COMPETITION COMMISSION

Reference under section 193 of the Communications Act 2003

The Carphone Warehouse Group plc v Office of Communications

Case 1111/3/3/09

Determination

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31 August 2010

Excisions in this determination marked with [✄] relate to commercially confidential information: Schedule 4, paragraph 1, to the Enterprise Act 2002.

Members of the Competition Commission who conducted this appeal

Peter Freeman CBE, QC *(Chairman of the Group)*

Professor John Cubbin

Tony Morris

Professor Sudi Sudarsanam

Chief Executive and Secretary of the Competition Commission

David Saunders

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Section 1: Introduction to the Competition Commission's determination

Preamble

1.1 On 22 May 2009 the Office of Communications (Ofcom) published a Statement entitled *A new pricing framework for Openreach* (the LLU Statement). The LLU Statement contained decisions made pursuant to sections 45 and 87 of the Communications Act 2003 (the 2003 Act) to impose charge controls on British Telecommunications plc (BT) in relation to various services supplied by BT in the market for wholesale local access services in the UK (excluding the Hull area).

1.2 The services in question are all rental services, by which we mean that a communications provider acquires the right to provide voice and broadband Internet services to customers. The services are:

(a) metallic path facility (MPF);

(b) shared metallic path facility (SMPF); and

(c) ancillary services connected with the provision of MPF and SMPF.

1.3 These services are all aspects of 'local loop unbundling'. Local loops are the fixed local access connections which run from end users' premises to their local exchange. In most cases, these connections are currently made by twisted copper wires, which form part of BT's telephone network. Local loop unbundling is a process by which the local loops belonging to Openreach[1] are physically disconnected from Openreach's network and connected to another communications provider's network.

1.4 The charge controls were set out in Section 7 of the LLU Statement (with supporting information in the various annexes).

The appeals and the appellate framework

1.5 Appeals were brought by the Carphone Warehouse Group plc (CPW) against the decision of Ofcom contained in the LLU Statement before the Competition Appeal Tribunal (the Tribunal) under section 192 of the 2003 Act (the LLU Appeal). British Sky Broadcasting Limited (Sky) and BT (the Interveners) both intervened.

1.6 The 2003 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.

…

(2) A person affected by a decision to which this section applies may appeal against it to the Tribunal.

…

[1]Openreach is an operating division of British Telecommunications plc, Openreach provides wholesale telecommunications services to communications providers. In the cost of capital section of our determination, we have adopted Ofcom's approach (see paragraph 2.251 of the cost of capital section) in referring to the copper-access business as Openreach. This is in contrast to other parts of our determination where we refer to Openreach as the operating division which incorporates copper-access businesses including CRS among other services.

(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.

(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).

…

1.7 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.

1.8 The significant market power (SMP) conditions imposed by Ofcom in the LLU Statement were imposed pursuant to section 87(9) of the 2003 Act. Accordingly, the price control matters in the LLU Appeal fell to be identified and referred to us for determination.

The Tribunal's reference

1.9 In the Tribunal's order entitled *Reference of Specified Price Control Matters to the Competition Commission* dated 27 November 2009 (the Reference), the Tribunal identified a number of specified price control matters within the meaning of Rule 3(1) of the 2004 Rules for referral to the Competition Commission (CC).

1.10 The Reference required us to determine three questions going to whether Ofcom had erred for specific reasons given by CPW. A final question (question 4) asked us to include in our determination, if the answers to any of the previous questions were 'yes', clear and precise guidance as to how any such error found should be corrected and, in so far as was reasonably practicable, a determination as to any consequential adjustments to the level of the price controls.

1.11 The Reference originally gave us a deadline of 1 June 2010 by which to determine the issues that had been referred to us. This was extended by order of the Tribunal to 31 August 2010.[2] A copy of the Reference and amending order is at Appendix A.

The structure of our determination

1.12 Following this introduction are four sections addressing each of the four Reference Questions applicable to each of CPW's grounds of appeal as set out in its Notice of Appeal (NoA).

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[2]18 February 2010.

1.13 Each Reference Question includes a number of specific aspects that we have been asked to determine. We address each of these specific aspects within the relevant Section.

1.14 Within each Section, we set out the main arguments and evidence put to us by the parties and determine whether Ofcom has erred for any of the reasons put to us. In the remainder of this introductory Section we will first outline the legal framework by which price controls are imposed. We will then address the approach that we have adopted to the determination of the Reference Questions including our approach to the standard and purpose of our review, material error, burden of proof and transparency, and declaratory statements. Finally, we will record some observations on the procedure adopted in the appeal and document disclosure.

The legal framework

1.15 Regulation of the telecommunications sector takes place across Europe under what is known as the European 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) and Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities (the Access Directive). 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 to the LLU Appeal are Articles 8 and 13 of the Access Directive, which provide, in relevant part:

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 13.

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.

…

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. 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 involved.

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.

1.16 The UK's NRA is Ofcom and the CRF was implemented in the UK by the 2003 Act, in which the powers and duties set out in the Directives are reflected.

1.17 Section 45 of the 2003 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 (sections 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.

1.18 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.

1.19 The 2003 Act, in line with the CRF, also imposes more general duties 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, 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.

1.20 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 as well as in relation to our overall conclusions, to the CRF and the domestic provisions implementing it. We consider our conclusions to be consistent with the legal framework.

The purpose of our jurisdiction

1.21 In determining the nature of the investigation, we paid particular regard to the judgments of the Tribunal in relation to the price control matters in *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).[3]

1.22 In the Calls to Mobiles Appeal, the Tribunal noted that the aim of the statutory provisions was that the disposal of the appeal, incorporating the determination, should result in as high a degree of finality as possible, having regard to the grounds of appeal and the nature of the CC's findings. In that case, it encouraged the CC to conduct its investigation in such a manner and to express its determination in such terms as to make clear what directions it should give in respect of the specified price control matters when remitting the decision to Ofcom. The Tribunal considered it desirable that those directions and the disposal of the appeals should, in effect, settle the question of what the price control should be for the period covered by Ofcom's Statement on Mobile Call Termination,[4] and stated that the CC should carry out its investigation with that goal firmly in mind.[5] It added that the Reference Questions had been drafted in such a way as to acknowledge the possibility that it might not be possible for the CC to set an alternative price control, but so as to ensure as far as possible that the appeal resulted in a revised price control being finalized without delay and avoided a situation where there were issues which required substantial further work and the exercise of judgement by Ofcom.[6] We believe that the same principles apply in the LLU Appeal.

1.23 In the judgment disposing of the appeals, dated 2 April 2009,[7] the Tribunal decided the price control matters in accordance with the CC's *Mobile phone wholesale voice termination charges* determination, notified to the Tribunal on 16 January 2009 (MCT Determination).[8] We have approached the conduct of the present determination with the wording of the Reference, and the approach taken in the Calls to Mobiles Appeal, firmly in mind.

[3][2009] CAT 11 (Judgment: Disposal of the Appeals).
[4]Published 27 March 2007.
[5][2008] CAT 5, paragraph 15.
[6]Ibid, paragraph 16.
[7][2009] CAT 11 (Judgment: Disposal of the Appeals).
[8]The MCT Determination is available at:
www.competition-commission.org.uk/appeals/communications_act/mobile_phones_determination.pdf.

The standard of review

1.24 We have followed the same approach to the standard of review as was taken in the Calls to Mobiles Appeal. The standard was set out in paragraphs 1.30 to 1.33 of the MCT Determination and we restate the relevant principles here.

