflect (see paragraphs 12.35 and 12.54). On the basis of the above, however, we did not observe a systematic bias in the movements of RPI compared with the price variance index over most of the period.

12.72 We found that the exogeneity of RPI (see paragraphs 12.29, 12.41 and 12.47) was a positive feature of RPI, since it removed the reliance on BT's calculations that would be required, say, by Sky/TalkTalk's price variance index. In their bilateral hearing, Sky/TalkTalk appeared also to recognize the merit of such a quality, though they argued that for it to be a benefit it needed also to measure the relevant prices (see paragraph 12.62).

12.73 We think it was clear from the pleadings and the arguments considered above that there was no ideal index (Ofcom and Sky/Talk Talk appeared to agree on this point (see paragraphs 12.30 and 12.56)). In our view, for the price variance index to be preferable to RPI, we would need to consider that the benefits it offered in providing a potentially more accurate measure of movements in duct costs outweighed the benefits of RPI in providing a more robust, exogenous and better recognized index, projected by independent forecasters, that did not rely on BT's calculations and the assumptions made therein. On the basis of the arguments made, and given the concerns that led to the abandonment of the absolute valuation approach in the 2012 Statement, we were not persuaded that this was the case.

- *The national discount*

12.74 We found some weight in Sky/TalkTalk's argument that the approach taken by Ofcom of not applying an explicit national discount was not logical. We agreed with Sky/TalkTalk that any observed relationship between the national discount and the difference between GBCI and RPI could not be expected to persist in the long run (see paragraph 12.17). We also considered that Ofcom would have provided a more transparent methodology if it had separately applied a GBCI index and a national discount.

12.75 However, it was clear to us that Ofcom did explicitly consider the effect of a national discount before arriving at its chosen index, RPI. We also understood Ofcom's argument that it was difficult to estimate the national discount with a high degree of accuracy (see paragraph 12.42), particularly given the hypothetical and conceptual nature of the exercise and the wide range of numbers provided by BT in recent years, including during the charge control process. We also considered that for the purposes of setting an approach for this charge control period, Ofcom only needed to observe a short-term relationship between the national discount and the difference between GBCI and RPI.

12.76 On this basis, we could understand the practical merits of Ofcom exercising its judgement and taking into account the estimated effect of this national discount within its chosen indexation approach. Whilst not explicit in its form, the result of Ofcom's approach was expected to fall, at least for this charge control, within the range of the GBCI less a high case and low case national discount.

- *Our finding*

12.77 It was very clear from the 2012 Statement (see paragraph 12.4) that Ofcom had justifiably lost confidence in using BT's accounting calculations for measuring year-on-year price changes and where there was a significant range of uncertainty over the hypothetical national discount that should be applied. Given the approximate alignment of RPI with GBCI less a national discount, and the attractions of RPI as a robust and well-used index, we did not consider it wrong for Ofcom to have taken the decision it did.

Conclusion

12.78 Accordingly, we find that Ofcom did not err in using RPI in order to value duct assets purchased after 1997 within the RAV calculation and/or by failing separately to reflect a national discount in its price index, for the reasons set out in paragraphs 97 to 119 of Sky/TalkTalk's NoA.

13. Sky/TalkTalk Appeal

Copper recovery income

Reference Question 1(v)

13.1 This section (paragraphs 13.1 to 13.70) sets out our conclusions as to whether the price controls have been set at a level which is inappropriate because Ofcom erred in its assessment of the income to be received from copper scrap for the reasons set out in paragraphs 120 to 131 of Sky/TalkTalk's NoA.

13.2 The essence of Sky/TalkTalk's appeal is that Ofcom's forecast for income from copper scrap was unreliable and implausibly low.

13.3 Our determination is that Ofcom did not err in its assessment of the income to be received from copper scrap.

Summary of Ofcom's rationale and methodology

13.4 BT's local loops are made of copper and have an assumed asset life of 18 years, mainly due to degradation of the insulation material. When the copper is extracted, it is recycled and has a scrap value. The income from this scrap copper is termed CRI and it is offset against the costs of providing MPF and WLR lines.[1] CRI is part of Other Operating Income (OOI) in Ofcom's model.[2]

13.5 In its 2012 Statement, Ofcom provided a reconciliation of its model to Openreach's March 2011 management accounts, which highlighted areas where significant differences existed. The first of these differences related to OOI, which was £[✂] million higher than forecast. Ofcom stated that [✂], it decided not to alter its cost forecast (CF) model to take account of this.[3]

Summary of Sky/TalkTalk arguments

13.6 Sky/TalkTalk contended that:

(a) Ofcom had failed to provide robust and transparent justification for its CRI forecast over the charge control period, particularly in the light of the discrepancy between Ofcom's forecasts and management accounting information provided to Ofcom by BT.

(b) Both BT's management accounting information and further information, which would have been available to Ofcom had it investigated more fully (but which it did not obtain), indicated that the CRI forecast was both unreliable and implausibly low. In consequence, CRI should have been re-estimated.

13.7 Sky/TalkTalk considered that these errors were mixed errors of fact, law and discretion: Ofcom had failed (either properly or at all) to take account of relevant factual evidence; and in exercising its discretion to adopt the approach it had, it had failed properly to give effect to its duties of transparency and robust justification. In turn, it

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[1] Sky/TalkTalk NoA, ¶120.
[2] 2012 Statement, ¶A4.230. OOI also includes repayment works, which is income that BT receives for rechargeable work.
[3] 2012 Statement, ¶A10.14.

had failed to give effect to its objectives to promote competition, economic efficiency and consumer benefits.[4]

13.8 Sky/TalkTalk said that it was likely that those errors were material: under plausible assumptions, the unit cost of MPF could be reduced by at least £[✂] in 2013/14.[5]

Ofcom's approach and forecasts

13.9 Ofcom had forecast a significant decline in CRI over the charge control period, estimating that it would fall from approximately £69.5 million in 2009/10 to £15.4 million in 2013/14.[6] However, according to Sky/TalkTalk, the 2012 Statement did not explain the basis on which CRI was estimated: no details of the methodology were given in the consultations or in the 2012 Statement and the CF model provided by Ofcom did not provide any relevant figures.[7]

Alleged failures of justification and defects in Ofcom's forecasts

13.10 Sky/TalkTalk submitted, first, that Ofcom had failed to justify its forecasts of CRI, and second, that information which was available to Ofcom at the time of the 2012 Statement or which would have been available to Ofcom had it investigated further, indicated that those forecasts were both unreliable and implausibly low. In consequence, CRI should be re-estimated.[8]

13.11 Sky/TalkTalk said that Ofcom relied upon a forecast of total OOI supplied by BT in August 2010 and that there were strong reasons why it should not simply have accepted BT's forecasts:

(a) The decline in CRI over the charge control period was forecast to be almost 80 per cent. Such a significant decline ought in itself to have led Ofcom to investigate it closely.

(b) Ofcom itself noted the significant discrepancy between BT's forecast of CRI for 2010/11, which BT provided to Ofcom in August 2010 and which projected a significant fall, and the management accounts for that period, which were provided in September 2011 and which showed an increase. In September 2011, Ofcom asked BT for an explanation of the increase in OOI and whether it was a recurring item. In October 2011, BT stated in response to that query that the higher revenue was not likely to be recurring, without providing evidence to support that assertion, and stated that the matter would be reviewed.

(c) Had Ofcom investigated the matter further, it would have obtained BT's internal forecasts for CRI set out in an internal email dated 16 September 2011 from [✂] to [✂] which indicated that CRI would rise to £[✂] million in 2011/12, and then fall to £[✂] million in 2013/14 (Sky/TalkTalk have termed this the 'BT internal forecast'). This implied that the forecast of CRI in Ofcom's model was substantially understated and would have been likely to have led Ofcom to revise its forecasts.

(d) Publicly available information from BT's annual accounts suggested that CRI may have increased by 37 per cent from 2009/10 to 2010/11.

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[4] Sky/TalkTalk NoA, ¶121.
[5] Sky/TalkTalk NoA, ¶131.
[6] Sky/TalkTalk NoA, ¶124.
[7] Sky/TalkTalk NoA, ¶123.
[8] Sky/TalkTalk NoA, ¶125.

(e) Ofcom itself forecast that the unit cost for acquiring copper cable would increase at RPI. Sky/TalkTalk said that it would be both reasonable and consistent to adopt the same assumption in respect of scrap copper prices. Using such prices (rather than BT's internal forecasts of falling copper scrap unit prices) would result (assuming constant volumes) in an estimate of copper scrap income which was still higher than BT's internal forecast. In Sky/TalkTalk's view, this would be the appropriate level of CRI which Ofcom should have forecast in its 2012 Statement.[9]

13.12 Sky/TalkTalk said that it was incumbent on Ofcom to ensure that its forecasts of CRI were robustly and transparently justified. That obligation was reinforced by the fact that, under the income approach, it was particularly important to forecast the CRI arising during the charge control period accurately.[10]

13.13 Sky/TalkTalk said that, as set out above, Ofcom had provided no explanation of how its forecasts of CRI had been derived or calculated. They said that this was a particular problem in circumstances where, first, Ofcom had adopted a forecast which involved a drastic fall in CRI and, second, Ofcom's forecast was at odds with other available information.[11]

13.14 Sky/TalkTalk said that in their letter of 24 April 2012 in response to queries submitted on their behalf by Andrew Heaney at TalkTalk in a letter dated 2 April 2012, Ofcom explained that: 'We understand that [the fall in scrap copper income] is because the cost of recovery is increasing as it is increasingly difficult to predict where copper can be recovered from' (without further detail or explaining the basis for this 'understanding'). Sky/TalkTalk said that this suggested that Ofcom simply accepted submissions made by BT at face value. They said that this approach was not sufficient. In *CPW*, the CC found against Ofcom for accepting a similar submission from BT that the scope for efficiency gains could be expected to taper as it became more difficult to find efficiencies, without there being any robust evidence in support of that proposition.[12]

13.15 Mr Duckworth said that Ofcom sought information on the discrepancy between the forecast and the management accounts as part of a section 135 request dated 20 September 2011, requesting: [✂].[13]

13.16 He said that Openreach's response was as follows:

[✂][14]

13.17 Mr Duckworth said that TalkTalk's and Sky's legal representatives requested details of BT's management accounts to gain a better understanding of the information available to Ofcom at the time Ofcom decided to leave the initial forecast unchanged. While BT did not provide the complete accounts, it provided three sets of information relating to copper cable scrap recovery income:

(a) the OOI figure in Openreach's management accounts for 2010/11;

(b) a breakdown of OOI by month showing 'Cable recovery + sundries' separately; and

[9] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 1, ¶62.
[10] Sky/TalkTalk NoA, ¶126.
[11] Sky/TalkTalk NoA, ¶127.
[12] Sky/TalkTalk NoA, ¶128.
[13] Sky/TalkTalk 3rd W/S Duckworth, ¶3.10.
[14] Sky/TalkTalk 3rd W/S Duckworth, ¶3.11.

(c) an email from [✂] of BT to [✂] of BT dated 16 September 2011 showing an internal forecast of CRI to 2013/14.[15]

13.18 He said that while Ofcom clearly had access to the OOI data from Openreach's management accounts, the further information providing greater detail and BT's forecast of future income was not provided by BT to Ofcom following Ofcom's request for clarification.[16]

13.19 Mr Duckworth said that Table 13.1 below compared BT's forecast from August 2010 with the out-turn OOI from the Openreach management accounts, showing separately the part related to CRI.[17]

TABLE 13.1 **OOI 2010/11—Model Forecast and out-turn**

£ million

	Forecast	*Out-turn*	*Discrepancy*
Total OOI	[✂]	[✂]	[✂]
Of which 'cable recovery and sundries' (CRI)	[✂]	[✂]	[✂]

Source: Sky/TalkTalk 3rd W/S Duckworth, ¶3.14.

13.20 He said that while the overall out-turn level of OOI was [✂] per cent higher than forecast, the part relating to CRI was substantially ([✂] per cent) higher than forecast. Given the large discrepancy between the known data for 2010/11 and the forecast used in the cost model, it would have been reasonable for Ofcom to investigate the matter further and if necessary revise the forecast of OOI and the CRI component of OOI for the rest of the forecast period.[18]

13.21 Mr Duckworth said that BT's internal forecast, as outlined in the email of 16 September 2011, indicated that BT had information which would have indicated that the forecast in the Ofcom cost model was understated. Table 13.2 below compares the BT internal forecast for CRI with that used by Ofcom.[19]

TABLE 13.2 **Comparison of CF model and BT forecasts for CRI**

£ million

	2009/10	*2010/11*	*2011/12*	*2012/13*	*2013/14*
Ofcom model	[✂]	[✂]	[✂]	[✂]	[✂]
BT internal forecast		[✂]	[✂]	[✂]	[✂]
Difference		[✂]	[✂]	[✂]	[✂]

Source: Sky/TalkTalk 3rd W/S Duckworth, ¶3.16.

13.22 Mr Duckworth said that clearly, had BT made Ofcom aware of its own internal forecast, Ofcom would have been likely to revise the forecast in the cost model.[20]

13.23 Sky/TalkTalk contended that in all the circumstances, Ofcom's forecast trend of CRI (an 80 per cent decline in income from 2009/10 to 2013/14) was not plausible and

[15] Sky/TalkTalk 3rd W/S Duckworth, ¶3.12.
[16] Sky/TalkTalk 3rd W/S Duckworth, ¶3.13.
[17] Sky/TalkTalk 3rd W/S Duckworth, ¶3.14.
[18] Sky/TalkTalk 3rd W/S Duckworth, ¶3.15.
[19] Sky/TalkTalk 3rd W/S Duckworth, ¶3.16.
[20] Sky/TalkTalk 3rd W/S Duckworth, ¶3.17.

should be re-estimated using the method set out in Mr Duckworth's witness statements.[21]

Revised forecast in light of BT's internal forecast

13.24 Mr Duckworth said that a reasonable assumption for the price movements in copper scrap, consistent with the assumption of the movement in copper cable unit costs, would be that copper prices would move in line with general inflation as well, ie that copper prices would increase by 11.7 per cent between 2010/11 and 2013/14. If Ofcom were to have used the BT internal forecast, which implicitly assumed a certain volume of copper recovery (albeit at lower prices than Ofcom), then it would have been appropriate to adjust BT's internal forecast upwards to take account of Ofcom's higher inflation assumptions, while maintaining the volume of scrap copper in the BT internal forecast. He said that BT had noted two factors to account for the reduction in CRI in the forecast period:

(a) a reduction in scrap prices; and

(b) a reduction in the volume of scrap.[22]

13.25 He said that a neutral assumption would be that both factors contributed equally to the reduction from £[✂] million in 2010/11 to £[✂] million in 2013/14. This would imply a reduction in volume of copper scrap of [✂] per cent and a similar reduction in the price of copper scrap. Replacing the assumption on price movements with Ofcom's inflation assumption of an increase of 11.7 per cent would result in a forecast for CRI of £[✂] million in 2013/14.[23]

Summary of Ofcom's arguments

13.26 According to Ofcom:

(a) its approach was sufficiently transparent and properly justified;

(b) Sky/TalkTalk's preferred approach of using RPI indexation was overly simplistic and less likely to reflect reality than using BT's forecasts (as Ofcom did); and

(c) it correctly identified the difference between BT's forecasts and out-turn management accounts for 2010/11 and investigated it reasonably and properly. Ofcom exercised its statutory powers to request an explanation from BT, and BT provided a response which stated that it had obtained higher revenues from CRI in 2010/11 but that this was not likely to be recurring. Ofcom submitted that it had acted properly, reasonably and proportionately in accepting BT's response.

13.27 During the appeal process, BT had disclosed to Sky/TalkTalk an internal email that appeared to include estimates of future scrap copper sales which were higher than the estimates provided to Ofcom; Ofcom did not comment on what (if any) impact the information contained in the email would have had if it had been disclosed to it at the time.[24]

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[21] Sky/TalkTalk NoA, ¶129B.
[22] Sky/TalkTalk 3rd W/S Duckworth, ¶3.24.
[23] Sky/TalkTalk 3rd W/S Duckworth, ¶3.25.
[24] Ofcom Defence (Sky/TalkTalk Appeal), ¶E4.

Ofcom's approach to copper scrap was properly justified and reasonably transparent

13.28 In relation to Sky/TalkTalk's allegation that 'Ofcom has provided no explanation of how its forecasts of CRI have been derived or calculated', Ofcom noted that it used BT's own forecasts and explained its approach to an extent which was reasonable having regard to both confidentiality and proportionality:

(a) On the actual OOI forecast figures, the March 2011 Consultation set out a forecast fall in OOI Repayment Works per MPF line (from £1.85 to £0.35). It also set out the falls in WLR and MPF unit costs. This information could be used by stakeholders to calculate that CRS OOI Repayment works amounted to about £44 million in 2009/10 and £8 million in 2013/14—a fall of 80 per cent.

(b) In the March 2011 Consultation, Ofcom explained in general terms that 'the modelling ... contains data supplied by Openreach with respect to its business which has been obtained under the Act'.

(c) In cases where Ofcom amended BT's figures for aggregate costs, this was highlighted in the 2012 Statement (Figure 6.3). For example, Ofcom did amend the basis on which BT allocated CRI to particular services, and this was addressed in the 2012 Statement (paragraph A4.231).

(d) The 2012 Statement (paragraph A4.17) re-presented the unit cost information from paragraph A8.10 of the March 2011 Consultation. OOI Repayment Works per MPF line fell from £2.89 to £0.66. Once again, this information could be used to calculate that CRS OOI Repayment works amounted to about £70 million in 2009/10 and £15 million in 2013/14—a fall of 80 per cent. Whilst the 80 per cent fall in income was the same as in the March 2011 Consultation, the start and end income had increased as a result of Ofcom's reallocation adjustment.

(e) Ofcom considered that it was not, however, required to address in the 2012 Statement every cost line where it did not amend BT's figure. Given the size of the model and the number of variables, it would clearly have been disproportionate for Ofcom in the 2012 Statement to (i) explain BT's approach to every variable; and (ii) explain why Ofcom was adopting BT's approach to that variable.

(f) During the administrative process, stakeholders had an opportunity to ask questions which Ofcom sought to answer (while respecting commercial confidentiality). The response to stakeholder queries included a number of questions on OOI (albeit related to allocation rather than the aggregate forecast). Stakeholders did not raise any queries regarding the forecast fall in OOI repayment works per MPF line. When Sky/TalkTalk did ask about this on 2 April 2012 (after the end of the administrative process), Ofcom provided an explanation of the allocation of OOI and set out BT's explanation for the predicted fall in income.

(g) One issue that arose in relation to OOI/CRI was the variance between the figures predicted by its model and the actual results in Openreach's March 2010/11 management accounts. This issue, and Ofcom's response to it, was referred to in the 2012 Statement (paragraph A10.14), although confidentiality necessarily limited the amount of detail that could be given. Ofcom also explained in the 2012 Statement the nature of OOI and repayment works and that Ofcom had considered making an aggregate adjustment (paragraphs A4.229 to A4.230).[25]

[25] Ofcom Defence (Sky/TalkTalk Appeal), ¶E5.

13.29 Ofcom said that it had provided a proper explanation of its approach having regard to the need to respect BT's commercial confidentiality. In any event, Sky/TalkTalk had now received further confidential information about CRI, and the focus of their complaint now was on the reasonableness of the figures in Ofcom's model rather than how fully Ofcom's approach had been explained previously.[26]

Ofcom was correct not to use RPI to predict income from copper scrap

13.30 Ofcom said that forecasting CRI involved an exercise of judgement. It was not directly linked to activity levels, and Ofcom had no material that would have justified it in differing from BT's own forecasts. CRI represented the net proceeds after deducting the cost of extracting the copper from the revenue derived from selling it. Over time, there may be variation in: *(a)* the price of copper; *(b)* the costs of extracting it; and *(c)* the volume of copper recovered (in particular, BT considered that copper might become harder to extract). As Mr Duckworth noted,[27] BT's forecast did not disaggregate the fall in scrap copper income between price and volume effects.[28]

13.31 Ofcom's decision to base its modelling on BT's forecasts rather than using an indexation approach was an exercise of modelling judgement, in respect of which it was entitled to a wide margin of appreciation on appeal.[29]

13.32 According to Ofcom, Sky/TalkTalk's argument that it should have used RPI was overly simplistic and there was no basis for concluding that it was likely to provide a better approximation of reality than the use of BT's own forecasts. In particular:

(a) It was not correct to say that Ofcom used RPI indexation for 'the unit cost for acquiring copper cable' (NoA, paragraph 129A.3). Ofcom's copper capital expenditure forecast was based on grossing up volume-driven labour costs (2012 Statement, paragraphs A6.2 to A6.6): the labour element of capital expenditure was inflated by labour inflation; the non-labour element was based on a fixed gross-up factor of the labour element. Although there was an RPI assumption within the RAV model for copper holding gain, this related to the labour and non-labour (including copper cable) elements: it was not based on a detailed assessment as to future copper price movements but on Ofcom's use of the Regulatory Asset Valuation (RAV) for valuing pre-1997 copper.