1.25 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 a discretion. In the Calls to Mobiles Appeal, 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. 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 4 in particular).

1.26 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.

1.27 We have carried out that examination, in respect of Reference Questions 1 to 3, 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. This is the standard set out in paragraph 1.32 of the MCT Determination and it is the approach that we have adopted in this appeal.

1.28 In its response to our provisional determination, CPW criticized this approach.[9] CPW said that even if Ofcom happened, fortuitously, to have stumbled across a correct outcome, then that did not mean it did not err in its methodology. CPW submitted that we should consider whether, notwithstanding that no adjustment to the price control is necessary, Ofcom's methodology was in fact flawed. CPW further requested that the CC should clearly identify the methodology which Ofcom should adopt in future price controls[10] and that insofar as it did not adopt that methodology in the LLU price control then it did err.

1.29 The role of the CC in the present appeal is to answer the questions referred to it by the Tribunal. We have done so in the course of this written determination. We have addressed below the methodology adopted by Ofcom and identified any errors in approach in the course of the narrative of the written determination. We have also identified any areas where the reasons given by Ofcom in the LLU Statement were inadequate or where the right result was reached for the wrong reasons.

1.30 However, if the price control is set correctly notwithstanding a flaw in the methodology adopted by Ofcom, there is no error in the price control. In such circumstances, the proper answer to the Tribunal's Reference Question will accordingly remain that no error in the price control is disclosed. The jurisdiction we

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[9]See 54 to 55 of CPW's response to the provisional determination on inflation.
[10]We discuss the issue of declaratory statements below at paragraphs 1.70 and 1.71.

exercise is, as we have already observed, to consider on appeal on the merits against Ofcom's decision. We do not exercise a merely supervisory jurisdiction to consider whether the reasons given in the decision are flawed.

1.31 It will nonetheless be apparent from the narrative description given in the written determination below where, if at all, we have considered that Ofcom has adopted an incorrect approach or methodology to a particular issue. We would also add that if, in a future appeal, we considered that the absence or inaccuracy of reasons adopted by a regulator meant that we could not understand the decision that had been reached, we might well conclude that the end result could therefore not be justified on the material before us. This may be of most significance where Ofcom would otherwise ask for, and receive, some margin of appreciation for its expertise as a specialist regulator.

1.32 We have however borne in mind 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 are several 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 The parties have made various submissions in relation to the standard of review that should be adopted by us on price control references. While the parties accepted the principles set out in the MCT Determination above, there was some debate as to how these principles should be interpreted.

1.34 The parties were generally agreed on the following aspects concerning the standard of review:

(a) the appeal is an appeal on the merits before a specialist tribunal. The CC discharges an appellate role under section 193(1) of the 2003 Act;

(b) Ofcom's decision must be subjected to profound and rigorous scrutiny; and

(c) the nature of guidance to be given by the CC in answering the Reference Questions.

1.35 There was a dispute between the parties concerning the interpretation of the relevant paragraphs on the standard of review as set out in the MCT Determination concerning:

(a) materiality;

(b) the relevance of the TMobile & O2 case;[11]

(c) the requirement for a more stringent review where there is a prospective analysis; and

[11] *T-Mobile (UK) Ltd and Telefonica O2 v. Ofcom [2008] EWCA Civ 1373,* CA.

(d) the effect on the standard of review of the alleged inadequate consultation undertaken by Ofcom in connection with the LLU Statement (this concerned challenges by CPW where, inter alia, no adjustment to the price control was sought, which we discuss in our assessment of CPW's challenge under §91.1 of the NoA (see paragraphs 2.572 to 2.575 of our cost allocation determination) and also below in paragraph 1.69).

Materiality

1.36 Ofcom raised the issue of materiality in its Defence where it submitted that CPW had mistaken our role in undertaking a review of price control matters. Ofcom submitted that we should proceed with caution in seeking to revisit detailed issues that required a fine weighing and balancing of evidence and that had been considered and consulted upon exhaustively by Ofcom. Ofcom submitted that we could not sensibly act as a substitute regulator, revising all aspects of Ofcom's decision making, even where there were several alternative solutions potentially available to any given regulatory problem. According to Ofcom, our task was, instead, to identify whether Ofcom was materially wrong. Ofcom submitted that CPW failed to show any such material error in relation to any of its grounds of appeal.

1.37 CPW submitted that, with regard to materiality:

(a) its challenge raised substantial issues of economic principle (Ofcom did not dispute this);

(b) any error in the price set for the current charge control period would have persisting effects into the next charge control period (Ofcom did not dispute this);

(c) the very nature of a price control was that tens of assumptions combined to produce an overall cost estimate and so to dismiss a challenge to any individual assumption (viewed in isolation), on the basis that it was only one assumption, would effectively negate the ability to challenge a price control decision; and

(d) none of its grounds raised points which were 'immaterial'.

1.38 Ofcom submitted in its skeleton argument[12] that it could be deduced from the Calls to Mobiles Appeal that the CC exercised the following restraints when examining the exercise of a discretion by Ofcom:

(a) having regard to the materiality of errors;

(b) recognizing a margin of discretion for Ofcom; and

(c) avoiding substitution of judgment without good reason.

1.39 Ofcom then went on to state in its skeleton argument that 'Ofcom's analysis of materiality is intended to assist the CC in focussing its resources … the CC is … entitled to decide how much time and effort to devote to the many detailed points raised under each ground of appeal'.[13]

1.40 CPW concluded that a 'materiality' threshold entered the picture only in the sense that, if the CC concluded that Ofcom erred on a particular point, and if it were to

[12] Ofcom Written Skeleton §6(c).
[13] Ofcom Written Skeleton §11(c).

substitute its own view, this would make no substantive difference to the result on that point. CPW noted that, even in that situation, great caution would be needed. CPW submitted that the potential knock-on effect of the same error being repeated in the next price control must be borne in mind and that the CC should nonetheless set out clearly what approach should have been adopted by Ofcom in any event CPW therefore stated that, in practice, the present case was likely to involve no real scope for any materiality issues to arise.[14]

1.41 Sky submitted in its written skeleton that there was no basis for Ofcom seeking to introduce a materiality threshold into the test to be applied by the CC.

1.42 It is apparent that a number of issues have been canvassed under the heading of materiality, including the margin of appreciation allowed to the regulator. In our provisional determination we said that we intended to assess the materiality of errors found cumulatively, by value, and by reference to each Reference Question or sub-part thereof. Both CPW and Sky took issue with aspects of this approach in their responses to our provisional determination. While the purpose of provisional determinations is not generally to stimulate fresh argument we will address the points made by CPW and Sky below, as indeed we address a limited number of responses to provisional determinations in other sections of this determination.

1.43 In response to our provisional determination, CPW said[15] that materiality is a vitally important issue as small errors on individual elements of the price control may well give rise cumulatively to material errors overall, even if, when taken individually, they are considered to be immaterial. CPW contended that all of the errors identified by it were material when considered on a cumulative basis.[16]

1.44 CPW submitted that, where errors have been identified by the CC in accordance with the grounds of appeal, it is necessary for the CC to take account of their cumulative impact not only in relation to each Reference Question separately, but across the grounds of appeal as a whole.[17] This would involve the CC addressing all errors identified cumulatively and then considering whether there was any material impact on the price control as a whole.

1.45 In response to our provisional determination, Sky referred to §1.27 of the introductory section to the provisional determination and made the following criticisms[18] of the CC's proposed approach:

(a) This passage appears to be ambiguous. To the extent that it means that an error must have some effect on the final decision by Ofcom (or some part of that decision, however small), then Sky agrees with it. If it means that small errors in the price control should not be taken into account in assessing whether Ofcom has erred, because these are not sufficiently material to vitiate Ofcom's decision (or part of it), then Sky disagrees.

(b) Sky does not consider it appropriate to apply a materiality threshold when considering whether Ofcom has erred.

[14] CPW Reply I §33.
[15] CPW Response §13.
[16] CPW's submissions on the CC's provisional determination dated 9 July 2010 at 12 to 18.
[17] CPW response to the provisional determination §14.
[18] Sky response to the provisional determination §4.

(c) To the extent that the CC has found Ofcom to be in error in relation to a point raised in the appellant's grounds of appeal, this is sufficient to vitiate Ofcom's decision (at least in part).

(d) There may be a separate question as to whether it is appropriate and proportionate to require the error to be corrected, but this goes to the appropriate remedy, not to whether Ofcom has erred.

Prospective analysis

1.46 CPW submitted in its NoA that in setting a price control Ofcom purported to be engaged in a prospective analysis. Accordingly, its decision must be 'sufficiently rigorous and thorough [and] because the likelihood of error is greater in a prospective analysis, the prospective analysis must be proportionately more rigorous to account for this possibility'.[19]

1.47 Ofcom submitted that CPW was wrong to contend that a more stringent standard of review should apply to Ofcom's prospective analysis and that this counterintuitive proposition was wrong in principle. Ofcom submitted that it did not follow from the EU case-law considered in *Hutchison 3G (UK) Limited v. Ofcom [2005] CAT 39*; and was not specifically endorsed by the Tribunal in that case. On the contrary, it would be appropriate to accord a more generous margin of discretion to a regulator in respect of judgments about future events, in relation to which there is an inherent element of uncertainty. Ofcom made reference to the remarks of Lightman J in *R v. Director General of Telecommunications ex parte Cellcom* [1999] ECC 314 (emphasis added):

> The court must be astute to avoid the danger of substituting its views for the decision makers and of contradicting a conscientious decision maker acting in good faith … If (as I have stated) the court should be very slow to impugn decisions of fact made by an expert an experienced decision maker, it must surely be even slower to impugn his educated prophecies and predictions for the future.

1.48 Ofcom then stated in its skeleton argument[20] that:

(a) Price control analysis required a regulator to make assessments as to what would happen over the period of the price control (and beyond) in respect of the regulated undertaking's costs and volumes. Such assessments were unavoidable. Equally, they carried an unavoidable, and often relatively significant, element of uncertainty. In Ofcom's submission, it was wrong in principle to suggest that a regulator should be held to any higher standard as regards the rigour of its prospective analysis than in relation to its findings on past events.

(b) An expert appellate body like the CC could and should still recognize the uncertainties inherent in future predictions. It should only substitute judgment where there was good reason for preferring an alternative prediction to that relied on by the regulator. It certainly should not seek to hold the regulator to a higher standard of scrutiny.

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[19] CPW made reference to *Hutchison 3G (UK) Limited v Ofcom* [2005] CAT 39 at [33], which endorsed the approach of the Irish Electronic Communications Appeals Panel in Decision No: 02/05 at 4.23 in respect of appeal ECAP 2004/01).
[20] Ofcom Written Skeleton §10(a).

(c) CPW had relied in its skeleton argument on comments of the Tribunal in *Vodafone v. Ofcom [2008] CAT 22*, §48. However, Ofcom submitted that those remarks were obiter, as was clear from the subsequent paragraph of the Tribunal's judgment which CPW omitted to reproduce, in which the Tribunal concluded that it was not 'necessary, in the circumstances, to address further the question of whether a higher standard applies in the context of prospective analysis' (§49).

(d) In its NoA, by contrast, CPW had referred to the judgment of the Tribunal in *Hutchison 3G (UK) Limited v. Ofcom [2005] CAT 39*, §33. However, Ofcom stated that in that case, the Tribunal expressly endorsed the conclusion of the Irish appeal body, ECAP, that a regulator had to meet any higher standard of proof in relation to ex ante analysis. Ofcom submitted that this suggestion that prospective analysis must be 'proportionately more rigorous' than *ex post* analysis was clearly specific to the issue of significant market power. For the reasons set out above, Ofcom submitted that it would be wrong as a matter of principle to regard it as having any more general application.

The effect of the alleged inadequate consultation on the standard of review

1.49 CPW submitted in its skeleton arguments[21] that the alleged inadequacy of Ofcom's consultation undermined the basis for any margin of discretion which it might otherwise have possessed.

The burden of proof and questions of transparency

1.50 In response to our provisional determination, CPW raised a new but related issue concerning our approach to determining the Reference Questions. It concerned who had the burden of proof in showing that Ofcom had erred. CPW stated that it was important for the CC to adopt an express, clear and principled approach in relation to the burden of proof since it had general ramifications for the CC's approach to a number of the points of appeal.[22]

1.51 CPW stated that it was incumbent on Ofcom, in relation to all aspects of the price control, to justify its approach on the basis of sound reasoning and cogent evidence.

1.52 CPW argued that given the lack of information available to it, CPW could not be expected to provide evidence which lay within BT's possession or control, and which Ofcom needed to obtain. CPW referred to the difficulties it said that it had experienced in obtaining disclosure of documents and information in the course of the appeal and has emphasized the severely disadvantaged position in which CPW believed it had found itself as a result.

1.53 CPW argued that it was essential that the CC, in formulating its general approach in price control appeals, did not place a burden of proof on appellants in the position of CPW that was, in reality, 'impossible to discharge'. CPW argued that this would make appeals on certain issues so difficult as to render those points, in practical terms, immune from effective scrutiny on appeal.

1.54 CPW set out specific examples from the provisional determination where we had given our provisional conclusion that CPW's ground of appeal should be dismissed

[21] CPW Written Skeleton §4.
[22] CPW response to the provisional determination §4.

on the basis of a lack of evidence, and where CPW claimed that this was, in fact, evidence which CPW could not be expected to possess.

Our assessment

1.55 In our view there is not a great deal of ground between the parties on the question of the level of scrutiny we should apply in the LLU Appeal.

1.56 As stated above, we followed the approach adopted in the Calls to Mobiles Appeal. We also note the judgment handed down by the Court of Appeal in the Calls to Mobiles Appeal.[23] In particular, we have considered whether Ofcom erred for any of the specific reasons put forward by the parties. We have assessed each Reference Question on the basis of the facts and the specific exercise undertaken by Ofcom and considered whether CPW, where relevant supported by Sky, has demonstrated that Ofcom did err.

1.57 Where we have not fully understood a party's arguments we have sought clarification. In addition, we have sought to test certain evidence or arguments made by a party, where we have felt that it necessary to do so, in order to assess the cogency and relevance of the evidence. We have also, where appropriate, considered the relevant approach adopted in previous appeals or regulatory practice more generally. We have not, however, carried out additional investigation beyond the scope of the Reference since we do not consider that we have jurisdiction to investigate broader criticisms of the conduct of Ofcom before, during or after the publication of the LLU Statement.

1.58 As with the Calls to Mobiles Appeal, we consider that any error must have been of sufficient importance to vitiate Ofcom's decision on the point in whole or in part. We recognize that certain areas require more discretion than others and we address these points throughout our determination. Below we set out our view of the particular points of contention between the parties.