(b) Even if the price of scrap copper were assumed to increase by RPI, that would not cause CRI to increase by RPI, because the impact of an increase in the copper price would be offset by any increase in the cost of extracting it (which may inflate at a greater or lesser rate than the price of copper).

(c) RPI could not reflect the effects of variations in the volume of recovered copper.

(d) BT's forecasts were stated in nominal terms and therefore built in BT's view of the impact of inflation.[30]

13.33 Ofcom said that BT was well placed to make such forecasts in that it could take account of its own information, prior experience and future plans. There was no reason to think that using RPI would produce a better model of reality than using BT's own forecasts (and ample reasons to think it would produce a worse one). Even

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[26] Ofcom Defence (Sky/TalkTalk Appeal), ¶E6.
[27] Third W/S Duckworth, 3.21.
[28] Ofcom Defence (Sky/TalkTalk Appeal), ¶E7.
[29] Ofcom Defence (Sky/TalkTalk Appeal), ¶E8.
[30] Ofcom Defence (Sky/TalkTalk Appeal), ¶E9.

if that were not accepted, Ofcom's decision to use BT's forecasts was nevertheless well within the scope of permissible modelling judgement.[31]

Ofcom properly investigated the variance between forecast and actual figures

13.34 As set out in the 2012 Statement (paragraph A10.10ff), Ofcom performed a reconciliation between the 2010/11 outputs of its model and the actual results in Openreach's March 2010/11 management accounts. As stated in paragraph A10.12:

> The analysis set out below showed that the total modelled cost forecast for Openreach was £41m lower than what Openreach actually achieved in the 2011 Management Accounts. The big differences were due to one off items which were not explicitly considered within our assumptions, rather than issues with the main assumptions themselves.

13.35 OOI was 'the first significant difference' (paragraph 10.14) and Ofcom investigated this matter further by means of its 11th section 135 request for information on 20 September 2011, to which BT responded on 4 October. Mr Duckworth argued that: 'Given the large discrepancy between the known data for 2010/11 and the forecast used in the cost model, it would have been reasonable for Ofcom to investigate the matter further'. Ofcom said that this was precisely what it did.[32]

13.36 Ofcom said that it asked BT for [✂]. It said that BT's response was:

[✂]

13.37 Ofcom considered this explanation and reviewed it in the light of its forecasts of volume and capital expenditure. The answer appeared reasonable and consistent with Ofcom's estimated copper capital expenditure: in the light of Ofcom's forecast of only a slight reduction in the number of copper lines, Ofcom did not expect the net proceeds of selling copper scrap removed from the network to be in the region of £90 million, when the forecast of total capex going into the network (including installation and construction costs, as well as the value of the new copper) was £160 million in 2013/14. Ofcom said that it acted entirely reasonably in accepting BT's explanation that the net income of £90 million for 2010/11 would not be repeated in subsequent years.[33]

13.38 Ofcom said that on the basis that the higher revenues were not likely to be recurring and BT had not changed its forecasts, it would have been inappropriate for it to make an adjustment purely because there was a variance between the model and the management accounts: it adopted a holistic approach to the reconciliation and properly concluded that the model was working well overall (2012 Statement, paragraph A10.17) so it would have been inappropriate to cherry-pick individual adjustments.[34]

13.39 For the purpose of this appeal, Ofcom calculated that the cost of copper being put into the entire network would be around £64 million per year out of a total capex forecast in 2013/14 of £160 million. This reinforced Ofcom's judgement at the time that the forecast figures were reasonable.[35]

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[31] Ofcom Defence (Sky/TalkTalk Appeal), ¶E10.
[32] Ofcom Defence (Sky/TalkTalk Appeal), ¶E11.
[33] Ofcom Defence (Sky/TalkTalk Appeal), ¶E14.
[34] Ofcom Defence (Sky/TalkTalk Appeal), ¶E15.
[35] Ofcom Defence (Sky/TalkTalk Appeal), ¶E13.

The newly-disclosed BT email

13.40 With reference to the internal BT email from [✄] dated 16 September 2011, Ofcom noted the following:

(a) the email appeared to contain forecasts of CRI for 2011/12 to 2013/14 that were significantly higher than those provided by BT to Ofcom previously; and

(b) it appeared to have been prepared shortly after Ofcom's section 135 request was provided to BT in draft (on 8 September 2011).[36]

13.41 Ofcom denied that it failed to investigate the matter properly: it made a statutory request for the pertinent information and received an answer from BT which appeared to be reasonable.[37]

13.42 Ofcom said that it was entitled to expect that requests made under its statutory information-gathering powers would be taken seriously and answered properly. This was essential for the proper operation of the regulatory regime. Knowingly or recklessly providing false information in response to a statutory information requirement carried criminal penalties under section 144(3). In the circumstances, it was perfectly reasonable for it to rely on information provided by BT in response to a request made under its formal information-gathering powers.[38]

Summary of BT's Intervention

13.43 BT noted that Ofcom resisted this ground of appeal on the basis that it drew reasonable conclusions from the evidence available to it.[39] It said that there was, however, a more fundamental objection to Sky/TalkTalk's appeal, which it had outlined in the context of its appeal (Reference Question 1(iv) in the BT Appeal):

(a) In the 2012 Statement, Ofcom indicated that it wished to allocate CRI on the basis of cost causality and use of the assets from which the copper was recovered.

(b) In fact, the great majority of copper which BT expected to recover in the forecast period was wholly unconnected with the local access network. It related rather to the MUCJ network, which was outside the scope of the present appeal and the present charge control. It should not therefore be offset against the costs of the local access network at all.[40]

13.44 BT's view was that there was therefore no basis for applying the great majority of the relevant income to reduce the cost of MPF and WLR services, which were delivered over the local access network.[41]

13.45 BT said that the level of income derived from copper recovered from the access network in recent years had been low but stable; it accepted that this income should be allocated to MPF and WLR services.[42]

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[36] Ofcom Defence (Sky/TalkTalk Appeal), ¶E16.
[37] Ofcom Defence (Sky/TalkTalk Appeal), ¶E17.
[38] Ofcom Defence (Sky/TalkTalk Appeal), ¶E18.
[39] BT SoI (Sky/TalkTalk Appeal), ¶54.
[40] BT SoI (Sky/TalkTalk Appeal), ¶55.
[41] BT SoI (Sky/TalkTalk Appeal), ¶56.
[42] BT SoI (Sky/TalkTalk Appeal), ¶57.

13.46 BT noted that the practical effect of this point was that, if the CC found that Ofcom erred in respect of Reference Question 1(iv) of BT's appeal, this essentially superseded Sky/TalkTalk's ground of appeal.[43]

13.47 BT explained that the disclosed email exchange (see paragraphs 13.21, 13.40 and Table 13.2 above) was between junior members of the Openreach finance department and that the author had joined only three months beforehand. It said that the CRI forecast in the email exchange was a personal view which could at best be considered as an input or a starting point for discussions as part of the MTP process.[44] BT also submitted that an individual's opinion that had not been subject to appropriate internal scrutiny and governance would not be the right information for Ofcom to use.[45]

13.48 BT pointed out that the interpretation of the internal email did not affect either its own appeal or Sky/TalkTalk's. That was because, as noted above, the levels of copper recovery from the local access network which was used by the products in issue in these appeals were stable. The volatility which gave rise to Ofcom's section 135 request, and which was also raised by Sky/TalkTalk's appeal, related to copper recovered outside the local access network and which was used only by out-of-scope services. It did not affect the correct allocation of copper income, based on use, to WLR and MPF.[46]

Summary of Sky/TalkTalk's responsive arguments

Ofcom's Defence

13.49 Sky/TalkTalk responded to Ofcom's arguments under four headings:

(a) Ofcom's view that its approach to copper scrap was 'properly justified and reasonably transparent';

(b) Ofcom's contention that it was correct not to use RPI to predict income from copper scrap;

(c) Ofcom's view that it properly investigated the variance between forecast and actual figures; and

(d) the newly-disclosed BT email.[47]

- *Justification and transparency*

13.50 Sky/TalkTalk submitted that:

(a) The obligation on Ofcom to justify its forecasts could not be satisfied merely by stating clearly the numbers in the Consultation or Statement (which anyway it did not do). Rather, Ofcom should be able to give a reasoned justification for having adopted the forecast it in fact adopted. That was all the more important in the case of parameters as significant to the level of the charge control as the forecasts for CRI.

[43] BT SoI (Sky/TalkTalk Appeal), ¶58.
[44] Openreach letter to Ofcom, 20 September 2012.
[45] Openreach letter to Ofcom, 20 September 2012.
[46] BT SoI (Sky/TalkTalk Appeal), ¶60.
[47] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶168.

(b) In that regard, it did not make a difference whether Ofcom elected to adopt or amend BT's forecasts: in either case, it should be able to explain why it did so.

(c) Ofcom could not rely on the need to protect BT's commercial confidentiality. This was contradicted by Ofcom's own reliance on the point that it was possible to calculate the CRI forecasts from other information given in the 2012 Statement. Moreover, that would only prevent Ofcom from providing the forecast figures itself; it would not prevent Ofcom from explaining what steps it took to verify BT's forecasts and why it was or was not accepting them.

(d) The argument that it was sufficient that disclosure took place in the course of an appeal was a bad one. Transparency during the administrative process was one of Ofcom's duties and helped ensure reliable decisions. Further, one of the major purposes of transparency was that interested parties could exercise their right to appeal effectively and efficiently.[48]

- *The use of RPI to predict income from copper scrap*

13.51 Sky/TalkTalk responded that:

(a) Ofcom could not claim that the CC should afford respect to its exercise of discretion not to adopt an alternative forecast in circumstances where it had not actually exercised this discretion by considering whether it should adopt the alternative or not.

(b) An attack on a single alternative proposed by Sky/TalkTalk did not amount to a justification of the forecasts which Ofcom in fact adopted. If Ofcom did not want to use a neutral assumption (as described above), it could have adopted a number of other methods to assess the reliability of the BT forecasts and/or derive its own forecast. For example, Ofcom could have conducted an analysis of past trends by requesting historic data and an explanation for these from BT. Alternatively, Ofcom could have cross-checked the forecast CRI to capital expenditure on copper. However, Ofcom did not adopt either of these approaches.

(c) Ofcom's substantive criticisms of the use of the neutral assumption could, at best, explain why it did not assume that copper prices would evolve in line with RPI. Ofcom did not explain why it accepted a forecast of CRI reducing by 80 per cent across the charge control period which implied a significant fall in volumes and/or prices. Ofcom did not set out its own positive case on copper prices, and no case whatsoever in respect of the volume of copper recovery.

(d) It was not sufficient to state that BT was 'well-placed' to make the forecasts. BT plainly had a strong commercial interest, in the present case, of forecasting CRI at a low level, as this would result in higher WLR, SMPF and MPF prices. It was incumbent on Ofcom to scrutinize BT's forecasts (as it had done elsewhere). Ofcom could have adopted a number of options to assess the reliability of BT's forecasts. What it was not open to Ofcom to do, but what it apparently did, was to fail to assess BT's forecasts critically.[49]

[48] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶170.
[49] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶171.

- *Ofcom's investigation of the variance between forecast and actual figures*

13.52 On Ofcom's investigation of the variance between forecast and actual figures, Sky/ TalkTalk said that:

(a) The explanation in Ofcom's Defence amounted to no more than revealing that it preferred to rely upon BT's assertion despite clear and compelling evidence that BT's own forecasts had proven to substantially under-estimate the out-turn. Ofcom stated that it considered BT's explanation and 'reviewed it in the light of its forecasts of volume and capital expenditure'. Such a review was not explained in the 2012 Statement. Further, this claim that it had conducted a review in light of the capital expenditure seemed to be contradicted by Ofcom's comment in its Defence that it only made the relevant calculations for the capital expenditure cross-check in the course of these proceedings.

(b) Ofcom's explanation conflated two different issues: Ofcom's question to BT was, in effect, whether CRI was expected to continue at the level actually achieved in 2010/11. BT's answer to that enquiry was that it was not expected to continue at that level, but BT did not at that stage say that it would maintain its September 2010 forecast. Even if it was not expected that the specific levels achieved in 2010/11 would recur, that did not affect the point that the fact that BT had achieved much higher levels of CRI than it had forecast cast significant doubt upon that forecast.

(c) BT's response to the query was simply the statement that BT considered that the extraction of saleable copper would become harder, coupled with the suggestion that it was intending to review this issue. Even if it were true that extraction would become harder, that did not justify the view that CRI would fall by 80 per cent.[50]

- *The newly disclosed BT email*

13.53 Sky/TalkTalk noted that Ofcom had not set out any positive case as to the information set out in the internal BT email from [✄] to [✄] of 16 September 2011.[51]

13.54 Sky/TalkTalk pointed out that it appeared to them that BT considered that the figures in the email were reliable. Table 7 in the second Witness Statement of Mr Dolling set out information which he stated 'has been taken from standard management reports that have been used to generate the Openreach and BT Group profit and loss [which] are reported externally and are subject to external audit and scrutiny'. As Ofcom had pointed out in a letter to BT of 12 October 2012: 'The numbers for 2010/11 and 2011/12 [in that table] differ from those provided by Openreach in response to the section 135 notice but are much closer to those contained in [✄] email'.[52]

Sky/TalkTalk's view of BT's intervention

13.55 Sky/TalkTalk considered that BT's intervention was limited to putting the point raised in its own appeal, namely that it was claimed that the majority of copper which BT expected to recover was from its MUCJ network rather than the access network.

[50] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶172.
[51] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶173.
[52] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶175.

Notably, BT had not in its intervention explained why CRI would fall (which it had previously forecast and which was a central issue).[53]

13.56 They said that BT was wrong to say that, if BT's appeal was accepted by the CC, it superseded Sky/TalkTalk's ground. The two points were logically independent of one another. However, it was true to say that the ultimate answer in respect of CRI for MPF/WLR would depend on the outcome of both appeals.[54]

Assessment

13.57 We considered that the nub of Sky/TalkTalk's appeal was that Ofcom's forecast for CRI was unreliable and implausibly low. Three principal lines of argument were advanced:

(a) first, that Ofcom failed to justify properly its forecasts for CRI and that it should have revised them upwards in light of the differences which became apparent following publication of Openreach's March 2011 management accounts;

(b) second, that if Ofcom had available to it the subsequently disclosed BT email which contained a BT internal forecast, then it would have been likely to revise its forecasts for CRI upwards; and

(c) third, that the forecast should be revised by using an RPI assumption for copper prices instead of BT's forecast.

13.58 Following our assessment, we also set out any implications in respect of the Sky/TalkTalk appeal from our determination in Reference Question 1(iv) of the BT Appeal on CRI.

Failures of justification and defects in Ofcom's forecast

13.59 With regard to this line of argument, we considered that the thrust of Sky/TalkTalk's point was that Ofcom should have subjected BT's forecasts to greater scrutiny—in particular, it should have revisited and revised its forecast for CRI once the discrepancy between its forecast and the BT management accounts became apparent. We did not think that Sky/TalkTalk was arguing that Ofcom was in error by simply using BT's forecast. Nor did we think it was arguing that any alleged lack of clarity in Ofcom's methodology and/or explanation was of itself so deficient as to vitiate the CRI forecast. However, for the avoidance of doubt, we were not presented with evidence which would have led us to reach that conclusion.

13.60 We considered that Sky/TalkTalk's criticism was that Ofcom had failed to assess BT's forecasts critically;[55] that is, the original BT forecast and subsequently identified discrepancy needed to be subject to careful scrutiny to ensure robustness, and that Ofcom should not have accepted at face value assertions by BT which were not supported by strong and compelling evidence.[56]

13.61 The discrepancy (of [✂] per cent) between the management accounts and the CRI forecast used by Ofcom was significant. We would expect this degree of discrepancy to be identified and scrutinized by a regulator, and this is precisely what Ofcom did by

[53] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶178.
[54] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶179.
[55] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶171.
[56] Sky/TalkTalk NoA, ¶127.

asking BT for an explanation. Ofcom then considered the reasonableness of BT's explanation in light of its wider knowledge of likely volumes of scrap copper.

13.62 We considered that the existence of a large discrepancy in a volatile forecast item was not itself evidence of a lack of scrutiny. Overall, we concluded that Sky/TalkTalk had presented no evidence that the original BT forecast as well as the subsequent discrepancy and BT's explanation for the discrepancy were not subject to careful and more than adequate scrutiny by Ofcom.

Ofcom would have revised its forecast if it had access to BT's internal forecast

13.63 With regard to the BT internal forecast that was disclosed during these proceedings, we considered that the thrust of Sky/TalkTalk's argument was that had this been available to Ofcom, it would have been likely to revise its CRI forecast upwards.[57]

13.64 Based on BT's clarification with regard to the status of the email,[58] we judged that we could place little weight on the forecast that it contained. The email exchange was said to be between junior employees and had not been subject to the internal scrutiny and governance which it would require before being used by Ofcom. As such, we concluded that the BT internal forecast, had it been available to Ofcom in the form in which it was disclosed in these proceedings, would not have been likely to cause Ofcom to revise its forecast. Nor did we consider that it was evidence that Ofcom's CRI forecast was flawed.

Use of BT's forecast rather than RPI

13.65 We considered Sky/TalkTalk's argument that, rather than using BT's forecast, Ofcom should have used a forecast similar to that prepared by Mr Duckworth, which used an RPI assumption for copper prices. We believed that Sky/TalkTalk's key point in this regard was that Ofcom had failed to assess critically BT's CRI forecast (which we have addressed above). We did not consider that Sky/TalkTalk was arguing that in choosing to use BT's forecast, irrespective of the scrutiny which was subsequently given to it, Ofcom had made a mistake. However, for the avoidance of doubt, we did not consider that Ofcom's decision to use BT's forecast for CRI was wrong. We judged that starting with BT's forecast was well within the range of acceptable options which Ofcom could have chosen and consistent with the approach it has used in many other parts of the charge control.

Determination

13.66 Accordingly we find that Ofcom did not err in its assessment of CRI for the reasons set out in paragraphs 120 to 131 of Sky/TalkTalk's NoA.

Implications of both the BT Appeal (Question 1(iv)) and Sky/TalkTalk Appeal (Question 1(v)) on CRI

13.67 The outcome in respect of the CRI forecast is a function of both this Reference Question and Reference Question 1(iv) of the BT Appeal. We have found that Ofcom did not err in respect of this reference question but that it did err in respect of Reference Question 1(iv) of the BT Appeal.

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[57] Third W/S Duckworth, ¶3.17.
[58] Openreach letter to Ofcom, 20 September 2012.

13.68 BT's view was that if the CC found that Ofcom erred in respect of its appeal in this area, then this essentially superseded Sky/TalkTalk's ground of appeal.[59] Sky/TalkTalk disagreed with that view and said that the questions were logically independent. However, it agreed that the ultimate answer in respect of CRI for CRS would depend on the outcome of both appeals.[60]

13.69 In the BT Appeal, we considered that Ofcom's allocation methodology was at odds with the principle of cost causation which it was seeking to apply. This was because the majority of CRI was in fact recovered from services which are outside the scope of this charge control. We noted that BT said that the volatility which gave rise to the discrepancy between Ofcom's forecast and the management accounts, and which was raised in the Sky/TalkTalk Appeal, related to CRI recovered from outside the local access network.[61] In other words, the forecast volatility which is the subject of this appeal is principally caused by CRI which we found should not be allocated to the services in this charge control. We noted that the size of the CRI forecast would be very significantly reduced if it only related to in-scope CRI and this would result in a corresponding reduction in the impact of the alleged error.