Materiality

1.59 We consider that there is force in Ofcom's submission that our task is to identify whether Ofcom's decision has been shown to be materially in error. But we have not found it possible to set out a general approach to the assessment of materiality. In practice considerations of materiality are not amenable to a formal analytical scheme. We have considered materiality on a case-by-case basis as part of our analysis of specific criticisms made by CPW of Ofcom's decision making.

1.60 In answering each Reference Question put to us by the Tribunal, we have considered materiality at three stages of our decision making process.

1.61 First, we have found 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. The principle of considering proportionality in this way is generally accepted by the parties. For example, in relation to questions of cost allocation, we have supported some decisions taken by Ofcom on the ground that Ofcom as the regulator was faced with some real uncertainty about the possibility of obtaining greater certainty through further investigation. We have found that Ofcom was entitled to take into account the

[23] [2010] EWCA Civ 391.

materiality of the sums involved and the likelihood of obtaining greater clarity in deciding whether to expend further time and resource on further investigation.

1.62 Secondly, we have concluded that 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. 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.

1.63 We have considered materiality in this second stage by assessing the value of each particular error found. We have not assessed materiality on the basis of the cumulative value of all the errors we have found, as CPW argued we should. Nor have we assessed materiality on the cumulative value of errors found within a Reference Question or sub-reference question as we proposed in our provisional determination. This is primarily because we have identified only one error that is not material. This is the misallocation of the costs of management of services in Northern Ireland, on which our determination can be found at paragraph 2.613. Consequently, we have not had to decide whether or not to aggregate errors that are not material because there have been no such errors to aggregate.

1.64 However, because the parties to the appeal have made representations on our approach to materiality we think it right to address the issue in case it is of assistance to parties to future appeals and to the CC in its consideration of them. As with materiality generally, we have not identified a formal general approach that would determine when, if at all, immaterial errors should be aggregated. We are mindful that to aggregate immaterial errors has the effect of converting an error that is in and of itself immaterial into a material error through its combination with other immaterial errors. These other errors may be unrelated and may lie in different and discrete aspects of the price control. We do not wish to rule out the possibility that in future appeals there may be cases where such aggregation is justifiable where the cumulative effect of discrete errors had a highly significant impact on the price control set by Ofcom. But as a general approach we would be cautious about elevating the immaterial into the material. We also observe 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 will be remedied. We do not think this is the purpose of this appeal process, which is to carry out an appellate review of Ofcom's decision and not to re-take the decision itself.

1.65 Third, we have considered materiality when deciding whether it is proportionate for the error to be corrected. In terms of materiality in remedies we do not specifically look at the value of the error as such but at the balance between the effort and effect (or cost and benefit) of correcting such error.

Prospective analysis

1.66 We have not found it possible to accept a general prescription as to the consequences of the frequently prospective nature of many of the tasks Ofcom performed in the course of preparing the LLU Statement. We have subjected Ofcom's decisions to thorough scrutiny. In reaching our conclusions, we have been mindful of the nature of the tasks, their difficulty, and the degree of judgement required of Ofcom.

1.67 As we have already stated, we will only substitute our judgement where there is good reason to prefer an alternative approach to that relied on by the regulator.

1.68 The prospective nature of Ofcom's decisions is one element that we have taken into account when deciding whether one approach is better than another. There is consensus that the appeals before us are appeals on the merits and that Ofcom's decisions are subject to rigorous scrutiny. In our scrutiny, we have found it more useful to ask whether we think Ofcom has been shown to have erred in all the circumstances, rather than whether a particular aspect of a determination is particularly forward looking, or is a lesser mix of prospective and other analytical issues.

The effect of the alleged inadequate consultation on the standard of review

1.69 In some areas of CPW's submissions, for example those at §91.1 of the NoA, it is argued that Ofcom should be subjected to an increased level of scrutiny because of alleged defects in consultation. We have thoroughly scrutinized all of Ofcom's decision making in so far as it has been put in issue by CPW. Nothing for us has turned on the idea of 'heightened' scrutiny due to inadequate consultation.

Declaratory statements

1.70 During this appeal, CPW has asked that we make an 'adverse comment' or a declaratory statement in our final determination on certain aspects of Ofcom's approach to the price determination where we have not found that Ofcom has erred.[24] In its response to our provisional determination, Ofcom said that the making of any such statement is outside the scope of the LLU Reference.

1.71 We have not felt it necessary to decide in this appeal whether or not it would be open to us as a matter of law to give a formal declaratory opinion that is adverse to Ofcom's approach in circumstances where no adjustment to the price control has been sought in relation to these matters or is necessary. We would be reluctant to accept that in appropriate circumstances we would be unable to make such a statement. We consider that declarations as to our view of the proper regulatory approach will, where appropriate, provide useful guidance to regulators and lead to time and costs savings in future appeals. But we have made no such statement in this appeal.

The burden of proof and questions of transparency

1.72 The issue of who bears the burden of proof in this appeal had not specifically been raised by CPW prior to its response to our provisional determination. We have adopted an approach that is consistent with other civil proceedings, namely that it is for a party asserting that a decision is wrong to bear the burden of establishing its case. Our view is that it is for CPW to demonstrate that Ofcom has erred for the reasons set out in its NoA. Indeed this is the approach the Tribunal has adopted in the way it has drafted the Reference Questions. We recognize that in a number of

[24]For example, CPW has requested a declaratory statement in relation to our cost allocation finding. In its response to our provisional determination, CPW also requested the CC to make a declaratory statement that Ofcom must, in future consultations, make clear where it considers it would be disproportionate to investigate particular costs and is making no adjustment on the basis of that assessment and why it has reached that conclusion (see CPW Response to Provisional Determination §26). A further request for a declaratory statement is made at §55 of CPW's Response to the Provisional Determination in relation to inflation regarding the adjustment required for the treatment of VAT and mortgage interest rate reversals.

places throughout this final determination, we have determined that Ofcom has not erred because CPW has not demonstrated that Ofcom has erred for the reasons claimed by CPW in its NoA.[25] This simply reflects the fact that CPW has been unable to discharge the burden placed upon it of satisfying us that Ofcom's decision was wrong for the reasons advanced.

1.73 In reality, we do not consider CPW's complaint about the 'burden of proof' to be a challenge to the legally orthodox position of an appellant bearing the burden of showing that the contested decision is wrong. Rather, we consider that the thrust of CPW's complaint is that it considered it had not been provided with sufficient reasons for the decisions in the LLU Statement by Ofcom and/or had not been provided with sufficient documentation and/or information by way of explanation for that decision. In short, the true point of CPW's complaint is that Ofcom's decision and/or decision-making process was insufficiently transparent.

1.74 We recognize that any party challenging a regulatory decision in respect of a third party's pricing behaviour will suffer from the initial disadvantage of informational asymmetry in relation to the decision-making process. We nonetheless observe that there are procedures before the Tribunal to enable a party to these proceedings to seek disclosure and/or obtain information where appropriate. We encourage parties to future appeals to invoke the case management powers of the Tribunal at an early stage in order to overcome any perceived lack of understanding of the basis for a contested decision. We comment further below on the disclosure process that was actually followed in this appeal.

1.75 We would also add that we see merit in any decision maker seeking to give the greatest possible degree of transparency to its decisions and decision-making process (consistent with duties of confidentiality) so as to obviate as far as possible the need for extensive disclosure applications in these time-sensitive appeals. This might produce the collateral benefit of discouraging challenges to a decision being brought on the basis of incomplete information.