13.70 Therefore, based on our determination in respect of Reference Question 1(iv) of the BT Appeal, we noted that even if we had found that Ofcom had incorrectly assessed CRI in the way that Sky/TalkTalk alleged, the impact of that mistake on the price control was likely to be immaterial.

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[59] BT SoI (Sky/TalkTalk Appeal), ¶58.
[60] Sky/TalkTalk Core Submission (Sky/TalkTalk Appeal), Volume 2, ¶179.
[61] BT SoI (Sky/TalkTalk Appeal), ¶60.

14. BT Appeal Reference Question 3 and Sky/TalkTalk Appeal Reference Question 2

Introduction

14.1. In this section, we first address the third Reference Question in the BT appeal (see paragraph 1.15) in respect of errors found in the context of Reference Questions 1(ii), 1(iv), 1(vii) and 1(vi). We then address the second Reference Question in the Sky/ TalkTalk Appeal (see paragraph 1.19) in respect of errors found in the context of Reference Questions 1(i) and 1(ii). Both of these require us to provide clear and precise guidance as to how any errors should be corrected. We then set out our determination as to any consequential adjustments to the charge controls in respect of both Appeals (paragraphs 14.188 to 14.191).

BT Appeal

Correcting the error in Question 1(ii) of the BT Appeal: cumulo rates

Our initial proposals

14.2. Our determination is that Ofcom erred by adopting a cumulo rates figure of £101 million in 2010/11 for the purposes of calculating the charge control.

14.3. We invited parties' submissions as to whether or not they agreed, and if not, why not, that this error should be corrected by using the estimated figure of £110 million in 2010/11 for the purpose of calculating the charge control.

Submissions of the parties

14.4. We received responses from BT, Ofcom and Sky/TalkTalk.

14.5. BT agreed with our proposal.[1] Ofcom said that it did not object to it.[2] Sky/TalkTalk disagreed with the CC's proposed correction and proposed an alternative. Their arguments and proposals are summarized below, followed by Ofcom and BT's responses and our overall conclusions on the appropriate correction for this Reference Question.

Sky/TalkTalk

14.6. In its response to the CC's Remedies Letter, Sky/TalkTalk proposed that an approximate figure of £[✂] million should be adopted in place of the CC's proposed £110 million. This figure was calculated in the following way: the CC's proposed £110 million less [✂] per cent of the difference between £110 million and Ofcom's original £101 million (this difference being the regulatory adjustment which was the subject of BT's appeal).[3]

14.7. Sky/TalkTalk's argument was that a significant portion of cumulo rates rebates received by BT were attributable to Openreach. They said that Ofcom appeared to allow for this in its description of rebates as being 'predominantly' related to BT's

[1] BT Submission on Remedies, ¶3.
[2] Ofcom Submission on Remedies, ¶30.
[3] Sky/TalkTalk Submission on Remedies, ¶4.5.

downstream activities.[4] Sky/TalkTalk calculated the proportion attributable to Openreach to be [✂] per cent in 2010/11. They proposed that this proportion of the regulatory adjustment, that was the subject of BT's complaint, be deducted from CC's proposed figure of £110 million.[5]

14.8. In its submission to the CC prior to the Remedies Hearing, Sky/TalkTalk also put forward an argument for using a figure of £87 million or lower for the 2013/14 forecast of Openreach's cumulo rates costs. They calculated this figure using BT's most recent rateable value.[6]

14.9. In the Remedies Hearing, Sky/TalkTalk clarified that its proposed correction was to adopt £87 million as the forecast for Openreach's cumulo rates costs in 2013/14 and to establish a glide path to arrive at this figure.[7]

Ofcom's response to Sky/TalkTalk's position

14.10. Ofcom said that its objective at the time of setting the charge control had been to set forecasts on the basis of BT's April 2010 rateable value. Changes to this value that resulted from 'material changes in circumstances' would not be taken into account.[8]

14.11. In this context, Ofcom said that it was relevant to distinguish between two categories of adjustment that had been referred to as rebates in parties' pleadings. It said that rebates resulting from increases in MPF lines constituted 'material changes in circumstances' and should not therefore be taken into account. However, adjustments relating to the difference between BT's forecasts and the actual April 2010 rateable value should be taken into account.

14.12. On this basis, in the Remedies Hearing, Ofcom went on to propose that the appropriate correction was to use a figure of £106 million. It said that this was calculated by adjusting the figure of £110 million in proportion to the difference between BT's forecast for its overall cumulo rates of £[✂] million and the actual April 2010 figure of £[✂] million (or a figure derived from it).[9]

14.13. Ofcom said that it did not consider it appropriate to adopt the latest available figures for the correction since this introduced the prospect of undermining incentive-based regulation.[10]

BT's response to Sky/TalkTalk's and Ofcom's positions

14.14. In BT's letter of 15 February 2013, it accepted Sky/TalkTalk's submission that some proportion of cumulo rates rebates was attributable to Openreach and apologized for its earlier mistake in stating that they were not.[11]

14.15. BT went on to argue that this issue was irrelevant to the question of the appropriate correction since Ofcom had determined that rebates arising from material changes in circumstances should not be taken into account in its forecasts.

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[4] Ofcom letter to CC, 14 January 2013.
[5] Sky/TalkTalk Submission on Remedies, ¶¶4.2–4.4.
[6] Sky/TalkTalk's submission for the Remedies Hearing, 27 February 2013, ¶¶18–23.
[7] Remedies Hearing, transcript, p140.
[8] Ofcom's submission for the Remedies Hearing, 27 February 2013, pp3–4.
[9] Remedies Hearing, transcript, p87.
[10] Remedies Hearing, transcript, p84.
[11] BT letter to CC, 15 February, 2013.

14.16. BT also argued that Ofcom had applied a net efficiency rate of 4.5 per cent to these cumulo rates forecasts even though such efficiencies were not achievable. It said that further anticipating rebates to these allowances was not warranted.

14.17. In the Remedies Hearing, BT corrected its position on the net efficiency rate and said that it now understood the annual reduction was not 4.5 per cent. It could not offer a revised net efficiency figure.[12]

14.18. In the Remedies Hearing, BT also explained that the regulatory adjustment itself related to a rebate receivable in respect of a prior year. On this basis, it said that the figure should not be taken into account in establishing a base year for forecasts.[13]

14.19. BT explained that it saw it as inappropriate to set the cumulo rates forecast with the benefit of hindsight, since that was not the point of its appeal and Ofcom had determined to use the position at 31 March 2011 for its forecasts.[14]

14.20. BT also argued that Ofcom had consciously taken the decision to continue using BT's forecast figures and not to adopt actual figures when they became available and had done so after performing a full review and reconciliation. BT said it would be unfair and moving regulation towards ex post to adopt the actual figure at this stage.[15]

Assessment

14.21. In the course of the remedies process, it became clear to us that the regulatory adjustment itself was not directly relevant to the issue of the appropriate correction since BT had explained that it related to prior years and not to the current charge control. We did not therefore accept the specific correction initially proposed by Sky/TalkTalk (see paragraph 14.6) since this was derived from the regulatory adjustment.

14.22. We found that Ofcom's position was clear in relation to it having determined to set the charge control on the basis of BT's April 2010 rateable value. In our view, it would not now be appropriate to set revised forecasts on the basis of the latest available position because Ofcom's determination on this fundamental issue had not been appealed. On this basis, we did not accept Sky/TalkTalk's alternative proposed remedy to adopt a figure of £87 million as the forecast for 2013/14 (see paragraph 14.8).

14.23. We accepted Ofcom's explanation that rebates arising during the charge control as a result of increases in MPF lines were not relevant since these were 'material changes in circumstances' that Ofcom had determined should not be taken into account in making its forecasts, as outlined in the 2012 Statement. On this basis, we remain persuaded that, consistent with Ofcom's approach, rebates should not be accounted for in the forecast of Openreach's cumulo rates costs.

14.24. We considered meaningful and relevant the distinction that Ofcom offered between such rebates and the discrepancy that could be observed between BT's forecast of its overall cumulo rates liability and the actual April 2010 figures. We understood Ofcom's proposed figure of £106 million to be calculated to address this discrepancy and arrive at a figure consistent with the actual April 2010 figure.

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[12] Remedies Hearing, transcript, p83.
[13] Remedies Hearing, transcript, pp79–82.
[14] Remedies Hearing, transcript, pp77–78.
[15] Remedies Hearing, transcript, pp77–78, pp140–141.

14.25. However, we agreed with BT that Ofcom had already reviewed and reconciled the difference between BT's forecasts and the actual figures when they became available. As a result of that exercise, Ofcom had decided to continue to use BT's forecasts.

14.26. We also noted that Ofcom, in its Defence, had argued that the increase from £101 million to £110 million, of which BT notified Ofcom in August 2011, would not necessarily have been sufficient to persuade Ofcom to change its forecast in September 2011.[16] On this basis, it seemed to us that the lesser difference between £110 million, being the forecast that BT intended to provide to Ofcom, and £106 million, being Ofcom's latest view of the actual April 2010 figure allocable to Openreach, would also have been deemed insufficient to have caused a revision to Ofcom's forecast.

14.27. This indicated to us that the remedy most consistent with Ofcom's approach to the charge control and most accurately directed towards correcting the error pleaded by BT was to adopt the estimated figure of £110 million.

Correcting the error in Question 1(iv) of the BT Appeal: copper recovery income

Our initial proposals

14.28. Our determination is that Ofcom erred by allocating most of CRI to the CRS when in fact the majority was recovered from out-of-scope services.

14.29. We invited parties' submissions as to whether there were any principled or practical reasons why this error should not be corrected by adopting the approach which had been put forward by BT, namely:

(a) allocating only in-scope CRI derived from BAU scrap (thereby excluding all CRI derived from the MUCJ network). The actual BAU income figure to be used would be the average level of CRI obtained from BAU scrap in the last three financial years, thereby giving an allocation of £3.2 million to BAU scrap; and

(b) allocating this BAU scrap income between services based on the currently used copper depreciation methodology.[17]

Submissions of the parties

14.30. We received responses from BT and from Ofcom. BT said that it agreed with the method proposed in the CC's Remedies Letter.[18] Ofcom noted that basing BT's BAU scrap on the last three years' figures did not provide a forecast figure for future recovery, which is what the model was seeking to capture. It said that in remedying the error identified, the CC would have to be satisfied that the number provided by BT was appropriate. It agreed with step *(b)* identified in the remedies letter (see paragraph 14.29).[19]

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[16] Ofcom Defence (BT Appeal), Annex B, ¶21.
[17] CC Remedies Letter.
[18] BT Submission on Remedies, ¶4.
[19] Ofcom Submission on Remedies, ¶32.

Assessment

14.31. In our view. we needed to determine whether the figures provided by BT for BAU scrap for the last three financial years were likely to be reasonably representative of future recoveries of copper.

14.32. We noted that CRI from BAU scrap had been rising in each of the last three financial years (see Table 4.4). This meant that any forecast based on an average for the last three financial years risked under-estimating the level of CRI from BAU scrap. We noted that BT said that it did not expect there to be a material difference between the level of CRI from BAU scrap of £[✂] million in 2011/12 and that forecast for 2013/14.[20]

14.33. For the purpose of correcting this error, we concluded that it would be most appropriate to adopt a conservative approach by rolling forward the actual figure for CRI from BAU scrap for 2011/12. We considered this to be a reasonable approach when checked against BT's forecast for CRI from BAU scrap for 2013/14. We have used up-to-date actual figures for correcting this error because Ofcom did not have a breakdown of copper recovery income in the way that is required to correct this error; we consider that in these circumstances it is appropriate for us to derive the relevant allocation from the best information available to us.

14.34. To summarize, the error should be corrected by:

(a) allocating only in-scope CRI derived from BAU scrap. The BAU scrap income figure to be used would be BT's actual figures for 2011/12 rolled forward, thereby giving an allocation of £[✂] million to BAU scrap; and

(b) allocating this BAU scrap income between services based on the currently used copper depreciation methodology.

Correcting the error in Question 1(vii) of the BT Appeal: MPF Single Migration

Our initial proposals

14.35. Our determination is that Ofcom erred:

(a) in its calculation of the price for MPF Single Migration, SMPF New Provide and SMPF Single Migration in 2012/13; and

(b) consequentially, in its calculation of the price in 2013/14.

14.36. We invited parties' submissions as to whether or not they agreed, and if not, why not, that this error should be corrected by using the following approach:

(a) setting the price for 2012/13 at the correct level of £33.89; and

(b) applying the RPI–X formula (RPI–11.3 per cent) to the correctly calculated charge for 2012/13 (ie £33.89) so as to give a correct price for 2013/14.[21]

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[20] BT letter to CC, 27 February 2013.
[21] CC Remedies Letter.

Submissions of the parties

14.37. We received responses from BT and Ofcom. BT said that the error should be corrected in the manner suggested by us in the Remedies Letter.[22] Ofcom agreed with our proposed of correction.[23]

Assessment

14.38. Both Ofcom and BT were in agreement with the proposed correction to this error and we received no other responses. We concluded that it should be corrected as outlined in the Remedies Letter and in paragraph 14.36 above.

Correcting the error in Question 1(vi) of the BT Appeal: line testing for copper lines

Our initial proposals

14.39. Our determination is that Ofcom erred by failing to allocate any share of the costs of line testing to MPF services.

14.40. We invited parties' submissions as to whether there were any principled or practical reasons why this error should not be corrected by using the approaches described below:

(a) allocating a share of Test Head costs to MPF services using a usage factor of one;

(b) allocating no share of Test Head costs to SMPF services; and

(c) continuing to allocate a share of Test Head costs to WLR services with a usage factor of one.

Submissions of the parties

14.41. We received responses from BT, EE and Ofcom. BT said that the error should be corrected in the manner suggested by us in our Remedies Letter.[24] EE agreed with our remedies proposal as a basis for correcting the error, without prejudice to its view that it disagreed with the conclusions on this Reference Question in our provisional determination.[25] Ofcom said that it had no principled or practical reasons why the error in relation to line testing should not be corrected using our proposed approach.[26]

Assessment

14.42. Ofcom, BT and EE were in agreement with the proposed correction to this error and we received no other responses. We concluded that it should be corrected as outlined in the Remedies Letter and in paragraph 14.40 above.

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[22] BT Submission on Remedies, ¶5.
[23] Ofcom Submission on Remedies, ¶33.
[24] BT Submission on Remedies, ¶6.
[25] EE submission on remedies, ¶1.
[26] Ofcom Submission on Remedies, ¶34.

Sky/Talk Talk Appeal

Correcting the error in Question Sky/TalkTalk 1(i): volumes of lines

Our initial proposals

14.43. Our determination is that Ofcom erred in forecasting volumes of MPF, SMPF and WLR services.

14.44. We invited submissions as to how these forecasts should be corrected, whether or not it would reasonably practicable to do so, or whether this is a matter that required remittal to Ofcom and, if so, what the terms of the remittal should be.

Submissions of the parties

14.45. We received responses from Ofcom, Sky/TalkTalk, BT and EE. We summarize each in turn. We set out the parties' views on whether to use up-to-date actual line volume data, what the line volume forecast should be, and the need for additional changes in Ofcom's model. At the end of this section, we set out a summary table of the revised line volume forecasts proposed by each party.

Ofcom

14.46. Ofcom said that it would be inappropriate to correct the specific error identified in its forecast with Sky/TalkTalk's own incorrect forecast.[27]

14.47. Ofcom considered that it was practicable to correct the specific error identified by the CC without it being necessary to remit the matter to Ofcom. It therefore proposed that the error be corrected using a disaggregated approach:

(a) not changing the mobile-only households and business lines elements of the forecast;[28] and

(b) changing the household growth and cable-competition elements of the forecast.[29]

14.48. Ofcom provided two scenarios:

(a) First, in its option A, it assumed that the negative effect of growth in mobile-only homes was offset exactly by household growth. It showed that the resulting change in line volumes over the two-year period 2012/13 to 2013/14 would be a loss of 205,000 lines, compared with its original forecast of a loss of 618,000 lines over the same period.[30]

(b) Second, in its option B, Ofcom assumed that its original cable forecast would be unchanged and that the household growth forecast would be as in option A (an increase of 132,000 over a two-year period). This resulted in a forecast loss of 335,000 lines over the same period.[31]

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[27] Ofcom Submission on Remedies, ¶36.
[28] At the Remedies Hearing, Ofcom said that if the CC wanted to reopen these forecasts, Ofcom would consider that remittal was appropriate. See Remedies Hearing transcript, p63.
[29] Ofcom Submission on Remedies, ¶¶37–38.
[30] Ofcom Submission on Remedies, 'Option A', pp13–15.
[31] Ofcom Submission on Remedies, 'Option B', pp13–15.

14.49. Ofcom said that the approach it outlined was consistent with the CC's guidelines in respect of remedies. In particular, the approach would:

(a) be consistent with the approach adopted in Ofcom's original decision;

(b) be simple and easy to implement; and

(c) diverge as little as possible from the path that Ofcom took in the Statement.[32]

14.50. Ofcom also carried out a sense check on the results of this approach by comparing the results to the latest volume data from Openreach. It said that this had not raised any issues.[33] However, Ofcom did not consider that it would be appropriate for the CC to use actual line volumes as part of its remedy because this would be inconsistent with Ofcom's general approach to incentive-based regulation and would not address the particular errors the CC had identified.[34]

14.51. Ofcom commented on the use of ONS data as a basis for forecasting household growth. Ofcom said that, consistent with its view in the Statement, there were (and remain) economic factors that would suggest new household formation remaining below long-term averages. Ofcom said that 67.5 per cent of new households might be expected to take a BT copper or FTTP line (based on a reduction of 16 per cent for cable, 15.5 per cent for mobile-only households and 1 per cent for households with no fixed or mobile line, as Ofcom used in its Statement). It added that FTTP take-up was not expected to be significant for the duration of this charge control.[35]

14.52. Following the Remedies Hearing, Ofcom set out the need for additional changes to its CA, CF and RAV models. It said that these changes were necessary because of the effect of line volumes on the estimates of both opex and capex (for dropwire and RAV). It said that in making these changes, it was necessary to make assumptions about the proportional split of increased line volumes between WLR and MPF. It suggested that this proportion should be as in the Statement, namely 63.3 per cent WLR and 36.7 per cent MPF. The estimated effect of these changes was a £0.01 increase in WLR Basic Rentals and MPF Rentals for the RAV capex impact and a £0.12 increase for the opex and non-RAV capex impact.[36]

Sky/TalkTalk

14.53. Sky/TalkTalk said that the remedy they proposed was simple and practicable and that the required data was before the CC. As a result, their view was that remittal to Ofcom was not required and not necessary.[37]

14.54. Sky/TalkTalk said that there were two possible approaches to correcting the error identified by the CC. These were:

(a) a 'univariate' approach, based on forecasting the current trend forward (as described in Mr Duckworth's first witness statement); or

(b) a 'disaggregated' approach, which attempts to understand the driver of each component of demand.[38]

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[32] Ofcom Submission on Remedies, ¶39.
[33] Ofcom Submission on Remedies, ¶40.
[34] Remedies Hearing transcript, pp63–64.
[35] Ofcom Response to CC's further remedies letter of 20 February 2013, 27 February 2013, pp1–2.
[36] Ofcom letter to CC, 8 March 2013.
[37] Sky/TalkTalk Submission on Remedies, ¶¶2.3 & 2.30.

14.55. Sky/Talk Talk said that an aggregate approach would be consistent with what Ofcom itself did.[39] They said that the latest KPI data from Openreach, which showed growth of 128,000 lines over two years (an average of 16,000 lines per quarter), supported Mr Duckworth's original aggregate forecast of trend growth of around 20,000 lines per quarter.[40] In the Remedies Hearing, Sky/Talk Talk said that BT's latest data gave a growth rate of 15,000 lines per quarter, so a sensible forecast would be somewhere between 15,000 and 20,000 lines per quarter.[41]

14.56. Sky/Talk Talk said that a disaggregated approach would depart from what Ofcom itself did and so would be contrary to the CC's guidelines that it would align the correction with Ofcom's approach in so far as that was possible.[42] However, they said that if a disaggregated approach were to be used by the CC, it should project line volumes forward from the most up-to-date actual figure for aggregate line volumes (to December 2012) rather than projecting from earlier data preceding the charge control. They said that it would be artificial and illogical to ignore actual data which was now available.[43] Sky/Talk Talk said that it was open to the CC to use data post-dating a decision taken by Ofcom, as set out in the CC's guidelines.[44]

14.57. Sky/Talk Talk said that they did not accept BT's and Ofcom's argument (see paragraphs 14.68 and 14.50 respectively) that using actual data would weaken incentives for BT to perform. They said that:

(a) Using actual data would only weaken incentives if in the future BT reduced its efforts to grow lines due to the possibility of a future appeal leading to the use of actual data. They said that this was a far-fetched scenario and would only have a minor impact.