1.76 We consider that the obligation of transparency on Ofcom, supported by the availability of applications for specific disclosure and the case management powers of the Tribunal, should mean that no appellant need face an 'impossible burden' of showing that a decision taken by Ofcom was wrong.

Our procedure

1.77 For this reference we adopted a procedure which, in our view, was suited to the nature of our task.[26] We received financial models used by Ofcom in setting the price control. Ofcom provided an explanation of some of these models in a meeting with Ofcom (attended by all parties). We received written arguments and evidence from the parties, held both plenary and bilateral hearings, issued requests (copied to all parties) where we considered we needed further information, and issued provisional determinations for comment. Overall, a great deal of material was submitted throughout the process. We have taken very careful account of all the material submitted to us, including responses to our provisional determinations.

1.78 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

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[25] For example, in relation to our findings on inflation, we found that CPW has not demonstrated that its case that its approach of applying RPI clearly has more merit as a basis for forecasting future salary costs than Ofcom's approach of applying its underlying inflation rate.

[26] We informed the parties of the main steps in the procedure that we envisaged in our First Day Letter of 18 December 2009.

that follow, we have attempted to refer to what we considered to be the key submissions and pieces of evidence in relation to each of the points we considered.

1.79 A confidentiality ring had been established by the Tribunal in October 2009.[27] In our 'First Day Letter' of 18 December 2009, we indicated that we would adopt the Tribunal's confidentiality ring.

1.80 Over the course of the LLU Appeal, there have been a number of issues concerning disclosure of documents that have impacted upon our process.

1.81 On 19 January 2010, CPW requested from Ofcom a number of documents that Ofcom had referred to in its Defence. Ofcom was not in possession of the full unredacted documents which were BT documents and so BT was requested to supply these documents by Ofcom.

1.82 There were numerous exchanges between the parties concerning this disclosure, culminating in an order from the Tribunal on 17 March 2010 requesting that the CC review the unredacted versions of these documents to determine their relevance and determine whether those documents should be disclosed to members of the confidentiality ring. We carried out our review very quickly. Nonetheless, complete disclosure of the relevant documents was not made until May 2010. This meant that the CC had to allow the parties time for further submissions on the disclosed documents. Final submissions were received on 1 June 2010. The disclosure of these documents at a very late stage of the LLU Appeal has meant that an already long process has become even longer. We also note that there were initial issues concerning CPW's access to Ofcom's confidential LLU model (although these were resolved prior to the Reference being made to the CC).

1.83 These issues have resulted in a large number of submissions being received from the parties months in to the LLU Appeal process. This has created an extra level of complexity to the appeal process.

1.84 It is our hope that in the future parties to Communications Act appeals will seek to identify and resolve disclosure issues earlier in the process, ideally prior to any reference being made to the CC.

[27] The confidentiality ring was established by an order of the Tribunal of 1 October 2009, following discussion at a case management conference held on the same date.

Section 2: Reference Question 1(i): Efficiency

2.1. This section sets out our conclusions as to whether Ofcom erred in its assessment of efficiency for the reasons as claimed by CPW in §§76–84 of the NoA.

2.2. For the reasons given below in paragraphs 2.162 to 2.228, our determination is that Ofcom has erred in its assessment of the rate of efficiency savings that Openreach should be expected to achieve, for certain reasons claimed by CPW in §76–84 of the NoA.

Reference Question to answer

2.3. Reference Question 1(i) states:

> (1) Whether the price controls imposed by Condition FA3(A) on BT have been set at a level which is inappropriate because OFCOM erred in estimating BT's efficient costs in 2012/13 for metallic path facility rental ('MPF'), shared metallic path facility rental ('SMPF') and associated ancillary services ('ancillary services') in one or more of the following respects:
>
> (i) OFCOM erred in its estimation of the level of efficiency improvements that might reasonably have been expected to be achieved in respect of Openreach's costs and/or the BT Group's costs allocated to Openreach for the reasons set out in paragraphs 76 to 84 of the Notice of Appeal.

2.4. §§76–84 of the NoA concern CPW's challenge to Ofcom's efficiency assessment in the LLU Statement.

Summary contents of this determination

2.5. This determination is structured as follows:

- First, we consider the purpose of Ofcom's efficiency assessment in paragraphs 2.6 to 2.8.
- Second, we identify and explain the three-stage framework that we have applied in conducting our analysis of the evidence presented to us in relation to efficiency (paragraphs 2.9 to 2.12). We also describe the quantitative indicators utilized in our assessment (paragraphs 2.13 to 2.16).
- Third, we consider Ofcom's approach to its efficiency assessment in paragraphs 2.17 to 2.59.
- Fourth, we consider CPW's case (paragraphs 2.60 to 2.106), Sky's intervention (paragraphs 2.107 to 2.113), Ofcom's Defence (paragraphs 2.114 to 2.136) and BT's intervention (paragraphs 2.137 to 2.160).
- Fifth, we set out our assessment of the evidence based on the three-stage framework we have applied throughout our examination of efficiency (paragraphs 2.163 to 2.222).

- Lastly, we set out our conclusions on efficiency in paragraphs 2.223 to 2.229 and make our determination in respect of Reference Question 1(i) in paragraphs 2.238 to 2.239.

The purpose of Ofcom's efficiency assessment

2.6. In setting the LLU price control, Ofcom was concerned to ensure that the price paid by a purchaser of MPF or SMPF services from Openreach would reflect the cost of the efficient provision of those services. Consequently, identifying the extent to which Openreach could be expected to provide MPF and SMPF more efficiently during the period of the price control, if indeed it could do so at all, was an important part of the process by which the LLU price controls were set. As the price for each LLU service was determined by adding allowable costs to an allowed rate of return on capital employed, and expressing this in terms of price per unit, the purpose of the efficiency assumption was to reduce (or constrain) costs including capital costs relative to those that might be incurred in the absence of competition.

2.7. The approach that Ofcom adopted in making its efficiency assessment was to estimate a target value for annual efficiency savings that mimicked the effect that competitive market forces would have on Openreach's costs. This was different from an approach that sought to construct the cost structure of a hypothetical efficient Openreach. The extent to which Openreach's management may generate efficiency savings and the specific categories of costs on which efficiency savings will be made in the future is uncertain. Therefore, in making its assessment, Ofcom focused primarily on setting a target for efficiency savings rather than predicting precisely the savings which would be made. Alongside the inherent difficulty of estimating future outcomes with precision was the challenging balancing exercise that Ofcom was seeking to apply. Efficiency targets should aim to preserve the incentive for management to exceed the target, whilst managing the risk that BT would retain the benefit if an efficiency target were surpassed due to it being insufficiently demanding.

2.8. The rate of efficiency savings that a regulator sets as its target is usually based on a number of measures and indicators, each of which has strengths and weaknesses as a guide to the savings that may be made. Each indicator must to some extent be assessed in the light of the others. Because of the nature of the exercise, we judged that it was appropriate to afford Ofcom some latitude in its efficiency assessment.

The framework for assessment of the efficiency grounds

2.9. We outline below the three-stage framework we applied to assess and assimilate the evidence presented in relation to the efficiency grounds. The three stages were:

(a) identification of sources of efficiency savings;

(b) measurement of the rate of efficiency savings; and

(c) application of the rate of efficiency savings to Openreach's costs.

Identification of sources of efficiency savings

2.10. The first stage concerned the sources of efficiency savings at issue in the case. For example, sources of efficiency savings may include reductions in input costs or quantities to achieve a particular output. In this case, the two sources of efficiency savings that Ofcom incorporated into the price control were termed 'general efficiency' and 'fault rate reduction efficiency' savings.

Measurement of the rate of efficiency savings

2.11. The second stage concerned the techniques used by Ofcom to measure efficiency savings, including the relative weight it applied to various indicators to conclude on the appropriate rate of savings, and the issues raised by CPW, Sky and BT in this regard. In this case, Ofcom examined quantitative evidence that related to both historical and forward-looking periods, and estimated costs by looking at Openreach itself as well as indicators from other companies ('benchmarks'). Ofcom also used qualitative techniques to assess evidence and settle on the relative weight attached to different measures of efficiency savings. The dispute in this case centred on the relative reliability of various measures, and the weight attached to these measures in Ofcom's final assessment of efficiency.

Application of the rate of efficiency savings to Openreach's costs

2.12. The third stage concerned the way in which the efficiency rate of savings, as measured, was applied in this case, and the consequent impact on the price control. Whether the application of an efficiency savings rate will have the intended effect on the price control depends upon clear and consistent terminology, which we address below. In this case, the principal issues in dispute were:

(a) whether different measures of efficiency savings should be applied to all or some Openreach costs; at issue in this case was Ofcom's categorization of Openreach's costs as 'compressible' or 'non-compressible' costs;[1]

(b) the extent to which Openreach could achieve efficiency savings at a constant rate over successive years; whether the rate of efficiency should be applied to Openreach's costs at a constant rate, or a tapering rate;

(c) whether the Openreach cost and volume estimates (as set out in the business plan) to which the efficiency savings rate was applied was objective and contemporary when the LLU Statement was finalized; and

(d) whether the efficiency savings rates specified in the LLU Statement were applied on a gross or net basis. An efficiency saving rate that is expressed before implementation costs is described as 'gross'. After deducting implementation costs, the rate of efficiency improvement is 'net'.

Consistent definition of quantitative indicators

2.13. In order to apply this framework to the evidence, we found it helpful to combine the two sources of efficiency savings that Ofcom identified (general efficiency and fault rate reductions) and express these as a total rate of efficiency savings as this made it easier to compare alternative efficiency measures and consider the results to Openreach's total costs.

2.14. As set out in Table 2.1 below, the 'general efficiency' targets, expressed as a percentage of compressible costs, for 2009/10 to 2012/13 were annual savings of 4, 3, 2 and 2 per cent respectively. Ofcom assumed a 'fault rate reduction' assumption of 2 per cent for each year, which it said was equivalent to a 0.7 per cent reduction in

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[1]To convert an efficiency rate expressed as a percentage of compressible costs into an efficiency rate expressed as a percentage of total cost, it is necessary to multiply by the proportion of compressible costs (for example, if compressible costs are 75 per cent of total costs, then a 4 per cent efficiency saving based on compressible costs is equivalent to a 3 per cent rate of efficiency applied to total costs).

compressible costs. This is equivalent to total rate of efficiency saving on total costs of 3.5, 2.8, 2.0 and 2.0 per cent for the four years. As a result, in this document 'total efficiency' refers to the sum of general efficiency and efficiency savings stemming from reductions in fault rates, expressed as a percentage of Openreach's total costs.

TABLE 2.1 **Derivation of total efficiency savings based on total costs**

per cent

	2009/10	*2010/11*	*2011/12*	*2012/13*	*Average*
General efficiency savings					
General efficiency as percentage of compressible costs	4.0	3.0	2.0	2.0	2.8
Assuming 75% of costs are compressible: general efficiency saving as percentage of total costs	3.0	2.3	1.5	1.5	2.0
Reduction in fault rate efficiency saving					
Fault rate reduction efficiency saving assumption	2.0	2.0	2.0	2.0	2.0
Fault rate reduction efficiency saving expressed as equivalent reduction in compressible costs	0.7	0.7	0.7	0.7	0.7
Assuming 75% of costs are compressible: fault rate reduction efficiency saving expressed as equivalent reduction in total costs	0.5	0.5	0.5	0.5	0.5
Total efficiency saving (sum of general efficiency and fault rate reduction assumption)					
Total efficiency saving rate (gross rate applied to total costs)	3.5	2.8	2.0	2.0	2.6

Source: Ofcom.

2.15. The total rate of efficiency savings can be interpreted on either a 'gross' or 'net' basis. The terms are equivalent in the absence of implementation costs to achieve the reduction in costs (and absence of other potentially offsetting costs in financial models).

Summary of main quantitative indicators

2.16. Table 2.2 below sets out a comparison of the efficiency assumptions from the sources presented in this appeal.

TABLE 2.2 **Comparison of efficiency savings assumptions**

					per cent
	2006/07	*2007/08*	*2008/09*		
Historical efficiency rate of efficiency savings					
Historical rate (Ofcom estimate): general efficiency on total costs (excluding fault rate reduction)*	0.6	3.6	2.4–3.5		
Historical rate (BT estimate): total efficiency (including fault rate reduction) on total costs†	[✂]	[✂]	[✂]		
Openreach management financial reports: total efficiency (including fault rate reduction) on total costs‡		[✂]	[✂]		
	2009/10	*2010/11*	*2011/12*	*2012/13*	*Average*
Forecast efficiency savings rate					
LLU decision: total efficiency on total costs§	3.5	2.8	2.0	2.0	2.6
KPMG report: efficiency on total costs, excluding fault rate reduction¶	3.2–3.5	3.2–3.5	3.2–3.5	3.2–3.5	3.4
Econometric study (Deloitte report) (total efficiency on total costs)#	0.5–1.1	0.5–1.1	0.5–1.1	0.5–1.1	0.8
Openreach management financial reports (total costs, including fault rate reduction)‡	[✂]				
BT Group target~	4.5				

Source: CC analysis.

*Ofcom, a new pricing framework for Openreach, Second Consultation, 5 December 2008, Chart A14.1 (the stated values shown on this chart are estimated to be 1 per cent in 2006/07, 6 per cent in 2007/08 and 4 per cent to 5.8 per cent in 2009/10. These have been converted using the Ofcom assumption that 60 per cent of Openreach's total costs were ratio of compressible costs. It is assumed that the ratio of 60 per cent was relevant to each year).
†BT: Mr Shurmer amended W/S Figure 3, at §76 (stated values converted at 60 per cent ratio of compressible costs).
‡See Table 2.3.
§See Table 2.1.
¶KPMG: BT Openreach efficiency review for Ofcom, November 2008.
#LLU Statement, §A9.29–30 refers to econometric study conducted for BT by Deloitte (stated range of 0.8–1.8 per cent of compressible costs, converted at 60 per cent ratio of compressible costs).
~CPW Heaney I W/S §68.

Ofcom's efficiency assessment in the LLU Statement

2.17. We first consider Ofcom's approach by examining in turn, how it considered:

(a) identification of sources of efficiency savings;

(b) measurement of the rate of efficiency savings; and

(c) application of the rate of efficiency savings to Openreach's costs.

Ofcom's approach to the identification of sources of efficiency savings

2.18. Ofcom's assessment identified two sources of efficiency savings. The first source was what Ofcom termed the 'general efficiency rate' assumption. Ofcom assessed the ability of Openreach to make savings in the costs incurred in providing MPF and SMPF services through improved productivity. In other words, it assessed Openreach's ability to do things more cheaply. The general rate of efficiency was applied via a series of computations in a financial model of Openreach's cash costs. For example, the percentage rate was applied to the average time taken (in hours) to complete various activities performed by Openreach's direct labour ('task times'), which ultimately reduced the labour costs (in pounds) by the efficiency target, and the general efficiency saving rate was applied as a percentage of costs to reduce compressible costs directly (in pounds).