(b) The variable being forecast was largely exogenous to BT and outside its control so its incentives could not be affected.

(c) The CC's task was to produce the most robust forecast possible to correct the error that has been found.

(d) BT would actually benefit from the use of actual data because actual line volumes had been depressed by BT's own performance on new provides, particularly over the summer period.[45]

14.58. Sky/Talk Talk also said that they did not accept that using actual data would allow gaming of the appeals process. They said that an appellant could not possibly know at the point of lodging an appeal two months after a price control determination whether the use of actual data would be to its advantage or disadvantage.[46]

14.59. Sky/TalkTalk made proposals as to how a disaggregated approach could be implemented as a cross-check against the aggregate forecast. The results of this approach are summarized below in Table 14.1.

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[38] Sky/TalkTalk Submission on Remedies, ¶2.4
[39] Remedies Hearing transcript, p133.
[40] Sky/TalkTalk Submission on Remedies, ¶¶2.5–2.8
[41] Remedies Hearing transcript, p12.
[42] Remedies Hearing transcript, p133.
[43] Sky/TalkTalk letter to CC, 27 February 2013.
[44] Remedies Hearing transcript, p130.
[45] Remedies Hearing transcript, pp9–10 & 132.
[46] Remedies Hearing transcript, p131.

TABLE 14.1 **Sky/TalkTalk's suggested disaggregated forecast (shown over a two-year period)**

Forecast factor	*Incremental impact on line volumes*	*Source*
New households	+444,000	Department for Local Communities and Government (DCLG) forecasts for household growth over period 2008 to 2013, adjusted for mobile-only households (15.5%)
Effect of mobile-only households	–130,000	Ofcom 2012 Statement
Household substitution by cable or fibre competition	0	Ofcom 2012 Statement
Analogue business lines	–150,000*	Trend since 2006, as shown in Ofcom's CMR 2011
Total impact over two years	+164,000	

Source: Sky/TalkTalk Response to the CC's Remedies Letter, 12 February 2013, Table 2, p13.

*At the Remedies Hearing, Sky/Talk Talk said that they stood by their forecast of a 150,000 decline in analogue business lines but accepted that there was no single perfect answer.[47]

14.60. This table shows that using the disaggregated approach put forward by Sky/TalkTalk indicated an increase of 164,000 lines over the two-year period 2012/13 to 2013/14. They said that this was consistent with the suggestions made by Mr Duckworth using an aggregate approach (which suggested a rise of around 160,000 lines over the two-year period 2012/13 to 2013/14).[48]

14.61. With regard to the household growth forecasts, Sky/Talk Talk said that:

(a) An alternative highly conservative approach to forecasting household growth would be to ignore any likely increase in growth rates indicated by DCLG data and instead assume that a growth rate of 220,000 per year (440,000 over two years), as identified by the ONS's Labour Force Survey in November 2012, would stay constant for the remainder of the charge control period.[49] At the Remedies Hearing, Sky/Talk Talk said that they had a slight preference for the DCLG data because it had been more consistent with actual household growth data over time.[50]

(b) The CC needed to be cautious about BT's proposal to use data on dwelling formation as a basis for forecasting household growth because there was not a direct one-to-one link between the construction of a dwelling and the formation of a household due to empty dwellings and households being formed through conversion of properties.[51]

(c) There was no need to adjust household growth forecasts for the impact of cable, as this had already been taken into account in the assumed flat absolute growth in cable subscribers, and that the impact of NGA would be negligible. They therefore considered that the household growth forecast only needed to be adjusted downwards by 15.5 per cent, to take account of mobile-only households (which was expressed as a proportion of households and not in absolute terms as for cable forecasts) plus 1 per cent for households that would be neither mobile or fixed line.[52]

[47] Remedies Hearing transcript, p13.
[48] Sky/TalkTalk Submission on Remedies, ¶2.22.
[49] Sky/Talk Talk letter to CC, 27 February 2013.
[50] Remedies Hearing transcript, p17.
[51] Remedies Hearing transcript, p18.
[52] Sky/Talk Talk letter to CC, 27 February 2013, and Remedies Hearing transcript, pp19–20.

14.62. Sky/TalkTalk's view was that their proposed approach could be implemented simply by applying the necessary adjustment in lines proportionately to the three relevant volume series in the CA and CF models, that is: *(a)* WLR Premium rentals; *(b)* WLR Basic rentals; and *(c)* MPF rentals.[53] They said that the adjustment factor could be calculated by comparing the new and original volume forecasts. Sky/TalkTalk said that its suggestion of volumes increasing at 80,000 a year (20,000 per quarter) would result in an uplift of 1.9 per cent in 2012/13 and 3.4 per cent in 2013/14.[54]

14.63. Sky/Talk Talk did not consider that further amendments needed to be made to Ofcom's model to take account of the impact of capital expenditure on new lines. They said that these changes were unnecessary and disproportionate complications which would lead to spurious accuracy.[55] Sky/Talk Talk further added that new provides and BT's capital expenditure were distinct matters which Ofcom considered separately and for which Ofcom provided different forecasts. This issue of BT's capital expenditure was not the subject of the appeal.[56]

14.64. Sky/Talk Talk added that:

(a) An increase in the forecast of number of lines did not automatically mean that there should be an increase in the number of new provides, and a number of assumptions would have to be made about the size of the effect.

(b) It was not clear that the existing forecast of new provides would be inconsistent with the revised line volumes forecast, and no evidence had been provided to show that would be.

(c) The way BT was suggesting Ofcom's model should be updated, by increasing volumes of one product to increase prices of a second product, may not result in robust estimates because of the way the model is constructed.

(d) The impact of any increased level of new provides on capital expenditure had a minimal impact on the level of the current charge control and, in any event, BT would recover in future charge controls the vast majority of any additional actual capital expenditure incurred in this charge control period.[57]

BT

14.65. BT submitted that the appropriate course of action was to remit the matter to Ofcom. This was because:

(a) There was a range of possible analyses for each of the drivers of volume growth (see Section 11 and Table 14.3 below). BT said that household growth was particularly complex, not susceptible to a right answer, and hence the CC had found that Ofcom should be afforded a significant margin of appreciation. It followed that the matter should be considered on remittal to the expert regulator rather than through litigation. BT's view was that this was particularly important given that Ofcom did not originally make or explain its forecast on a disaggregated

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[53] Sky/TalkTalk Submission on Remedies, ¶2.23.
[54] Sky/TalkTalk Submission on Remedies, ¶2.25 & Table 3 .
[55] Remedies Hearing transcript, p10.
[56] Sky/Talk Talk letter to CC, 14 March 2013.
[57] Sky/Talk Talk letter to CC, 14 March 2013.

basis. As a consequence, the CC had not had an opportunity to test the disaggregated point estimates provided by Ofcom.[58]

(b) Sky/TalkTalk had identified the item as having very significant value. It would therefore be wrong to determine this point without proper consultation and reflection. BT had concerns that a 'rough and ready' approach would not allow it to recover its efficiently incurred costs by a margin of many millions of pounds.[59]

(c) Modelling line volumes was complex and it was also necessary to determine:

(i) the mix of lines between WLR Basic, WLR Premium and MPF; and

(ii) any necessary adjustments to 'ancillary services', which it explained was the capital cost of installing new lines that would affect WLR New Provide and MPF New Provide.[60] In a letter to the CC following the Remedies Hearing, BT explained how these adjustments could be made to Ofcom's CF model by holding the mix of lines the same as in the Statement (ie not adjusting for (i) above).[61]

14.66. BT submitted that judgement was required in relation to each of the stages identified above and that it was more appropriate for that judgement to be exercised by Ofcom than for a necessarily approximate view to be taken as part of the appeal process. As a result, it considered remittal to Ofcom to be the most appropriate course of action.[62]

14.67. Without prejudice to its view that the matter should be remitted, BT commented on possible forecasts.

14.68. BT said that there were two fundamental reasons why the CC should not use up-to-date actual aggregate line volume data in setting a remedy:

(a) First, the CC had identified an error in specific elements of the line volume forecasts and aggregate data did not provide insight into how the different disaggregated drivers had moved.

(b) Second, any reliance on actual data to correct past forecasting judgements fundamentally worked against the RPI–X incentive-based regulation principles. It said that the volume of lines is not an exogenous variable and is influenced by Openreach's performance and decisions. Using actual data would potentially lead to a dangerous precedent being set.[63]

14.69. BT commented on the appropriate household growth forecasts. It said that the ONS data was not the most appropriate basis for estimating the level of incremental demand for copper lines caused by increases in the number of households. It said that the forecasts in the ONS data would lead to figures for the total level of households being some way higher than the volume of households in the 2011 census.[64]

[58] BT Submission on Remedies, ¶¶9–12.
[59] BT Submission on Remedies, ¶13.
[60] BT Submission on Remedies, ¶¶14 & 16.
[61] BT letter to CC, 8 March 2013. In the Remedies Hearing, BT said that a pro-rata approach to the overall mix of different services might be broadly reasonable. See Remedies Hearing transcript, p34.
[62] BT Submission on Remedies, ¶¶18–19.
[63] Remedies Hearing transcript, pp21–22 & 29, and BT letter to CC, 27 February 2013, p5.
[64] BT letter to CC, 27 February 2013, p4.

14.70. BT said that its medium term plan (MTP) reflected an assumption of just over 120,000 new households per year, which was closer to that in DCLG data in respect of changes in the stock of dwellings. BT said that the change in the stock of dwellings would be a more reasonable view. It recognized that there may be a difference in the number of dwellings and the number of households due to the level of vacant premises at any one time, but it submitted that there was no strong evidence to suggest the current household growth would be driven down by the level of vacant properties below historic percentage levels of around 2 to 3 per cent. BT said that its position was therefore that observed changes in housing stock and reported levels of new build completions provided a more reliable measure of how demand for copper lines might change.[65]

14.71. Overall, BT said that the data on household growth indicated that a change in households of 0.5 to 0.6 per cent per year, amounting to a change of 120,000 to 150,000 households each year, would be a reasonable place to start.[66]

14.72. BT said that in addition to Ofcom's proposed adjustments to household growth to take account of mobile-only households and cable households (see paragraph 14.48), adjustments also needed to be made because:

(a) There was every reason to believe that there would be a higher volume of mobile-only households in this group because single-person households were the largest single driver of household growth and the propensity to use only a mobile would be larger among this group.

(b) Consideration also needed to be given to the impact of FTTP, which would not be zero impact as assumed by Ofcom.[67]

14.73. BT also added that further adjustments needed to be made to the Ofcom model to allow for the effect on capital expenditure of increased new provides (see paragraph 14.52 above).

EE

14.74. EE submitted that it was practicable for the CC to correct Ofcom's line volume fore-casts during the remedies stage of the appeal. EE's view was that remitting the matter to Ofcom would lead to a less timely remedy and that continuation of the error would have a detrimental impact on its business and allow BT to continue to reap unintended windfall profits.[68]

14.75. EE said that the necessary information was readily available to the CC or could be provided by the parties, and the calculations required to make the amendment were relatively straightforward. It suggested keeping the proportions of different services constant, as per Ofcom's original forecast.[69]

14.76. EE said that in reaching appropriate forecasts the CC should project forward from the average number of actual lines in March 2012 to the end of the charge control period. EE said that this was the appropriate starting point because Ofcom's Statement was published in that month. It said that actual data should be used to

[65] BT letter to CC, 27 February 2013, p4.
[66] Remedies Hearing transcript, pp25 & 42.
[67] BT letter to CC, 27 February 2013, p5, and Remedies Hearing transcript, p45.
[68] EE Submission on Remedies, ¶3.
[69] EE Submission on Remedies, ¶3 & fn37.

March 2012 because the more recent months had been depressed as BT experienced serious provisioning problems due to bad weather.[70]

14.77. EE did not accept BT's argument that using up-to-date data would affect BT's incentives. It said that it agreed with the reasons given by Sky/Talk Talk (see paragraph 14.57).[71]

14.78. EE considered that there were two reasonable approaches to correcting the forecasts. These were: first, using an aggregate approach (Approach 1); and second, using the individual demand drivers used in the CC's provisional determination (Approach 2).

14.79. In Approach 1, EE assumed that the trend from Q3 2009/10 of an increase of 29,800 lines per quarter identified by EE and in the expert report of Reynolds & Young using econometric analysis would remain over the charge control period. It was not aware of any reason why the key drivers of volumes would be different over the next two years and therefore said that it would expect the approach to be reasonable based on the analysis of the individual drivers of demand.[72]

14.80. EE submitted that KPI data showed that the total number of Openreach lines had increased significantly over the last two years. However, due to it not incorporating Ofcom's adjustments (for example, to exclude lines in Northern Ireland) and the distortion caused by flooding in late 2012, it did not provide the best basis for forecasting.[73]

14.81. EE stated that the result of Approach 1 was [✂] over the two-year period 2011/12 to 2013/14.[74]

14.82. EE said that its Approach 2 built on the CC's assessment of Ofcom's analysis and that the major drivers could be forecast with respect to longer-term trends. EE said that the CC should take into account the most up-to-date information in relation to all the key drivers of line volumes. It said that failure to do so would lead to a charge control that did not best promote the relevant statutory criteria, taking into account current market conditions.[75]

14.83. EE provided an analysis of each of the individual drivers of this forecast, a summary of which can be seen below in Table 14.2.

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70 Remedies Hearing transcript, p47.
71 Remedies Hearing transcript, p135.
72 EE Submission on Remedies, ¶¶12–15.
73 EE Submission on Remedies, ¶¶16–18.
74 EE Submission on Remedies, Table 1, p10.
75 EE letter to CC, 26 February 2013, p3.

TABLE 14.2 **Summary of EE's 'Approach 2'**

Driver	*Impact over two years 2011/12–2013/14*	*Rationale*
New households	+442,000	DCLG household growth forecast with adjustment for 16% mobile-only households
Mobile-only	0	Ofcom's Consumer Experience report, January 2013, now indicated share of mobile-only households had remained flat at 15%. EE said that the most up-to-date Ofcom data should be used.
Total business lines	–205,000	Ofcom 2012 Statement. Forecast was reasonable and consistent with the CC's provisional determination.
Cable	0	Consistent with no material change in Virgin Media cable telephony customers over the last 2 years (with a decrease in cable share of 45,300 lines from Q1 2010 to Q4 2011 and an increase in share of 46,400 lines from Q4 2011 to Q4 2012)
FTTP / NGN	0	FTTP is still being trialled, BT has noted FTTC is of more general relevance and customers taking FFTP may retain a copper line for voice services
Total net change	**+237,000**	

Source: EE Response to CC Remedies Letter, 11 February 2013, Tables 2–3 & ¶¶20–32 and EE letter to CC, 26 February 2013, pp3–8.

14.84. EE said that the analysis of the individual components of demand in Approach 2 produced a forecast that was very close to simply projecting forward Ofcom's data series (ie Approach 1). EE's view was that the methodology of the first approach was superior but that Approach 2 nonetheless represented a useful cross-check that the forecast generated by Approach 1 was reasonable.[76]

14.85. With regard to household growth forecasts, EE said that the ONS's LFS showed an increase in the number of households between 2011 and 2012 of 220,000 households. It said that this data incorporated the impact of economic conditions, housing shortages and any changes in the mix of households on household formation. It said that this would therefore be an alternative, very conservative assumption for household growth.[77] EE added that the LFS data had potential to bounce around whereas the DCLG data was relatively stable, and it therefore had a preference for the DCLG data.[78] EE cautioned against using dwelling as a measure of household growth because new housebuilding represented only around 75 per cent of growth in households.[79]

14.86. EE considered it necessary to adjust the figure for household growth to take account of mobile-only households (which it said should be a 15 per cent reduction) but it did not consider it necessary to make any adjustment for cable households (for the same reasons as Sky/Talk Talk—see paragraph 14.61) or FTTP.

14.87. In terms of consequential adjustments to Ofcom's model, EE said that the mix of volumes of lines between MPF, WLR and SMPF should be set in the same proportions as in the Statement.[80]

14.88. EE said that BT's proposal to make adjustments to capital expenditure to allow for increased new provides (see paragraph 14.73) was not a matter that was the subject of the Reference Question. EE said that it had not been established that Ofcom had under-estimated the number of new lines/connections because this was a separate matter on which Ofcom prepared separate forecasts and took separate

[76] EE Submission on Remedies, ¶34.
[77] EE letter to CC, 27 February 2013, p6.
[78] Remedies Hearing transcript, pp55–56.
[79] Remedies Hearing transcript, pp57–58.
[80] Remedies Hearing transcript, p53.

considerations into account. In particular, EE said that the number of new households was not the same as the number of new lines/connections because some households would involve occupation of previously empty homes and/or converted properties. EE added that changing new provide assumptions might affect other assumptions in Ofcom's model which had not been fully considered at this stage.[81]

14.89. EE also said that BT's proposed adjustment created an inconsistency because it covered both years of the charge control whereas the line volume error would only be corrected in the final year of the charge control. EE said that any such adjustment could be best taken into account in the next charge control. [82]

Summary table of revised forecasts proposed by parties

14.90. Table 14.3 sets out a summary of the revised forecasts proposed by parties.

TABLE 14.3 **Line volume forecasts proposed by the parties**

'000

	Ofcom original forecast	*Ofcom Option A*	*Ofcom Option B*	*Sky/ TalkTalk*	*EE*	*BT*
Mobile-only	–132.8	–132	–132	–130	0	–264
Cable/NGA	–130	0	–130	0	0	–173
Household growth	–150.1	+132	+132	+444	+442	+100
Business lines	–205	–205	–205	–150	–205	–263
Total	–618	–205	–335	+164	+237	–600

Source: Sky/TalkTalk, EE, BT and Ofcom line volume forecasts proposed to CC.

14.91. Table 14.4 summarizes the revised forecasts for household growth proposed by the parties.

TABLE 14.4 **Forecasts for household growth proposed by the parties**

'000

	Sky/TalkTalk base case	*Sky/TalkTalk highly conserva-tive case*	*EE base case*	*EE very conserva-tive case*	*BT*	*Ofcom*
Household data	DCLG +526	ONS +440	DCLG +526	ONS +440	DCLG	ONS
Adjustments						
Mobile-only (%)	–15.5	–15.5	–15	–15		–15.5
Cable (%)	0	0	0	0		–16
Other (%)	0	0	–1	–1		–1
Total change due to household growth	+440	+371.8	+441.8	+369.6	+200	

Source: Sky/TalkTalk, EE, BT and Ofcom forecasts for household growth presented to CC.

Assessment

14.92. Ofcom, Sky/TalkTalk and EE seemed to be broadly in agreement that the error could be corrected without remittal and further consideration by Ofcom. BT's view was that the issue should be remitted to Ofcom.

[81] EE letter to CC, 11 March 2013.
[82] EE letter to CC, 11 March 2013.

14.93. In our view, given the relatively short time remaining in the current charge control, it would be preferable to correct the error without further delay, provided that we were confident that such a correction was appropriate, effective and practicable. In considering the appropriate correction we have been mindful of our guidance, namely that remedies will normally follow an approach that is consistent with that adopted in Ofcom's original decision and should ideally be simple and easy to implement. In general, we will try to bring the price control to where it would have been if Ofcom had not made the error.[83]

14.94. We considered that to select the appropriate correction there were four questions which were relevant for us to consider:

(a) what the appropriate starting point would be for the forecast;

(b) whether an aggregated or disaggregated approach should be taken;

(c) what a reasonable forecast would be; and

(d) what additional changes may be required to Ofcom's model.

What the appropriate starting point would be for the forecast

14.95. In its Statement, Ofcom used BT actual line volume data up to Q2 2011/12 (ie September 2011).[84] The question arose if we should use the same starting point as Ofcom to correct the error, or if we should update the starting point based on up-to-date actual volume data.

14.96. We note that the CC's Guidelines state in paragraph 3.33[85] that during the remedies phase the CC may have regard to evidence relating to the period following Ofcom's decision which would not have been available to Ofcom at the time of its decision. We do not consider it appropriate for us to correct a forecasting error on the basis of a starting point that we know to be wrong.

14.97. We do not consider that using aggregated actual data is inconsistent with our decision that there has been a mistake in Ofcom's assumptions primarily regarding household growth but also cable. Our assessment was that the overall forecast was in error *because of* these mistakes. We consider that it is open to us to examine aggregated data as well as disaggregated information. We note that Ofcom itself used data as up to date as it could when making its forecasts. We consider that our approach of using up-to-date data is therefore consistent with that used by Ofcom in its Statement.

14.98. We did not accept BT's and Ofcom's argument that using up-to-date actual data would damage incentives for BT under RPI–X regulation. In reaching this view, we placed particular weight on the arguments put forward by Sky/Talk Talk and EE (see paragraphs 14.57 and 14.77) that:

(a) Using actual data would only weaken incentives if in the future BT reduced its efforts to grow lines due to the possibility of an appeal leading to the use of actual data. We considered this risk to be slim.

[83] *CC 13*, Annex B: Principles for the consideration of Remedies.
[84] Ofcom Defence, Annex A, ¶12.
[85] *CC13*.

(b) The variable being forecast was largely exogenous to BT and outside its control so its incentives would very likely not be affected.

14.99. We also found the possibility that using up-to-date data would lead to gaming of the appeals process remote (see paragraph 14.58), particularly given the uncertainty of the effect of movements in actual data at the point at which Ofcom's decision must be appealed.

14.100. Having decided to use actual up-to-date data, we then considered whether it was appropriate to start from the earlier date of Q4 2011/12 (March 2012), as suggested by EE, rather than the most recent point of Q3 2012/13 (December 2012), as suggested by Sky/Talk Talk. In our view, adopting EE's approach would be inconsistent with an approach of taking into account the most up-to-date actual information. We consider it appropriate to take into account the effect of any muted growth in the volumes of lines when forming our forecasts. We therefore decided to use BT's actual volume data for the period to Q3 2012/13 and to forecast from this point onwards. The relevant data is set out in Table 14.5 and Figure 14.1.

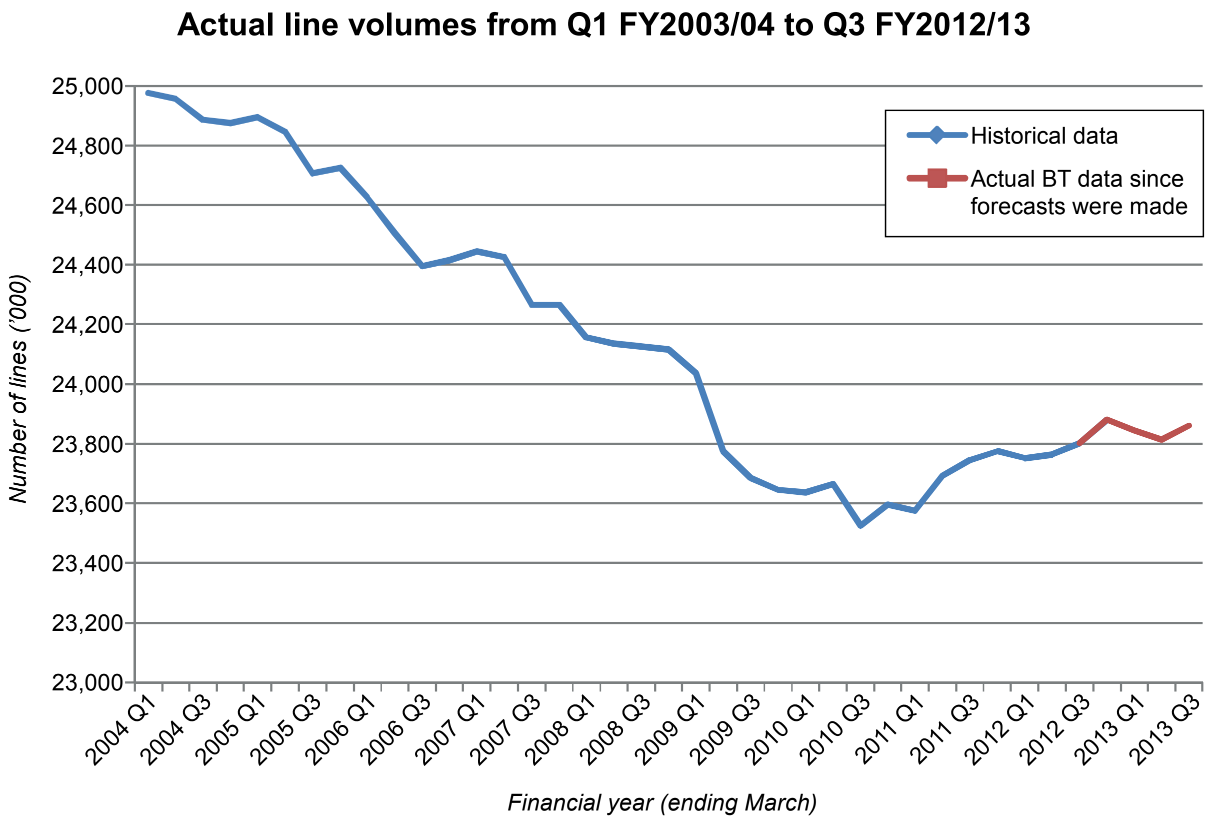
TABLE 14.5 **BT actual line volume data, Q1 2011/12 to Q3 2012/13**

'000 lines

	Q1 2011/12	*Q2 2011/12*	*Q3 2011/12*	*Q4 2011/12*	*Q1 2012/13*	*Q2 2012/13*	*Q3 2012/13*
BT actuals	23,752	23,764	23,802	23,880	23,845	23,814	23,861
YOY change	176	72	57	105	93	50	59

Source: BT data.

FIGURE 14.1



Source: BT data.
Note: Years in the chart refer to financial years such that Q2 2012 is Q2 2011/12.

Whether an aggregated or disaggregated approach should be taken

14.101. In selecting an approach, we considered that there were two alternatives to consider:

(a) an aggregated approach; or

(b) a disaggregated approach.

14.102. We did not consider that these two approaches were mutually exclusive. In particular, one could use either approach as a cross-check against the other, as suggested by Sky/Talk Talk and EE.

14.103. As Ofcom's forecast in its Statement was based on an aggregated approach with a disaggregated cross-check, we considered that adopting the same approach would be preferable, mindful of our guidelines which state that we will normally follow an approach that is consistent with that adopted in Ofcom's original decision.[86] We therefore initially examined the trend in overall line volumes before considering the specific drivers of line volumes. In considering the drivers of the forecast, we were seeking to check whether they gave a result consistent with the aggregate forecast, with a view to modifying the aggregate forecast as necessary to take these drivers into account.

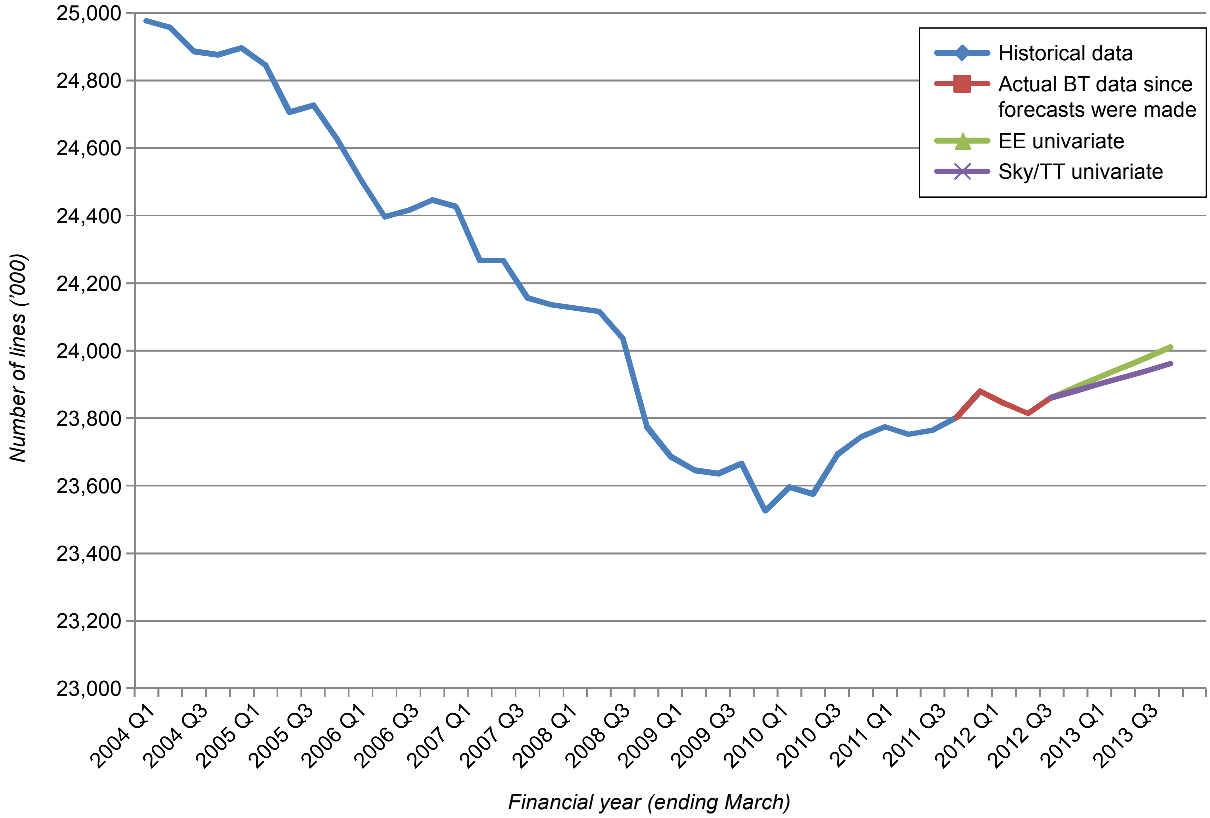
What a reasonable forecast would be

14.104. Figure 14.2 shows actual line volumes from 2003/04 Q1 to 2012/13 Q3. It then shows the EE and Sky/Talk Talk aggregate forecasts which are based on the trend in the data from the 'turning point' in 2009/10 Q3.

[86] *CC13*, Annex B, ¶2.

FIGURE 14.2

Actual line volumes from Q1 FY2003/4 to Q3 FY2012/13 with Sky/TalkTalk and EE aggregate forecasts



Source: BT data, Sky/TalkTalk and EE aggregate line volume forecasts.
Note: Years in the chart refer to financial years such that Q2 2012 is Q2 2011/12.

14.105. Any examination of a trend in data will depend on the starting point of the analysis. As noted above, EE and Sky/TalkTalk started their examination from Q3 2009/10 to arrive at a forecast of 29,800 lines and 15,000 to 20,000 lines per quarter respectively. We considered that this would be a high case forecast, particularly when the trend over the last two years showed a relatively flat profile in the last four quarters and total line volumes increasing by around 100,000 over the last two years (12,500 per quarter), including two quarters of falling line volumes in 2012/13. We considered EE's warning that this may be due to adverse weather conditions and noted that this may mean that those falling quarters would not be representative of future trends.

14.106. Overall, we considered that the data in the aggregated approach indicated that line volumes would be likely to increase over the remainder of the charge control period. We then sought to check whether this trend was consistent with the underlying drivers of line volumes by using a disaggregated approach as a cross-check.

14.107. We found that there was no basis for changing the mobile-only forecasts or business lines forecasts from those proposed by Ofcom in its Statement. First, we did not find any mistakes in these factors underpinning Ofcom's forecast. Second, the evidence from Sky/TalkTalk and EE did not persuade us that these forecasts should be changed:

(a) On business lines, Sky/TalkTalk said that they stood by their forecast of a 150,000 decline in analogue business lines but accepted that there was no single perfect answer.

(b) On mobile-only households, Sky/TalkTalk did not make a case for this forecast being changed and the evidence provided by EE regarding recent Ofcom figures on changes to the mobile share was insufficient to persuade us that Ofcom's proposed adjustment of an increase from 15 to 15.5 per cent was anything but a reasonable forecast to maintain.

14.108. Based on this, we judged that we should focus on amending those two drivers of the forecast where we had identified an issue and where the evidence pointed towards the need for a different forecast: primarily household growth but also cable competition.

14.109. In our view, and in line with the available evidence, the cable forecast should reflect the fact that take-up has plateaued and that cable take-up should not impact on the forecast to a significant degree. We considered that there were a range of forecasts which could reflect this view, including both slightly negative and positive forecasts. We judged that a forecast of zero would be within the range of reasonable outcomes based on the evidence available to us. Sky/TalkTalk, EE and Ofcom (in its option A) put forward a similar proposal.

14.110. We considered whether this forecast of zero growth should include the effect of cable take-up in new households, or whether we would additionally need to allow for some effect of cable take-up when considering the effect of household growth. In our view, the original assumption by Ofcom was made on the basis of negative household growth. This would mean that it would not have taken into account the effect of new households. We therefore decided that the effect of cable take-up on existing lines would be neutral (ie zero impact) but that overall, given that there would be projected household growth, some of which would take cable, cable take-up would have a slightly negative impact on the volumes of lines. We decided to capture this effect when adjusting household growth figures downwards (see paragraph 14.113).

14.111. We noted that the forecast for household growth was an area where significant difference existed between the parties. BT suggested that this factor might account for approximately an additional 100,000 lines over the two-year period, whereas Sky/TalkTalk and EE suggested around an additional 440,000 lines over the two-year period.

14.112. In our view, the appropriate measure for forecasting growth is new households. We accepted EE and Sky/TalkTalk's arguments that dwellings growth would underestimate the growth in demand for copper lines because it would not take into account conversions, for example. We could see no reason to prefer either the DCLG data or the ONS LFS data, although we noted the DCLG data had in the past followed actual trends more closely. So we considered outcomes using both data sets.

14.113. We considered it necessary to adjust this growth rate for mobile-only households, cable take-up (see paragraph 14.110 above) and households not taking either a fixed line or a mobile. With the exception of the cable assumption, this seemed to be broadly accepted by all parties. We did not consider it necessary to adjust for FTTP or to make any other adjustments to this forecast. Again, this seemed to be accepted by all parties except BT, but we saw no reason to change from Ofcom's view that FTTP would have minimal impact on household growth and we were provided with no evidence that would lead us to do so.

14.114. Table 14.6 sets out two scenarios for household growth based on the above approach. It shows the effect over a two-year period.

TABLE 14.6 **CC Scenario 1 and Scenario 2 for household growth**

'000 lines

	Scenario 1	*Scenario 2*
Household growth data	DCLG	ONS 2008–2012 CAGR
	+526	+338
Adjustments		
Mobile-only (%)	–15.5	–15.5
Cable (%)	–16	–16
Other (%)	–1	–1
Total change due to household growth	+355	+228

Source: CC analysis.

14.115. Table 14.7 sets out our overall view of the disaggregated data based on the two household growth scenarios above.

TABLE 14.7 **CC summary of disaggregated approach based on Scenario 1 and Scenario 2 for household growth**

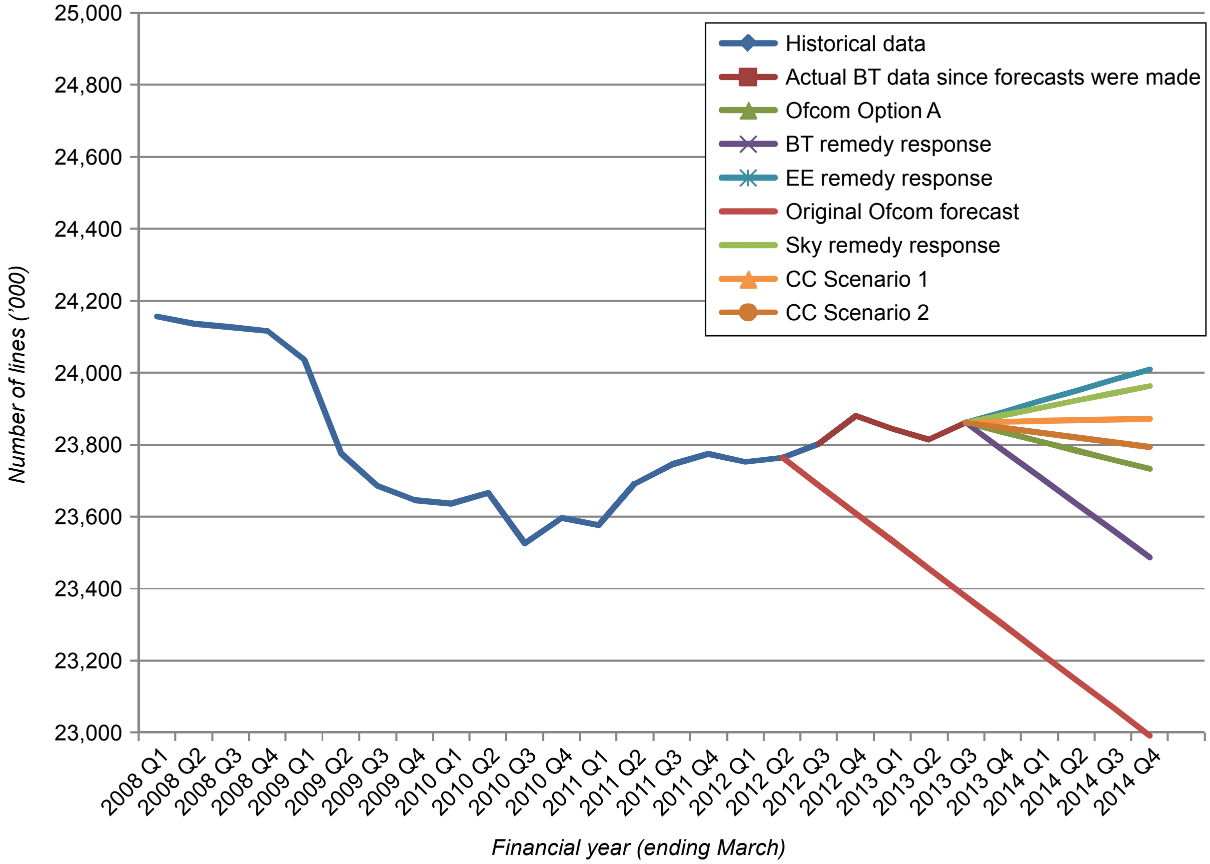
Driver	*Scenario 1*	*Scenario 2*
New households	+355,000	+228,000
Mobile-only	–132,000	–132,000
Total business lines	–205,000	–205,000
Cable	0	0
FTTP / NGN	0	0
Total net change	+18,000	–109,000

Source: CC analysis.

14.116. We cross-checked this analysis back to our aggregated approach in paragraphs 14.104 to 14.106 above. Figure 14.3 shows Scenarios 1 and 2 set against the different forecasts produced by the parties:

FIGURE 14.3

CC Scenario 1 and Scenario 2 compared with other forecasts produced by the parties



Source: CC disaggregated approach (see Table 14.7 above) and remedies forecasts suggested by BT, EE and Sky/TalkTalk.

14.117. We concluded on the basis of the cross-check that we needed to ensure consistency between the aggregate forecasts and the underlying drivers of line volumes. Scenario 1 in Table 4.7 shows a modest increase in line volumes which, in our view, is broadly consistent with the aggregate forecast. We therefore concluded that the forecast fall in line volumes equivalent to a fall of 618,000 lines over two years should be corrected to an increase equivalent to 18,000 lines over the same two-year period. This amounts to an increase of 2,250 lines per quarter. This increase would be applied from Q3 2012/13 giving 23,872,000 lines at the end of Q4 2013/14.

What additional corrections would be required to Ofcom's model

14.118. We saw no reason to assume that this change in the volume of lines would be apportioned any differently between WLR, MPF and SMPF than Ofcom has set out in its Statement. We therefore decided to assume that the increase in line volumes would be applied proportionately to each of WLR, MPF and SMPF in each year of the charge control consistent with the forecasts in Ofcom's Statement.