2.19. The second source of efficiency saving was based on Ofcom's assessment of the likelihood that there would be reductions in the number of faults in Openreach's communications network. In other words, it assessed the rate at which one important source of demand on Openreach's labour resources, its obligation to repair faults, would diminish. The 'fault rate reduction' assumption was applied to the forecast volume of labour, which in turn affected Openreach's labour costs through a series of computations in a financial model.

2.20. To reach its final assessment of the rate of efficiency savings, Openreach's total efficiency target, Ofcom combined the two measures of efficiency savings.

2.21. In its Defence,[2] Ofcom distinguished between what it called the 'the traditional approach' to identifying savings and the approach adopted in the LLU Statement. In the traditional approach, Ofcom would have identified an average efficiency saving that, when applied to all costs, would have set the appropriate overall target. Ofcom stated that this approach was unable to distinguish the effects of doing things more cheaply from doing things less often, and did not recognize that some areas of operation offered more scope for cost savings than others. In the traditional approach, no 'sensible forecasts' could be provided for individual categories of costs. Ofcom stated that, by contrast, it had taken a much more focused approach in the LLU price control, adopting and adapting BT's own models of costs.

Measurement of the rate of efficiency savings

2.22. In the LLU Statement,[3] Ofcom relied on four sources of evidence (or estimation techniques) to assess the general efficiency target. These were:

(a) KPMG efficiency review;

(b) historical indicators of Openreach's efficiency savings;

(c) Openreach's 2009/10 budget; and

(d) econometric studies (NERA report and Deloitte study).

2.23. Alongside these, in order to estimate the fault rate reduction target, Ofcom examined historical data and considered future trends in faults and converted this into an efficiency savings rate.

2.24. The LLU Statement[4] indicated that the consultation undertaken by Ofcom before it settled on the LLU price control led to a wide range of frequently conflicting views.

KPMG efficiency review

2.25. Ofcom instructed KPMG in November 2008 to conduct an efficiency review of Openreach's operating costs. KPMG concluded that under its assumption of constant task times and fault rates: in percentage terms, Openreach would need to make efficiency savings of between 3.2 and 3.5 per cent a year from 2008 until 2013 on its operating costs base for this to be comparable to that of an organization operating in a competitive environment.[5]

2.26. The efficiency savings rate identified was an annual percentage rate at which savings should be made on operating costs to reach the competitive level of costs. KPMG's

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[2]Ofcom Defence Annex A §5.
[3]LLU Statement §A9.
[4]LLU Statement §A9.
[5]As set out in the LLU Statement at §A9.38.

conclusion was not expressed in terms of the rate at which compressible costs could be reduced. KPMG also assumed that fault rates and task times would remain constant[6] and did not explicitly examine implementation costs for initiatives to close the gap in total costs over the five-year time period indicated by KPMG.

2.27. During the LLU consultation phase, Openreach commissioned Ernst & Young to provide a commentary and critique of the KPMG efficiency review. The Ernst & Young report claimed to have identified a number of shortcomings in the KPMG approach, which are discussed in LLU Statement.[7]

2.28. Nonetheless, Ofcom dealt with this critique in the LLU Statement and concluded:

> Overall, we remain of the view that the KPMG report provides relevant—but not conclusive—evidence of the scale of potential efficiency gains and should be considered alongside the other evidence set out in this annex in reaching our final decision that they had taken the results of KPMG's efficiency review into account.[8]

Historical indicators of Openreach's efficiency savings

2.29. The second principal estimation technique on which Ofcom relied was the evidence of efficiency savings actually realized by Openreach in recent years. In the LLU Statement[9] the evidence is described as 'historical trend analysis'. Ofcom analysed Openreach's costs since its creation in January 2006 to identify the rate at which it had become more efficient.

2.30. Ofcom explained that it undertook an analysis of Openreach's costs since 2006/07 to assess its actual efficiency savings. Ofcom explained:

> We adopted a historic measurement that is consistent with the way in which efficiency is applied in the Openreach model. We evaluated the effective reduction in costs relative to the level of costs that would be predicted on the basis of inflation and volume measurements alone. We expressed the cost reductions that are delivered relative to this level as a percentage of compressible costs.[10]

2.31. Ofcom's assessment of the historical data was summarized in its Second Consultation:

> Efficiency gains in the past two years have exceeded 4% per annum. We estimate that gains could have been up to 6% in both of the last two years. A lower apparent improvement was achieved in 2006/07. However, this number should be treated with caution as it is based on a

[6]KPMG concluded that Openreach's costs in 2007/08 were 14.6 per cent above its benchmarked costs (ie £3.69 billion vs £3.22 billion) and based on industry-wide productivity gains of 2.1 per cent a year for five years were 26 per cent above a benchmark target for 2012/13. KPMG said that for Openreach to eliminate its inefficiency gap fully over the five-year period would require annual efficiency savings of 3.2 per cent a year. KPMG expressed its conclusion as a range of 3.2 to 3.5 per cent on the basis that a higher rate of annual industry-wide productivity gains, 2.3 per cent a year would be relevant if three six-year periods of recession were used. KPMG stated that if alternative assumptions were applied for fault-rate reductions and for task-time reduction this would affect its results. KPMG concluded that if task times were too long (but fault rates held constant), this could suggest that Openreach had more field staff than it should, and KPMG indicated that a 10 per cent reduction in staff would shift its range up by 0.5 to 3.7 per cent to 4.0 per cent a year.
[7]LLU Statement §§A9.53–A9.70.
[8]LLU Statement §A9.72.
[9]LLU Statement §A9.
[10]LLU Statement §A9.75.

comparison of pro-forma results for 2005/06—before Openreach was established.[11]

Openreach's 2009/10 budget

2.32. The third principal estimation technique on which Ofcom relied was Openreach's own cost and revenue forecasts for 2009/10.

2.33. Ofcom explained that because it had obtained Openreach's internal forecasts for 2009/10 under compulsory powers, those forecasts provided a 'recent and relevant insight into the efficiency gains that Openreach might be expected to deliver in the near future'.[12] For this reason, Ofcom attached 'significant weight' to this evidence. Ofcom repeated a point it made in the LLU Statement that, although the forecasts for 2009/10 showed a saving in excess of 4 per cent, there was no guarantee that savings could be made. It also noted that such savings could not be obtained without cost, for example through redundancy payments. [✂] Having regard both to the levels of savings which might be possible and to the risks involved in achieving those savings, Ofcom concluded that a reduction of 4 per cent of compressible costs was the appropriate target for 2009/10.