14.119. We considered Ofcom's and BT's submissions that the capital expenditure assumed in the Ofcom model was based on assumptions about the volume of provision work. We noted that the capital expenditure in the model is determined by the volumes of WLR Basic New Provide and MPF New Provide but recovered from the rental products that use the dropwire (ie the WLR and MPF rentals). BT and Ofcom both suggested that this effect should be taken into account in the model by updating the amount of new provides in each year of the charge control. In our view, this change, which is a consequential change required as a result of the change in the forecast of line volumes, is required in principle in order properly to correct the error we had identified.

14.120. We considered carefully the objections to this correction that were raised by Sky/TalkTalk and EE (see paragraphs 14.63, 14.64 and 14.87 to 14.89) above):

(a) In our view, the fact that the new provide forecasts were not appealed should not preclude us from making the right correction to the error that we have found. Indeed, to correct one error only to create another error would seem to us to be an inconsistent and undesirable approach.

(b) Similarly, we considered that it would be wrong to rely on the opening RAV of the next price control to minimize any effect of failing to correct the error properly. This is particularly the case when correcting the error in the way described by BT and Ofcom is not complex and so there is no need to rely on subsequent charge controls to minimize the effects of any non-correction.

(c) We noted EE's and Sky/TalkTalk's concerns that making this change would have further effects on costs that were not otherwise adjusted. We found that these alleged effects were not well particularized and so we had no evidence to suggest that they were relevant or material.

(d) We considered Sky/TalkTalk and EE's view that Ofcom's original new provide forecast did not need to be changed because it was not clear that it was inconsistent with the revised line volume forecasts. For us to reach this view, we would need to have found that Ofcom's original new provide forecasts were inconsistent with its original forecasts for household growth. Since this point had not been appealed, we had no basis on which to find that this was the case. We therefore proceeded on the basis that Ofcom's original new provide forecast was consistent with its original line volume forecast. In our view, it follows that, to implement the correction correctly, any changes made to the original line volume forecast should also be reflected in the new provide forecast.

14.121. On the basis of the above, we concluded that changes to the line volumes would also have an impact on the new provide volumes for MPF and WLR. We therefore considered it necessary to increase the volume of new provides by 355,000 lines[87] (see paragraph 14.114 and Table 14.6), which would be split according to the proportions of WLR and MPF lines in each year of the charge control (63.3:36.7 per cent in 2013/14 and similar in other years). It would also be necessary to assume an increase in SMPF lines of 1.5 per cent consistent with Ofcom's approach to the Statement (this is in recognition that an increase in WLR lines is also likely to lead to an increase in SMPF lines).

[87] This covers the two-year period from 2011/12 to 2013/14. We did not take actual data for new provides for the first three quarters of 2012/13 (as we have done for the line volume forecast) as this data was not available.

Correcting the error in Question 1(ii) of the Sky/TT Appeal: fault rates

Our initial proposals

14.122. Our determination is that Ofcom erred by not taking into account the effect of young lines on MPF fault rates.

14.123. We invited submissions as to how this error might be corrected, including commenting on Sky/TalkTalk's proposed approaches (as described in paragraph 10.32 above) of either:

(a) making adjustments to the MPF fault rate per line used in the cost forecast and cost allocation models reflecting the expected fault rate in 2013/14 based on a lower rate of installation; or

(b) adjusting the cost forecast and cost allocation models to reflect the causal relationship between installations and a proportion of faults.

14.124. We invited comment on whether it would be feasible and practicable to include the additional costs from faults in young lines within new provide/migration charges rather than the annual rental charge.

14.125. We invited submissions on the extent of further work which might be required before being able to adopt any of the approaches above and how much time and resource the suggested approaches required. We also invited submissions on whether this was a matter that required remittal to Ofcom and, if so, what the terms of the remittal should be.

Submissions of the parties

14.126. We received responses from Ofcom, BT and Sky/TalkTalk covering a range of areas. These responses are summarized below as follows:

(a) how a correction should be made and whether it should be remitted to Ofcom;

(b) whether a split between new provides and migrations is required;

(c) how dropwire/NTE should be dealt with;

(d) BT's additional data; and

(e) Sky/TalkTalk's additional data.

How a correction should be made and whether it should be remitted to Ofcom

14.127. Sky/TalkTalk submitted that correction of the error did not require remittal to Ofcom. This was because the CC had sufficient information to correct the error, and it was proportionate and in the interests of justice and competition for the CC to correct it.[88] It told us that if the CC did not make a correction but remitted the issue to Ofcom, then, due to the use of the glide path, an inflated MPF fault rate charge would persist up to March 2015.[89]

[88] Sky/TalkTalk Submission on Remedies, ¶3.2.
[89] Remedies Hearing transcript,, p97.

14.128. Sky/TalkTalk said that the following options existed for the CC to correct the error:

(a) *Option 1.* Adjust the CA model[90] so that the relative allocation of fault repair costs in 2013/14 between MPF and WLR reflected the expected fault rates, taking into account the reduction in the proportion of MPF 'young lines'. This was the method used in Mr Duckworth's 1st Witness Statement.

(b) *Option 2a.* Adjust both the CA and the CF model so that the relative driver of fault repair costs in 2013/14 between MPF and WLR reflected the expected fault rates, taking into account the reduction in the proportion of 'young lines'.

(c) *Option 2b.* In addition to adjusting the CA model as in option 1 above, adjust the CF model to take account of the reduced expected fault rate on MPF lines over time by separately forecasting the incremental faults resulting from new lines.

(d) *Option 3.* Adopt the approach outlined in 2b but recover incremental costs for new lines from new provide/migration services.[91]

14.129. Sky/TalkTalk's view was that these options required a successively greater number of changes requiring more assumptions to be made and more and increasingly complex calculations. In addition, given the nature of the model, there would be 'knock-on' effects for other services. Finally, more complex calculations might increase the theoretical precision of the results, but if the uncertainty in the data was of greater magnitude, the impact of the increased precision would not be material.[92]

14.130. It was therefore Sky/TalkTalk's opinion that a simple adjustment to the factor used in the CA model (Option 1 outlined in paragraph14.128) would be the most appropriate correction. It would be implemented as follows:

(a) estimate the proportionate reduction in fault rates, in percentage terms, due to the reduction in the proportion of young lines between the period when relative fault rates were measured by BT to the final year of the forecast, 2013/14; and then

(b) reduce the allocation key for MPF services for fault repair activities by the percentage calculated.[93] The correction proposed by Sky/TalkTalk is set out below in Table 14.8.

[90] The CF model forecasts out costs for the charge control period, the CA model then allocates these costs between the different types of services
[91] Sky/TalkTalk Submission on Remedies, ¶3.2.
[92] Sky/TalkTalk Submission on Remedies, ¶3.21–3.23.
[93] Sky/TalkTalk Submission on Remedies, ¶3.25 & 3.39–3.41.

TABLE 14.8 **Sky/TalkTalk proposals for corrections to fault rate due to young lines effect**

	Relative fault rate	Service Level Usage	Usage factor
Repair of E-Side and D-Side Copper (Access Faults)			
WLR Basic	1.000	1.000	1.000
WLR Premium	1.000	1.057	1.057
MPF (Statement)	1.040	1.057	1.099
SMPF	0.150	1.057	0.159
[✂]			
[✂]	[✂]	[✂]	[✂]
Repair of Dropwire and NTE			
WLR Basic	1.000	1.000	1.000
WLR Premium	1.000	1.057	1.057
MPF (Statement)	0.970	1.057	1.025
SMPF	1.020	1.057	1.078
[✂]			
[✂]	[✂]	[✂]	[✂]
Repairs on Main Distribution Frame (Exchange faults)			
WLR Basic	1.000	1.000	1.000
WLR Premium	1.000	1.057	1.057
MPF (Statement)	2.130	1.057	2.251
SMPF	0.710	1.057	0.750
[✂]			
[✂]	[✂]	[✂]	[✂]

Source: Sky/TalkTalk letter to CC, 8 March 2013, Attachment 2.

14.131. Sky/TalkTalk told us that as Ofcom used a glide path from the opening charge to the final year of the charge (2013/14), the focus should be on calculating the charge for 2013/14 correctly. That is, if the 2013/14 forecast was correct, ‘you do not have to worry too much about the other forecast years’.[94] BT and Ofcom both told us that they agreed with this view.[95]

14.132. Ofcom’s view was that the available evidence on fault rates was insufficient and conflicting and therefore the appropriate course of action for the CC/CAT was to remit the issue to Ofcom.[96] It suggested the areas where further work would need to be completed, which included seeking further data on faults from BT.[97]

14.133. Ofcom agreed in principle that it would be necessary to change the allocation usage factor in the CA model to implement any correction.[98]

14.134. It disagreed with the proposal to adjust to the MPF fault rate per line in the CF model. This was because:

(a) the CF model did not forecast faults at a service level (eg MPF) but rather by type of fault (eg Network Exchange); and

(b) the forecasts in the CF model were derived on a different basis from those in the CA model.[99]

[94] Remedies Hearing transcript, p99.
[95] Remedies Hearing transcript, p110, 119.
[96] Ofcom letters to CC, 27 February 2013, p2, and 8 March 2013, p2.
[97] Ofcom Submission on Remedies, ¶¶47–48.
[98] Ofcom Submission on Remedies, ¶42.
[99] Ofcom Submission on Remedies, ¶43.

14.135. Ofcom said that an approach of including the cost of faults on young lines with the new provide/migration charge was feasible but was unlikely to be practical based on the information it had seen to date. It also expressed some reservations about the potential impact of such a correction on competition (due to higher switching costs).[100] BT's view was that adjusting the fault rate per line in the CA and CF model was the most straightforward correction to implement—but that its analysis showed that this change would not be material.[101]

14.136. It said that the second of Sky/TalkTalk's proposed approaches (ie adjusting the cost forecast and cost allocation models to reflect the causal relationship between installations and a proportion of faults), whilst in theory more precise than the first approach, would be more difficult to implement and would require remittal to Ofcom. It said that this approach would also rely on data which was not available to Ofcom at the time it took its decision.[102]

14.137. With regard to the suggestion that the cost of faults on young lines could be included within the new provide/migration charge, BT's view was that it would be complex to implement and would also rely on data Ofcom could not have taken into account (as described above in paragraph 14.136).[103]

14.138. BT told us that early life lines had higher fault rates than established lines. However, its data (see paragraphs 14.147 to 14.151) showed that the effect of increased fault rates for early life lines was much lower than that submitted by Sky/TalkTalk. It told us that, given that the BT data was comprehensive and covered all MPF faults, the CC had no reason to prefer the Sky/TalkTalk data.[104] Given that the BT data was comprehensive, its view was that the only thing the CC could do would be to accept the BT data, or remit the matter to Ofcom.[105]

Whether a split between new provides and migrations is required

14.139. Sky/TalkTalk said that the CC considered that to correct this error, separate data on the fault rate for new provides and migrations was required. It said that this data could be derived from existing data provided to the CC[106] and that Table 14.9 below for TalkTalk showed that the fault rate for new provides was about 30 per cent lower than that of migrations. They said that Table 14.10 data provided by Sky showed that the fault rate for new provides was broadly equal to other types of acquisition in aggregate.[107]

TABLE 14.9 **Early life fault rates for TalkTalk by form of acquisition**

[✄]

Source: Sky/TalkTalk Response to Remedies Letter, 12 February 2013, Table 4. Originally presented as Sky/TalkTalk letter to CC, 20 December 2012, Confidential Annex D.

[100] Ofcom Submission on Remedies, ¶45.
[101] BT Submission on Remedies, ¶21.
[102] BT Submission on Remedies, ¶22.
[103] BT Submission on Remedies, ¶23.
[104] Remedies Hearing transcript, p105 .
[105] Remedies Hearing transcript, p106.
[106] Sky/TalkTalk Submission on Remedies, ¶3.2.
[107] Sky/TalkTalk Submission on Remedies, ¶¶3.10–3.11.

TABLE 14.10 **Early life fault rates for new provides and other acquisitions—Sky data**

[✄]

Source: Sky/TalkTalk Response to Remedies Letter, 12 February 2013, Table 5. Originally presented as Sky/TalkTalk letter to CC, 20 December 2012, Confidential Annex C.

14.140. Sky/TalkTalk submitted that this data was in line with what might be expected—stopped line takeovers had higher fault rates than new provides since they might accumulate unreported faults prior to handover and were not as thoroughly tested as new provides. They also noted that this data was representative of the whole MPF base since Sky and TalkTalk together accounted for 95 per cent of all MPF connections.[108]

14.141. Sky/TalkTalk said that in modelling a correction for access faults, the TalkTalk data showed that new provides had a 30 per cent lower fault rate than migrations; and the Sky data suggested that they were about the same. They therefore considered that a pragmatic, simple and conservative approach would be to assume that the fault rates for new provides and migrations are the same.[109]

14.142. Ofcom said that the approach outlined by Mr Duckworth assumed that there was no need to distinguish between migrations and new provides in order to adjust for the error. It said that the CC did not have before it the data necessary to reach a view on the validity of this assumption and further work would need to be undertaken in this area.[110] However, it subsequently told us that it was comfortable with the approach of assuming that the fault rates would be the same.[111]

14.143. BT told us that in theory it would be preferable to distinguish between new provides and migrations, but that in practice if the CC were using BT's data it would be a small correction and therefore not worth making this distinction.[112]

How dropwire/NTE faults should be dealt with

14.144. Sky/TalkTalk noted that the data presented for access faults comprised all of E-side, D-side, dropwire/NTE faults together. There was no evidence to disaggregate the specific effect of dropwire/NTE faults. They said that it followed that if fault elevations were lower for one type of fault, they must be higher for the others. For example, if the CC were to consider that there was no rationale for dropwire/NTE faults to be elevated for young lines, then this would imply higher than average fault elevation for E-side/D-side.[113]

14.145. Sky/TalkTalk suggested that there were two alternative methods to reflect this evidence:

(a) assume dropwire/NTE faults were equally elevated as E-side/D-side faults and make the same correction to dropwire/NTE as for E-side/D-side; or

(b) assume that dropwire/NTE faults were not (or are less) elevated, in which case the elevation of E-side/D-side faults must be higher.

[108] Sky/TalkTalk Submission on Remedies, ¶¶3.12–3.13.
[109] Sky/TalkTalk Submission on Remedies, ¶3.14.
[110] Ofcom letter to CC, 8 March 2013, p2.
[111] Remedies Hearing transcript, p120.
[112] Remedies Hearing transcript, p114.
[113] Sky/TalkTalk Submission on Remedies, ¶3.16.

14.146. Sky/TalkTalk considered that option *(a)* above was the simplest approach for the CC to follow and that Ofcom had adopted a similar approach in the absence of disaggregated fault rates in the access network.[114] Sky/TalkTalk therefore submitted that the adjustment should apply across each of access and dropwire/NTE faults in aggregate.[115]

BT's additional data

14.147. During the remedies phase, BT carried out an analysis of data on all MPF fault rates (not just those of Sky/TalkTalk) for the period from October 2009 to January 2011. This covered most of the period over which Ofcom had based its assessment of relative fault rates.

14.148. It said that this data showed that the incomplete data presented by Sky/TalkTalk pointed to a fault rate on young lines ten times higher than that indicated by BT data for the period addressed by Ofcom.[116] A summary of this data is set out below in Table 14.11.

TABLE 14.11 **Reduction in overall fault rate due to lower percentage of young lines**

[✂]

Source: BT's Response to the CC's provisional determination, ¶114.

Note: BT's calculation steps are as follows:
(a) Total faults are split between ELFs and in-life faults.
(b) In-life faults are held constant.
(c) The fault rate for ELFs is held constant, but the total number of Young Lines is reduced to WLR levels (ie 22 per cent of base) to derive a revised value for total ELFs.
(d) The sum of the in-life faults and revised ELFs gives a revised figure for total faults.
(e) The revised total fault rate can then be calculated and compared with the original data.

14.149. BT said that this data was prepared on the basis of net additions because data for gross additions[117] was unavailable for this period. As a consequence, it said that this data did not include MPF to MPF migrations.[118]

14.150. BT said that this data showed that the adjustment required for young lines for Q1–3 2010/11 was within a range of 0.5–1.1 per cent. This was substantially less than the impact of around 10 per cent which was suggested by Mr Duckworth and Sky/TalkTalk.[119]

14.151. It argued that it was clear from this data that Mr Duckworth's data had severe limitations and should be treated with caution. Its view was that any analysis based on data provided by just two CPs would not be a robust method for setting an industry-wide charge, especially when BT's full data set showing all faults was accessible.[120]

14.152. In response to a question from the CC, BT subsequently provided a further analysis, prepared on the same basis, which covered the period on which Sky/TalkTalk's data

[114] Sky/TalkTalk Submission on Remedies, ¶3.18–3.19.
[115] Sky/TalkTalk Submission on Remedies, ¶3.2.
[116] BT letter to CC, 27 February, p7.
[117] Gross additions would be a superior measure of new lines as it would include MPF to MPF migrations (eg Sky to Talk Talk) and also take account of MPF lines lost to other services. Both of these factors increase the number new lines recorded by gross additions as compared to net additions.
[118] BT letter to CC, 15 March, p2.
[119] BT's Response to the CC's provisional determination, ¶115–117.
[120] BT letter to CC, 27 February, p7.

and Mr Duckworth's analysis was based, that is November 2011 to April 2012.[121] A summary of this data is set out below in Table 14.12.

TABLE 14.12 **BT analysis of ELFs for the period October 2011 to April 2012**

[✂]

Source: BT letter to CC, 8 March 2013, p2.

14.153. BT said that this later data showed that the effect of adjusting the proportion of young lines to the 2013/14 level was to increase (not decrease) the overall fault volume and fault rate. This increase did not apply to exchange faults, for which there was no difference in fault rates when adjusting for young lines. It said that during this period, ELF fault rates were on average 7.5 times higher than in-life fault rates, although there was considerable month-to-month variation.[122]

14.154. BT's view was that this variation from the data set for October 2009 to January 2011 highlighted that caution should be applied to the Sky/TalkTalk data which covered six months which fell largely over winter, when weather conditions caused both higher faults and a greater fluctuation in fault rates.[123]

14.155. It also argued that the stark difference between BT's analysis and that of Mr Duckworth was most likely explained by BT's access to a complete data set. Further, it submitted that the different results in the two time periods were entirely consistent with its submission on the potential variability between time periods.[124]

14.156. BT said that the period assessed by Ofcom in reaching its conclusions in the 2012 Statement, and presented by BT in its response to the provisional determination, was from October 2009 to January 2011. It would therefore not have been possible for Ofcom to anticipate the apparent elevation in fault rates in young lines since February 2011.[125]

14.157. With regard to the significant increase in ELF rates apparent in the later data set compared with the first, BT explained that this was due to a change in the way MPF lines were provided:

> in January 2011 a significant change took place within industry regarding the way in which new MPF lines were provided. Prior to that date, MPF providers wanting to order a new line in practice largely relied upon a variant of WLR known as 'WLR2' and then migrated to MPF. In January 2011, WLR2 was progressively withdrawn to be replaced by a new variant (known as 'WLR3') for new orders. From that date, instead of ordering a WLR line and subsequently migrating to MPF, MPF providers largely ordered MPF lines directly. [126]

14.158. BT also told us that it was not possible to make a correction without also having data on WLR fault rates, since the relationship between WLR and MPF fault was the key

[121] BT letter to CC, 8 March 2013, p3 .
[122] BT letter to CC, 8 March 2013, pp2–3.
[123] BT letter to CC, 8 March 2013, pp2–3.
[124] BT letter to CC, 8 March 2013, p3.
[125] BT letter to CC, 15 March 2012, p2.
[126] BT letter to CC, 15 March 2012, pp1–2.

issue.[127] However, it also told us that it had provided the CC with all the information necessary to correct the mistake.[128]

14.159. In response to this new BT data, Sky/TalkTalk submitted that BT had reached a wholly different and incorrect conclusion due to an erroneous methodology. They said that the key flaw in BT's analysis was that it used net growth in MPF lines rather than the gross number of connections and reconnections of MPF lines. The effect of this was to:

(a) overestimate the ELF rate by dividing ELFs on gross new connections by net new connections; and

(b) underestimate the impact of the reduction in the ratio of gross additions over time (because net additions were significantly lower than gross additions and so the fall in young lines as MPF matured was underestimated).[129]

14.160. Sky/TalkTalk said that, using BT's RFS for 2012, there were 39 per cent fewer net additions than gross additions. Replacing net additions with average monthly gross additions in BT's data for October 2011 to April 2012 produced the result shown below in Table 14.13.[130]

TABLE 14.13 **Output of BT's model with revised gross additions estimates**

[✄]

Source: Sky/TalkTalk letter to CC, 14 March 2013, Table 2, modification of BT original spreadsheet.

14.161. Sky/TalkTalk said that Table 14.13 above showed a significant expected reduction in estimated fault rates in the period due to a reduction in the proportion of young lines. The percentage was less than that set out by Mr Duckworth as BT's analysis showed the impact over a shorter period, compared with the change over the longer period between 2011 (the base date used to estimate relative fault rates) and 2013/14.[131]

14.162. Sky/TalkTalk submitted that BT's use of net growth rather than gross connections in its analysis was therefore fundamentally flawed and could not be relied upon.[132]

Sky/TalkTalk additional data

14.163. As part of the remedies process, the CC invited Sky/TalkTalk to provide further information on the period October 2009 to January 2011 (which was the data period on which Ofcom based its original decision on relative fault rates).[133]

14.164. TalkTalk provided data for the period October 2009 to January 2011. This is shown below in Tables 14.14 and 14.15.

[127] Remedies Hearing transcript, p106/7.
[128] Remedies Hearing transcript, p108.
[129] Sky/TalkTalk letter to CC, 14 March 2013, ¶¶26–34.
[130] Sky/TalkTalk letter to CC, 14 March 2013, ¶35.
[131] Sky/TalkTalk letter to CC, 14 March 2013, ¶37.
[132] Sky/TalkTalk letter to CC, 14 March 2013, ¶38.
[133] Sky/TalkTalk letter to CC, 8 March 2013, ¶1.

TABLE 14.14 **TalkTalk MPF early life faults, October 2009 to December 2010**

[✄]

Source: Sky/TalkTalk letter to CC, 8 March 2013, Attachment 1, TalkTalk data.

TABLE 14.15 **TalkTalk MPF Early Life Faults October 2009 to December 2010**

[✄]

Source: Sky/TalkTalk letter to CC, 8 March 2013, Attachment 1. Based on BT data previously presented as well as Sky and TalkTalk data.

14.165. Sky/TalkTalk said that the data in Tables 14.14 and 14.15 demonstrated that the fault rate data that they previously provided was robust and representative. It also showed that there was a significant disparity between BT's data covering January to December 2010 and all other data previously provided in the appeal.[134]

14.166. They said that it was notable that BT's estimate of the total number of MPF ELFs in 2010 ([✄]) was lower than the level of MPF ELFs cleared by Openreach reported by TalkTalk alone ([✄]) for the same period. This suggested that the 2010 Openreach analysis had not correctly identified all of the MPF ELFs, which would explain the low ELF fault rate compared with all other data sources.[135]

Assessment

14.167. In our view, given the relatively short time remaining in the current charge control, it would be preferable to correct the error without further delay, provided that we were confident that such a correction was appropriate, effective and practicable. We therefore sought to establish whether a correction could be made without remittal.

14.168. For the reasons outlined by Sky/TalkTalk in paragraphs 14.129 and 14.130, we considered that the quickest and simplest remedy option open to the CC was 'Option 1' outlined by Sky/TalkTalk in paragraph 14.128. Although it was their view that the matter should be remitted, Ofcom and BT nevertheless seemed to be in agreement that this was the simplest of the remedy options proposed by Sky/TalkTalk.

14.169. This would require a correction to the relative MPF/WLR fault rates in the CA model. These relative fault rates (when combined with service level usage to usage factors) are used to allocate costs for 2013/14 with the glide path ensuring a smooth transition over the charge control period. All parties seemed to accept the use of the glide path in this way to correct the error over time.

14.170. We considered that Sky/TalkTalk's proposed method of correction to the relative fault rate (as outlined in Mr Duckworth's 1st Witness Statement) was superior to the method proposed by BT. This was because BT's approach calculated the effect on fault rates based on monthly variations which led to fault volumes in some months rising under the correction. It also used net additions rather than gross additions which would lead it to underestimate the size of any correction. In contrast, Sky/Talk Talk's proposed method used an installation fault rate and an annual in-life fault rate. As the correction was about examining the change in annual fault rates over time, this approach seemed to us to be more suited to correcting the error in question.

[134] Sky/TalkTalk letter to CC, 8 March 2013, ¶4
[135] Sky/TalkTalk letter to CC, 8 March 2013, Attachment 1.

14.171. We considered that in making a correction to the fault rates in the CA model, there were two important issues to address. These were:

(a) whether there needed to be a split between new provides and migrations in the data; and

(b) whether to use BT or Sky/TalkTalk data.

Whether there needed to be a split between new provides and migrations

14.172. Ofcom initially raised concerns that there needed to be a split between new provides and migrations in the Sky/Talk Talk data set, but it later told us that it was comfortable with an assumption that the fault rate was the same for new provides and migrations. BT had the same view, on the basis that if its data was used the correction would be small (see paragraphs 14.142 and 14.143).

14.173. We found that Sky/TalkTalk's data, shown above in Tables 14.9 and 14.10, did not provide conclusive evidence that the relative fault rates between new provides and migrations are the same (see paragraph 14.141). We also noted that the CA model did not currently allow for a difference in these fault rates. In our view, a split between new provides and migrations would add to the quality of the data[136] but it is not essential for the purposes of making a correction to the relative fault rate in the access network. We therefore took the view that, in the absence of any compelling evidence to the contrary, using the same relative fault rates for new provides and migrations would be a reasonable and pragmatic assumption to make.

Whether to use BT or Sky/Talk Talk data

14.174. Taken together, the data submitted during the appeal and the remedies phase meant that we had before us the following data:

(a) BT data on fault rates split by exchange, access and dropwire/NTE for young lines and in-life lines from October 2009 to April 2012 inclusive. This data was originally presented for October 2009 to January 2011, but later data was subsequently presented in two tranches during the remedies phase covering the period to April 2012;

(b) Sky data split by exchange and access for young lines and in-life lines for March 2012; and

(c) TalkTalk data split by exchange and access for young lines and in-life lines for November 2011 to April 2012 inclusive (and summary data for October 2009 to January 2011 inclusive).

14.175. BT and Sky/TalkTalk provided strikingly different estimates for the appropriate adjustment to the fault rate usage factor. BT said that the adjustment would be in the range of 0.5 to 1.1 per cent (see paragraphs 14.147 to 14.150) whereas Sky/TalkTalk suggested an adjustment of around 10 per cent.

14.176. We considered that BT's data had the advantage of being a complete data set covering all MPF faults over a long period (in its final form the data covered October

[136] This is because migrations typically require no engineering work in the access network, making it difficult to understand why a migration would cause an elevated fault rate in the access network (stopped line takeovers and a lower tolerance for faults among new customers were two reasons suggested by Sky/TalkTalk).

2009 to April 2012). We judged that in some respects the data could have been improved. Most notably, we agreed with Sky/TalkTalk that the use of net additions rather than gross additions would lead BT to underestimate the size of any correction for young line fault rates (for the reason identified in paragraph 14.159). However, we did not consider that the use of net additions as a denominator in calculating the ELF fault rate would materially detract from any trend in fault rates which the data identified.

14.177. The Sky/TalkTalk data covered a much shorter period than the BT data and could not therefore pick up any changes which may have occurred in the relative fault rate over a longer time period.

14.178. The striking differences between the data sets are best examined by considering BT's fault rate data in a single graph from October 2009 to April 2012. This encompasses both the time period during which Ofcom based its original decision on relative fault rates using BT data which was not disaggregated between young lines and in-life lines for October 2009 to January 2011, as well as the time period during which Sky and TalkTalk prepared their fault rate data (November 2011 to April 2012). Figure 14.4 below shows this fault rate data.

FIGURE 14.4

BT access (R43) fault rate data for the period October 2009 to April 2012

[✄]

Source: BT spreadsheet.

14.179. Figure 14.4 above shows the fault rate data for in-life faults and young lines for 'R43' faults, that is access faults. Although we have shown only access faults, the broad trend in the BT data is very similar for exchange faults (R42) and dropwire/NTE faults (R44). The graph clearly shows a very significant increase in the fault rate for young lines beginning around February 2011.

14.180. Table 14.16 compares the four-weekly fault rate for exchange faults and access faults based on data provided to us for different periods by BT, Sky and TalkTalk. It also shows the ratio of the young line fault rate to the in-life fault rate for these periods. The ratio gives an impression of the extent to which, for a given period, young lines are exhibiting a higher fault rate.

TABLE 14.16 **CC comparison of BT, Sky and TalkTalk fault rates for different periods**

Four-weekly fault rate	*TalkTalk November 2011 –April 2012*	*BT November 2011 –April 2012*	*Sky March 2012*	*BT March 2012*	*BT 2010*
Exchange faults					
Young lines (%)	[✂]	[✂]	[✂]	[✂]	[✂]
In-life (%)	[✂]	[✂]	[✂]	[✂]	[✂]
Ratio: young lines/ in-life	[✂]	[✂]	[✂]	[✂]	[✂]
Access faults					
Young lines (%)	[✂]	[✂]	[✂]	[✂]	[✂]
In-life (%)	[✂]	[✂]	[✂]	[✂]	[✂]
Ratio: young lines/ in-life	[✂]	[✂]	[✂]	[✂]	[✂]
Dropwire/NTE faults					
Young lines (%)		[✂]		[✂]	[✂]
In-life (%)		[✂]		[✂]	[✂]
Ratio: young lines/ in-life		[✂]		[✂]	[✂]

Source: CC analysis of BT, Sky and TalkTalk data.

14.181. It can be seen from Table 14.16 that the BT data for November 2011 to April 2012 is consistent with the Sky and TalkTalk data from a similar period for both access and exchange faults. This shows that young lines had a significantly greater fault rate than in-life lines: the fault rate was between [✂] and [✂] times greater for access faults and between [✂] and [✂] times greater for exchange faults.

14.182. However, as can be seen in Figure 14.4 and Table 14.16, BT's fault rate data for 2010 shows a markedly different picture from both its data for November 2011 to April 2012 as well as from Sky and TalkTalk's data. It shows young life faults as only [✂] times greater for exchange faults and only [✂] times greater for access faults.

14.183. From Figure 14.4 and Table 14.16 we observed the following:

(a) The elevated fault rate from February 2011 is consistent with Sky and TalkTalk's data and with their view that young lines have a significantly higher fault rate.

(b) BT's data from October 2009 to January 2011 shows that the fault rate for young lines and in-life lines is significantly lower than the subsequent period from February 2011 onwards. Using data from this earlier period, BT had suggested a correction of 0.5–1.1 per cent (see paragraph 14.149).

(c) BT's data allowed us for the first time to observe the differences in fault rates in the exchange, access *and* dropwire/NTE for young lines and in-life lines.

(d) BT said that in January 2011 a significant change took place regarding the way in which new MPF lines were provided (see paragraph 14.157). In our view, this has a number of possible implications:

(i) The fault rate shown by BT's data in the earlier period may have been understated as MPF faults may not have been fully captured. The fact that Openreach's estimate of the total number of MPF ELFs in 2010 ([✂]) was lower than the level of MPF ELFs reported by TalkTalk alone ([✂]) for the same period casts significant doubt on the validity of the earlier BT data (see paragraph 14.166).

(ii) The change in the way MPF lines are provided (see paragraph 14.157) may have led to comparison issues over time (for example, if there are more

MPF ELFs there may be fewer WLR ELFs depending on how the faults are recorded), which would mean that the effect on the relative fault rates would change.

(iii) The early ELF data may not fully capture all faults and the ELF fault rate may have been raised permanently by the change in industry practice which took place. This would suggest that the ELF rate applied in any correction should be higher for 2013/14 than the base year. The implication of this would be that, if the BT data were a true reflection of the MPF ELF over time and the WLR ELF rate were unchanged, it is not inconceivable that correction of this error might lead to an increase in the relative MPF/WLR fault rate.

14.184. We considered that these issues did not lead us to doubt our original conclusions as to the existence of an error: the additional BT data for the period from January 2011 onwards reinforced the original Sky/TalkTalk data. However, the significant difference between the pre- and post-January 2011 data introduced significant uncertainty as to what the appropriate size (or direction) of the correction should be. Most significantly, on the basis of the evidence before us and in the time available, we could not fully understand the dramatic increase in the ELF rate indicated by BT's data from January 2011 onwards. In order to make a correction, we would need to be clear about whether this change was caused by simply a change in the way faults were classified, a change in the physical process of transfer to MPF, or both, or some other additional factor.

14.185. Given the issues raised in quantifying the appropriate size of adjustment required to the relative fault rate, we concluded that the only practicable option open was for this issue to be remitted to Ofcom for further investigation. The data we have received raised a number of further questions and therefore there are a range of possible final outcomes which could be reached on the basis of the existing and further evidence.

14.186. Mindful of the Tribunal's directions in Sky/TalkTalk Reference Question 2(i), we include the following guidance in relation to how the error we have identified should be corrected for Ofcom to consider on remittal:

(a) An adjustment to the CA model for the relative fault rates, using gross rather than net additions and the method outlined in Mr Duckworth's 1st Witness Statement, is recommended.

(b) In the process of its investigation it may be that Ofcom is able to obtain appropriate disaggregated data that would also allow it to consider dropwire/NTE faults.

(c) Ofcom should focus on the causes of the significant differences in the ELF rate in the BT data for the period pre- and post-January 2011 and the discrepancy between BT's data and TalkTalk's data in the period prior to January 2011. In particular, Ofcom should consider whether the increase post-January 2011 has underlying causes or simply represents a change in fault classification.

14.187. We note that Ofcom may find that once these data discrepancies have been resolved, the correction required could be an increase, decrease or no change in the relative MPF/WLR fault rates.

Reference Questions 3(ii) (BT Appeal) and 2(ii) (Sky/Talk Talk Appeal)

14.188. In this section we set out a determination as to any consequential adjustments to the charge controls. The figures set out below have been provided by Ofcom upon request from the CC based on the corrections set out in the sections above.

14.189. The individual and cumulative effect of each correction on the charge control is set out in Table 14.17 below. The correction to the line volume forecast has consequential effects on other corrections. This is because changes to the volume of lines affect the denominator used to calculate unit costs for each service. The consequential adjustments for each of the other errors are therefore shown before taking into account the effect of the change in line volumes. The cumulative effect shown on the 2013/14 price estimate per line encapsulates the effects of correcting all of the errors together.

TABLE 14.17 **Estimate of consequential adjustments to charge control for 2013/14**

			£
	WLR	*MPF*	*SMPF*
Original 2013/14 price estimate per line	94.53	84.88	10.38
Impact of correction			
BT 1(ii) Cumulo rates	+0.28	+0.28	-
BT 1(iv) CRI	+0.46	+0.46	-
BT 1 (vi) Line testing	+0.05	+0.50	–0.44
Sky/Talk Talk 1(i) Volumes of lines			-
Prior to additional capex being taken into account	–2.64	–2.47	–0.20
Effect of additional capex	+0.37	+0.42	–0.01
Revised 2013/14 price estimate per line	93.05	84.07	9.73

Source: Ofcom.

14.190. The consequential adjustment to the MPF and SMPF Single Migration charge and the MPF New Provide charge arising solely from correcting BT Reference Question 1(v) is as set out in paragraphs 14.36 to 14.38 —an increase of £0.35 in the price in 2012/13 to £33.89 and application of RPI–11.3 per cent to derive the 2013/14 price. However, taking into account the correction to volumes of lines (and in particular the adjustment for additional capital expenditure), Ofcom told us that the consequential adjustment would be revised to: a reduction of £0.01 in the price in 2012/13 to £33.53 and application of RPI–11.8 per cent to derive the 2013/14 price.

14.191. In summary, the effect of our corrections to the charge control for 2013/14 is therefore as follows:

(a) WLR rental: reduced by £1.48 (1.5 per cent) from £94.53 to £93.05;

(b) MPF rental: reduced by £0.81 (0.9 per cent) from £84.88 to £84.07;

(c) SMPF rental: reduced by £0.65 (6.3 per cent) from £10.38 to £9.73; and

(d) MPF and SMPF Single Migration/MPF New Provide: reduced by £0.01 (0.03 per cent) in 2012/13 from £33.54 to £33.53 followed by RPI–11.8 per cent to derive the 2013/14 price.

APPENDIX A

BT terms of reference

IN THE COMPETITION APPEAL TRIBUNAL

Case Number: 1193/3/3/12

BETWEEN

BRITISH TELECOMMUNICATIONS PLC

Appellant

- supported by -

EVERYTHING EVERYWHERE LIMITED

Intervener

- and -

OFFICE OF COMMUNICATIONS

Respondent

- supported by -

BRITISH SKY BROADCASTING LIMITED
TALKTALK TELECOM GROUP PLC

Interveners

REFERENCE OF SPECIFIED PRICE CONTROL MATTERS TO THE COMPETITION COMMISSION

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1. Having regard to:

   (A) the Statement entitled “Charge control review for LLU and WLR services” dated 7 March 2012, issued by the Office of Communications (“Ofcom”) (“the Decision”);

   (B) the price control imposed by paragraphs 10, 11 and 14 of, and Condition FAA4(A) in Part I, Schedule 1 to, Annex 12 of the Decision and paragraphs 10, 11, 14 and 15 of, and Condition AAAA4(WLR) in Part IV, Schedule 1 to, Annex 12 of the Decision;

   (C) the Notice of Appeal dated 8 May 2012 lodged by British Telecommunications plc (“BT”) against the Decision;

   (D) the order of the Tribunal dated 31 May 2012, providing the Tribunal’s case management directions in respect of the appeal;

the Tribunal, pursuant to Rule 3(5) of the Competition Appeal Tribunal (Amendment and Communications Act Appeals) Rules 2004 (SI 2004 No. 2068) and section 193 of the Communications Act 2003, hereby refers to the Competition Commission for its determination the specified price control questions arising in this appeal.

2. By this reference the Tribunal orders the Competition Commission to determine the following questions:

Question 1

Whether the price controls imposed on BT by paragraphs 10, 11 and 14 of, and Condition FAA4(A) in Part I, Schedule 1 to, Annex 12 of the Decision and paragraphs 10, 11, 14 and 15 of, and Condition AAAA4(WLR) in Part IV, Schedule 1 to, Annex 12 of the Decision have been set at a level which is inappropriate because Ofcom erred in one or more of the following respects:

(i) in forecasting BT's corporate overheads costs, for the reasons set out in paragraphs 96 to 109 of the Notice of Appeal;

(ii) in calculating the costs of BT's cumulo rates, for the reasons set out in paragraphs 110 to 118 of the Notice of Appeal;

(iii) in valuing the cost of BT's copper assets using standard work activity units, for the reasons set out in paragraphs 119 to 132 of the Notice of Appeal;

(iv) in allocating the income received by BT from the recovery of copper cable to the Core Rental Services (MPF, SMPF and WLR), for the reasons set out in paragraphs 133 to 138 of the Notice of Appeal;

(v) in its allocation of the cost of repairing faults on WLR, MPF and SMPF lines, for the reasons set out in paragraphs 143 to 154 of the Notice of Appeal;

(vi) in its allocation of BT's line testing test head costs to WLR and SMPF services but not to MPF services and in applying a price adjustment allocating the cost of Test Access Matrices ("TAMs") across all MPF and SMPF lines, for the reasons set out in paragraphs 155 to194 of the Notice of Appeal; and

(vii) in calculating BT's costs of MPF Single Migration, SMPF New Provide and SMPF Single Migration services, for the reasons set out in paragraphs 139 to 142 of the Notice of Appeal.

Question 2

Whether the price controls imposed by paragraphs 10, 11 and 14 of, and Condition FAA4(A) in Part I, Schedule 1 to, Annex 12 of the Decision and paragraphs 10, 11, 14 and 15 of, and Condition AAAA4(WLR) in Part IV, Schedule 1 to, Annex 12 of the Decision on BT have been set at a level which is inappropriate because Ofcom erred in its use of a Regulatory Asset Value in valuing BT's pre-1997 duct assets, for the reasons set out in paragraphs 195 to 350 of the Notice of Appeal.

Question 3

Having regard to the fulfilment by the Tribunal of its duties under section 195 of the Communications Act 2003 and in the event that the Competition Commission determines that Ofcom erred in relation to any of the above questions, the Competition Commission is to include in its determination:

(i) clear and precise guidance as to how any such error found should be corrected; and

(ii) insofar as is reasonably practicable, a determination as to any consequential adjustments to the charge controls.

3. The Competition Commission is directed to determine the issues contained in this reference on or before 29 March 2013.

4. The Competition Commission shall notify the parties to these appeals of its determination at the same time as it notifies the Tribunal pursuant to section 193(3) of the Communications Act 2003.

5. There be liberty to apply.

Vivien Rose Made: 24 July 2012
Chairman of the Competition Appeal Tribunal Drawn: 24 July 2012

APPENDIX B

Sky/TalkTalk terms of reference

Neutral citation [2012] CAT 26

IN THE COMPETITION APPEAL TRIBUNAL Case Number: 1192/3/3/12

BETWEEN

(1) BRITISH SKY BROADCASTING LIMITED
(2) TALKTALK TELECOM GROUP PLC

Appellants

- supported by -

EVERYTHING EVERYWHERE LIMITED

Intervener

- and -

OFFICE OF COMMUNICATIONS

Respondent

- supported by -

BRITISH TELECOMMUNICATIONS PLC

Intervener

REFERENCE OF SPECIFIED PRICE CONTROL MATTERS TO THE COMPETITION COMMISSION

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1. Having regard to:

(A) the decision contained in a Statement entitled “Charge control review for LLU and WLR services” dated 7 March 2012, issued by the Office of Communications (“Ofcom”) (“the Decision”);

(B) the price control imposed on British Telecommunications plc (“BT”) by paragraphs 10, 11 and 14 of, and Condition FAA4(A) in Part I, Schedule 1 to, Annex 12 of the Decision and paragraphs 10, 11, 14 and 15 of, and Condition AAAA4(WLR) in Part IV, Schedule 1 to, Annex 12 of the Decision (the “Price Controls”);

(C) the Notice of Appeal dated 8 May 2012 and as amended on 1 August 2012 ("NoA") lodged by British Sky Broadcasting Limited (“Sky”) and TalkTalk Group Telecom plc (“TalkTalk”) against the Decision;

(D) the order of the Tribunal dated 31 May 2012 and the Tribunal's letter of 31 July 2012, providing the Tribunal's case management directions in the appeal;

the Tribunal, pursuant to Rule 3(5) of the Competition Appeal Tribunal (Amendment and Communications Act Appeals) Rules 2004 (SI 2004 No. 2068) (the "2004 Rules") and section 193 of the Communications Act 2003, hereby refers to the Competition Commission for its determination the specified price control questions arising in this appeal.

2. By this reference the Tribunal orders the Competition Commission to determine the following questions:

Question 1

Whether the Price Controls have been set at a level which is inappropriate because Ofcom erred in one or more of the following respects, taken individually or (if appropriate) in combination:

(i) in forecasting volumes of MPF, SMPF and WLR services for the reasons set out at paragraphs 40 to 54 of the NoA;

(ii) in its assessment of fault repair costs for the reasons set out at paragraphs 55 to 66 of the NoA;

(iii) in allocating Cumulo rates between different products using a method based on "Profit Weighted Net Replacement Cost" for the reasons set out at paragraphs 67 to 96A of the NoA;

(iv) in using the Retail Price Index in order to value duct assets purchased after 1997 within the Regulatory Asset Value calculation and/or by failing separately to reflect a 'national discount' in its price index, for the reasons set out at paragraphs 97 to 119 of the NoA;

(v) in its assessment of the income to be received from copper scrap for the reasons set out at paragraphs 120 to 131 of the NoA.

Question 2

Having regard to the fulfilment by the Tribunal of its duties under section 195 of the Communications Act 2003 and in the event that the Competition Commission determines that Ofcom did err in relation to any of the above questions, the Competition Commission is to include in its determination:

(i) clear and precise guidance as to how any such error found should be corrected; and

(ii) insofar as reasonably practicable, a determination as to any consequential adjustments to the charge controls.

3. The Competition Commission is directed to determine the issues contained in this reference on or before 29 March 2013.

4. The Competition Commission shall notify the parties to these appeals of its determination at the same time as it notifies the Tribunal pursuant to section 193(4) of the Communications Act 2003.

5. There be liberty to apply.

REASONS:

1. The reference questions were agreed between the parties, save that Sky and TalkTalk proposed that a further question be referred to the Competition Commission for its determination, namely:

   > "Whether, in any event, Ofcom failed to provide appropriate justification for its forecasts of volumes of MPF, SMPF and WLR services for the reasons set out at paragraphs 40 to 54 of the NoA and/or its assessment of the income to be received from copper scrap for the reasons set out at paragraphs 120 to 131 of the NoA."

2. Sky and TalkTalk submitted that Question 1 does not fully capture the issues raised in their appeal and that, without this supplementary question, Sky and TalkTalk would risk being deprived of effective relief in the event that their arguments were successful. BT and Ofcom submitted that the relevant grounds of appeal were already adequately addressed by the general wording of Question 1, and queried in any event whether the issues raised in the supplementary question properly amounted to specified price control matters within the meaning of section 193(1) of the Communications Act 2003 and rule 3 of the 2004 Rules.

3. The Tribunal has concluded that the supplementary question posed by Sky and TalkTalk is not necessary or appropriate. Section 193(6) of the Communications Act 2003 requires the Tribunal, in deciding the appeal on the merits under section 195, to decide that matter in accordance with the determination of the Competition Commission, subject to any decision by the Tribunal, taken pursuant to section 193(7), that the determination would fall to be set aside on an application for judicial review. Question 1 is an appropriate question to refer to the Competition Commission in this context, as it alleges specific errors in relation to Ofcom's price control, by reference to which the Competition Commission can determine whether the price control has been set at an inappropriate level. The supplementary question, which is directed to the justification for Ofcom's forecasts of service volumes and its assessment of copper scrap income, is not an appropriate question given the nature of the Competition Commission's investigation described above.

Vivien Rose
Chairman of the Competition Appeal Tribunal

Made: 28 September 2012
Drawn: 28 September 2012

Glossary

1996 Review	**Oftel**'s charge control review, 1996.
2004 Rules	Competition Appeal Tribunal (Amendment and Communications Act Appeals) Rules 2004 (SI 2004 No 2068).
2005 Review	**Ofcom**'s charge control review, 2005.
2012 Statement	**Ofcom**'s charge control review for **LLU**/**WLR** services, 7 March 2012.
20CN	**BT**'s legacy broadband network.
21CN	**BT**'s 21st Century Network programme for rolling out an **NGN**.
3G	Third generation of mobile telephony systems, including the UMTS technology standard.
4G	Fourth generation of mobile phone mobile communications standards. It is a successor of the **3G** standards. 4G offers mobile Internet access, for example through a smartphone, and has faster data transfer speeds than **3G**.
Access Directive	Directive 2002/19/EC (as amended) on access to, and interconnection of, electronic communications networks and associated facilities.
Access network	The part of a telecommunications network that connects an end-user (eg a residential customer) with the local telephone **exchange** from which point lines are connected to the core telecommunications network.
Act	Communications Act 2003.
Analysys Mason	Global specialist in telecommunications, media and technology.
Asset life	The economic or 'book' life of an asset over which its value is depreciated. The average useful economic life of any asset.
Backhaul	Carriage of traffic from an **exchange** to a central point: transmission links used to connect local **exchange**s to each other and/or the core network.
BAU	Business as usual.
BT	BT Group plc (which includes British Telecommunications plc). **Openreach** is an operating division of British Telecommunications plc.
BT Retail	Operating division of **BT**. BT Retail provides retail telecommunications services to businesses and residential customers.
CA/CA model	Cost allocation model. **Ofcom**'s model for allocating costs between different **CRS** services.

Capex	Capital expenditure.
Care levels	Lines are offered with different service levels as part of the supply contract. **WLR Basic** lines are provided with 'Care Level 1', whereas **MPF** and **SMPF** lines are provided with 'Care Level 2'. A fault on a line with 'Care Level 1' must be fixed by **BT** by the end of the next working day plus one; a fault on a line with 'Care Level 2' must be fixed by the end of the next working day.
Carillion Telent	Network installation business contractor, contracted by **BT** to provide nationwide civil engineering support.
CC	Competition Commission.
CC13	*Price control appeals under section 193 of the Communications Act 2003: Competition Commission Guidelines,* April 2011.
CCA	Current cost accounting (an accounting convention, where assets are valued and depreciated according to their current replacement cost whilst maintaining the operating or financial capital of the business entity).
CF/CF model	Cost forecast. **Ofcom**'s activity-based costing model for **Openreach**.
Charge control	A control which sets the maximum (or minimum) price that communication providers can charge for a particular product or service. Most charge controls are imposed for a defined period.
CJ	The Cables Junction Network, which connects local **exchange**s to each other and to their parent trunk **exchange** for long-distance calls.
Copper access network	The part of the **access network** formed from pairs of copper wires bundled together into cables which are then laid in **duct**s, carried overhead on poles or directly buried into the ground.
Copper loop	As per a **copper line**, an individual pair of copper wires, but usually used to refer to the metallic path between the **exchange** and the customer premises.
Cost stack	A term **Ofcom** uses to describe the combined operating and capital cost for a unit of a particular service or services.
CP	Communications provider. A generic term used to describe all market participants in the telecommunications sector.
CPW	Carphone Warehouse Group plc.
CRF	The European Common Regulatory Framework—the legislative framework for the regulation of the telecommunications sector across the EU.
CRI	Copper recovery income.
CRS	Core rental services. **WLR**, **SMPF** and **MPF** are referred to by **Ofcom** as the 'Core Rental Services'.

CT	See **Carillion Telent**.
Cumulo rates	A tax on commercial property based on the rateable value.
D-side	Distribution side: cables that run from the street cabinet to end-user premises.
DOA	Dead on arrival. Line faults where the line was installed four days or less before the fault was reported.
Dongle	Provides access to mobile broadband, for example for computers or laptops.
DP	Distribution point. The point in the **access network** where **D-side** cables from the street cabinet are interconnected with individual aerial **dropwire**s or underground lead-in wires serving the end-user premises.
Dropwire	The pair of (aerial) copper wires which run from a pole to the end-user premises.
DSL	Digital subscriber line. A technology for bringing high-bandwidth information to homes and small businesses over ordinary copper telephone lines.
DSLAM	Digital subscriber line access multiplexer. Electronic equipment provided by the **CP** and used to provide broadband services.
Duct	A facility of one or more buried tubes through which cables can be routed. Ducts are the infrastructure, eg pipes, in the ground in which cables containing copper and/or fibre are run.
Dynamic operation base methodology	A method of allocating costs (or income) which uses engineers' time as the basis of allocation.
E-side	Exchange side. Cables that run from the local telephone **exchange** to the street cabinet**.**
EE	Everything Everywhere Limited.
ELF	Early life failure. Line faults where an order was completed for installation of a line or the change of services on a line up to 28 days before the fault was reported.
EOI	Equivalence of Inputs. Legal requirement contained in the **BT** Undertakings requiring **Openreach** to supply **WLR** and **LLU** services (and most **WLR** and **LLU** ancillary services) to **CP**s (including other parts of **BT**) on the same timescales, terms and conditions by means of the same systems and processes.
EU	European Union.
Evo TAM	See **TAM**.
Exchange	The building and equipment located within the exchange area and to which all customers are connected via the **access network**.

FAC	Fully allocated cost. An accounting approach under which all the costs of the company are distributed between its various products and services. The FAC of a product or service may therefore include some common costs that are not directly attributable to the service.
Frame	The physical frame in a **BT** telephone **exchange** to which **copper loop**s are connected on one side, and which is connected to the **core network** on the other side (also called **MDF** or main distribution frame).
Framework Directive	Directive 2002/21/EC (as amended) on the common regulatory framework for electronic communications networks and services.
Frontier Economics	Frontier Economics Ltd. An economics consulting firm.
FTTC	Fibre to the cabinet.
FTTP	Fibre to the premises.
GBCI	General Building Cost Index.
Glide path	The method used by **Ofcom** so that the charge for a particular product follows its forecast cost over the period of the charge control.
H3G	Hutchison 3G UK Limited.
HCA	Historical cost accounting.
HCA methodology	An accounting technique that values an asset at the price paid for the asset at the time of its acquisition.
IBR Report	Independent business review report.
In-life fault	Line faults which occur after the first 28 days from connection (as opposed to **ELF**s).
Infrastructure	General term used to refer to all the equipment and plant used to provide connectivity and services to customers.
Jeopardy management	A function within **Openreach** whose purpose is to ensure that the **BT** engineering resource is used as efficiently as possible.
Jumpering	The process of connecting *(a)* the copper wires connecting the end-user's premises to the **MDF** at the **exchange** to *(b)* tie cables feeding Openreach **WLR** and/or CP **LLU** telecommunications equipment.
Junction network	See **CJ**.
KPMG	Global network of professional services firms providing audit, tax and advisory services.

Leased line	A permanently connected communications link between two premises dedicated to the customer's exclusive use, providing dedicated transmission capacity between customer sites, which can be used to carry voice, data and video traffic.
LEC	US Local Exchange Carrier.
Line card	The interface providing active electronics between the copper network and the **CP**'s network. A line card provides the capabilities for voice and/or broadband services and physically sits within a chassis within the **MSAN** or **DSLAM**.
LLU	Local loop unbundling. The process by which providers take control (in whole or in part) of the **copper loop** connecting a customer's premises to the local telephone **exchange**. The provider is given access to the **exchange** to install its own equipment to connect the customer to the provider's own network.
LLU assurance	Alternatively known as **jeopardy management**.
Local end	Alternative term used to describe an **Access Network**.
Local network	Connects each customer to the telephone **exchange**.
LRIC	Long-run incremental cost. The additional cost caused in the long run by the provision of a defined increment of output, assuming that some level of output is already produced.
LRIC+ or LRIC plus	Long-run incremental cost plus a share of common costs.
MCT	Mobile call termination. The service provided by an **MCP** to allow an originating **CP** to connect a caller with the intended mobile call recipient on that **MCP**'s network.
MDF	Main distribution frame. The physical frame in an **exchange** to which the **E-side** cables are terminated on one side, and tie cables feeding the telecommunications equipment are connected on the other. The local loops are cross-connected to telecommunications equipment by jumpering individual pairs of copper wires.
Migration	Line being transferred from one provider to another. For example, **BT** to **Sky**.
Migration services	The three key migration services: **MPF** transfer, **SMPF** connection and **MPF** new provide.
MPF	Metallic path facility. The pair of metallic wires which provide a physical connection between the **MDF** and the end-user. When a **CP** is provided by **Openreach** with MPF, it is essentially renting the wires from a given customer's premises to an **exchange**, enabling the **CP** (together with other aspects of the **CP**'s network) to provide both voice and broadband services in competition with **BT** and other retail providers of such services.

MTP	Medium term plan. A budgetary planning exercise undertaken by **BT**.
MU	The main underground trunk network, which connects trunk **exchange**s to each other.
MUCJ	There is little distinction between **MU** and **CJ** core network—MUCJ is used to describe the entire network which is not the **local network**.
Net replacement cost	Gross replacement cost less accumulated depreciation based on gross replacement cost.
New provide	Newly installed line. For example, a new build house.
NGA	Next generation access. The upgrade of infrastructure which brings fibre closer to the end-customer (often referred to as either **FTTC** and/or **FTTP**).
NGN	Next generation network.
NoA	Notice of Appeal.
NRA	National Regulatory Authority.
NRC	Net replacement cost.
NTE	Network terminating equipment.
OCP	Other **CP**. A generic term used to refer to **CP**s other than **BT**.
Ofcom	Office of Communications.
Oftel	The Office of Telecommunications was the telecommunications regulator from 1984 to 2003 when it was superseded by **Ofcom**.
OOI	Other operating income.
Openreach	An operating division of British Telecommunications plc, Openreach provides wholesale telecommunications services to **CP**s.
Operating division	(Within the context of the BT Group.) The core operating businesses that make up **BT**, ie **Openreach**, BT Wholesale, **BT Retail** and BT Global Services.
PPCs	Partial private circuits.
PriceWaterhouse Coopers	A multinational professional services firm.
Prospectus	Issued for the privatization sale of **BT** in 1984.
PSTN	Public switched telephone network.
PWNRC	Profit-weighted net replacement costs.

R42	A **BT** measure of fault rates, referring to faults in the **exchange**.
R43	A **BT** measure of fault rates, referring to faults in the **access network**.
R44	A **BT** measure of fault rates, referring to faults in the **dropwire NTE**.
RAV	Regulatory asset value.
Regulatory adjustment	An adjustment applied to the **CF model** which ensures the data from **BT**'s management accounts is consistent with its **RFS**.
RFS	Regulatory Financial Statements. Audited financial statements that **BT** is required to produce and publish each year to comply with its regulatory obligations.
ROCE	Return on capital employed.
Routing factor	Routing factors allocate the cost of each asset in **Ofcom**'s 2011 cost model to the individual services (eg call origination or call termination).
RPI	Retail prices index.
RPI–X	A general term referring to a common method of regulating prices.
RPIX	Retail prices index excluding mortgage interest payments.
RV	Rateable value.
Section 135 notices/ requests	Notices issued by **Ofcom** under section 135 of the **2003 Act** requiring the provision of specified information.
Sky	British Sky Broadcasting Limited.
SMP	Significant market power.
SMPF	Shared metallic path facility. When a **CP** is provided by **Openreach** with SMPF, rather than having access to the entirety of the frequencies on the wire to the final consumer as for **MPF**, the **CP** rents only that part used for provision of broadband services. In order to receive voice services, the customer must be provided with a service by a **CP** buying **WLR** from **Openreach**, or by **BT**. The end-consumer may buy broadband services (using SMPF) and voice services (using **WLR**) from the same provider or from different providers.
SoI	Statement of Intervention.
Starting Charge	The price for a service at the start of the charge control period.
Stopline takeover/ start stopped line	Form of migration, where a line has not been used for some time and is reconnected. For example, when a new owner moves in to an existing property and reopens a disconnected service.

Sunk asset/cost	Retrospective costs that have already been incurred and cannot be recovered.
TalkTalk	TalkTalk Telecom Group plc.
TAM	Test access matrix: • The *Openreach TAM* is a relay switch that is connected (via jumpers on the **MDF**) to the **LLU** circuit to enable **Openreach** to carry out diagnostic tests on the **LLU** circuit—the TAM is connected to the line test platform to enable this to happen. • The *CP TAM* is connected between the **CP DSLAM** and the **HDF**, and enables the **CP** to carry out service layer testing. • The *Openreach EvoTAM* (evolutionary TAM) is a specific TAM installed in **21CN**-enabled **exchange**s—it enables **Openreach** to offer the test access product, which **CP**s can purchase instead of installing their own **CP** TAM.
Target Charge	The price which Ofcom is aiming to charge for a service at the end of the charge control period. The **Starting Charge** is normally glided to the target charge through the **RPI–X glide path** formula.
Test Heads	Component of line-testing equipment.
TPI	All-in Tender Price Index.
Transfer charge	As part of **Ofcom**'s cost allocation costs from **BT** are allocated to **Openreach**.
Tribunal	Competition Appeal Tribunal.
Trunk network	See **MU**.
TTG	TalkTalk Group Limited.
Undertakings	Legal obligations agreed between **BT** and **Ofcom** as part of the functional separation of **BT** and **Openreach**.
VM	Virgin Media.
VOA	Valuation Office Agency.
Vodafone	Vodafone Limited.
WACC	Weighted average cost of capital.
WBA	Wholesale broadband access.
WFAEL	Wholesale fixed analogue exchange line.
WLA	Wholesale local access.
WLR	Wholesale line rental. An **Openreach** product whereby the provider (eg **TalkTalk**) rents a line from **Openreach** and resells the line to the end-customer. WLR provides a voice-only service, ie it is necessary for a provider to purchase WLR and **SMPF** if the provider wishes to offer the end-customer both voice and broadband services.

WLR Appeal	*The Carphone Warehouse Group plc v Office of Communications* (Case No 1149/3/3/09).
WLR Basic	**WLR** services that receive **Care Level** 1.
WLR Premium	**WLR** services that receive **Care Level** 2.
WLR Review	**Ofcom**'s statement of 24 January 2006, 'Wholesale Line Rental: Reviewing and setting charge ceilings for WLR services'.
W/S	Witness statement.