2.34. Ofcom found that, while some of Openreach's cost reductions were attributable to declining volumes, there were other contributing factors. Ofcom concluded from Openreach's forecasts that the anticipated cost savings would result in a 4 per cent reduction in costs for 2009/10. After considering the risk of achieving savings and implementation costs, Ofcom concluded that 4 per cent [of compressible costs] was the appropriate rate for 2009/10.[13]

Econometric studies (Deloitte study for BT and NERA report for Ofcom)

2.35. In the LLU Statement,[14] Ofcom said that it had traditionally considered efficiency savings in two parts: frontier shift (representing how the telecommunications industry as a whole had improved its efficiency) and catch-up efficiency (the additional efficiency required to reach best practice). Ofcom stated that in previous cost reviews it had commissioned econometric analysis from NERA to estimate the frontier shift. This analysis involved benchmarking BT's costs against the US Local Exchange (LEC), adjusted for known differences such as topography and accounting policies. Ofcom also said that it had referred to an econometric study conducted for BT by Deloitte that concluded that BT's network as a whole ranked within the top decile of LECs. Ofcom stated that the econometric data indicated an annual efficiency target of 0.8 to 1.8 per cent on compressible costs (0.6 to 1.4 per cent of total costs, based on compressible costs of 75 per cent, applicable to MPF). Ofcom explained that this approach was not the primary measurement technique applied in the LLU Statement: 'Overall we concluded that statistical analysis had worked reasonably well in the past, [but] direct benchmarking of Openreach against LECs was problematic. We therefore concluded that it was necessary to look for alternative measures of efficiency to encompass both the frontier shift and catch up efficiency.'[15]

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[11]LLU Statement §A14.45 and Chart A14.1.
[12]Ofcom Defence Annex A §21.
[13]LLU Statement §§A9.92 & A9.93.
[14]LLU Statement §§A9.28–A9.31.
[15]LLU Statement §A9.31.

The relative weight Ofcom attached to general efficiency indicators

2.36. In the LLU Statement and the Defence, Ofcom explained the relative weight it attached to the various indicators for the general efficiency assumption. Ofcom stated that the significant factors in its assessment of the general efficiency assumption were:[16]

(a) Openreach's internal budgets and financial forecasts: Ofcom emphasized that these forecasts were prepared by BT for internal and not regulatory purposes. Ofcom considered that, for this reason, it was appropriate to place significant weight on these forecasts, subject to Ofcom's own review of the reasonableness of Openreach's underlying assumptions.

(b) The benchmarking exercise performed by KPMG was used as a cross-check on the reliability of Openreach's internal projections of efficiency gains in respect of operating costs.[17]

(c) Openreach's historical savings: Ofcom noted that historical rates were not necessarily reliable guides to the future.[18]

(d) The econometric studies performed by Deloitte and by NERA. This played a limited role in the LLU Statement, but was afforded some prominence by Ofcom in its Defence.

Measuring reduction in fault rates

2.37. In considering the rate at which faults might decline in the future, Ofcom considered:

(a) the rates at which faults had reduced in the past;

(b) BT's internal projections; and

(c) the reasons advanced by Openreach as to the levels at which fault rates would decline, noting that while continuing investment in the network was a factor that should lead to a declining fault rate, other factors such as increases in the take-up of broadband were likely to increase the fault rate.

2.38. Openreach argued that many of the opportunities which had allowed gains to be made in fault rate reductions had now been fully exploited. Ofcom stated that it did not accept Openreach's estimate of the likely rate at which faults would fall, but it did accept that historic levels of fault reduction were unsustainable.[19]

2.39. Openreach provided Ofcom with a chart showing the annual number of faults between 1994 and 2007 and its forecast for the number of faults in 2008 to 2012.[20] Ofcom stated:

> We explained [in the Second Consultation] that this evidence indicated that fault rates have fallen at a rate of between 4% and 10% depending on the period under review. We accepted many of Openreach's arguments that some of the larger declines in fault rates are unlikely to be

[16]Ofcom Defence Annex A §3.
[17]Ofcom Defence Annex A §94.
[18]Ofcom Defence Annex A §3.1.
[19]LLU Statement §A9.124.
[20]LLU Statement Chart A9.1.

> repeatable in future but considered that a projected fault rate of somewhere around 4% to 6% represents a realistic target.[21]

2.40. Ofcom also said:

> Openreach stated that four factors contribute to its view that fault rates will stay flat, as follows: the gains made in the past via proactive improvement tapers off after 2009/10 as the opportunity for efficiency investment reduces; the impact of broadband take up—which tends to increase faults—continues to rise, but to a lesser extent as growth in broadband slows; the volatility in fault rates has now been taken out and no further improvements are to be made; and; network intervention and repeat faults falls with the overall fault rates.[22]

2.41. Ofcom concluded:

> We consider that Openreach's ability to reduce fault rates, at a time when other factors might be pushing fault rates up, may be less than we had first thought. However, we do not accept that Openreach—that has managed to reduce fault rates consistently over the last twenty years will be unable to find ways to reduce fault rates further in the years ahead. On this basis, we conclude that annual reductions of around 2% should be achievable.[23]

2.42. With respect to the measurement of efficiency savings from reductions in fault rates, Ofcom observed that fault rates had fallen repeatedly over the past 20 years, and it expected that they would continue to fall.[24] Ofcom judged that, in the period from 2009/10 to 2012/13, the rate at which it expected the fault rate to fall was 2 per cent a year. In reaching this conclusion, Ofcom weighed the factors which would tend to result in a decline in faults (ie the likelihood of a decline in the base level of faults and better management of faults caused by rainfall and network intervention), with the factors which would tend to increase the number of faults (ie natural degradation of the network, increasing 'cable fill' and two new rules (the 6dB rule and the SIN5XX Statement of Requirements), both of which could increase the number of events which are identified as faults).[25]

Ofcom's approach to the application of the rate of efficiency savings to Openreach's costs

2.43. We next summarize the approach that Ofcom took to apply the rate of efficiency to Openreach's costs, by examining in particular:

(a) non-compressible costs;

(b) tapering rate of efficiency savings; and

(c) Ofcom's financial model for Openreach.

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[21] LLU Statement §A9.111.
[22] LLU Statement §A9.120.
[23] LLU Statement §A9.124.
[24] LLU Statement §A9.124.
[25] LLU Statement §A9.118.

Non-compressible costs

2.44. Ofcom distinguished between two categories of Openreach costs to which it applied the general rate of efficiency savings: first, compressible, meaning that costs were susceptible to efficiency savings, and second, non-compressible, meaning that they were not. By distinguishing compressible from non-compressible costs, and then applying the rate at which savings could be made to compressible costs, Ofcom sought to establish a rate of efficiency improvement derived from those classes of costs where savings could be made. By virtue of Ofcom's decision to identify some costs as non-compressible, the general rate of efficiency improvement determined by Ofcom, when expressed as a percentage of all costs, was lower than the 'headline' rate set out in the LLU Statement, which was expressed in terms of compressible costs.[26]

2.45. By Ofcom's assessment, Openreach's compressible costs were 60 per cent of its overall cash costs, and 75 per cent of the cost of providing MPF and although it did not specify the proportion of compressible costs of providing SMPF services, this was close to that of MPF.[27] Ofcom considered that aligning the rate at which savings were forecast with the rate at which savings had been made in the past reduced the potential for error through misidentification of compressible and non-compressible costs.[28]

2.46. A number of specific cost categories were treated as non-compressible, the most material of which were 'accommodation rental costs' and 'cumulo rates'. Ofcom's approach to these cost categories is discussed below.

Cumulo rates

2.47. Cumulo rates represent the business rates that the Government levies on BT Group's network infrastructure, based on a periodic valuation of these assets by the Valuation Office Agency (VOA). Openreach is allocated a proportion of the total BT Group cumulo rate bill.

2.48. Ofcom explained[29] that, outside the efficiency review, it separately reviewed Openreach's allocation of cumulo rates to Core Rental Services and reduced the forecast allocated costs by £19 million.

2.49. Ofcom stated[30] that on the basis of discussions with BT, it was satisfied that BT could not be expected to achieve efficiency savings in cumulo rates during the four-year period of the price control. Ofcom also pointed to the possibility that Openreach would face potential implementation costs if it were to change the layout of its network in anticipation of reducing its cumulo rates costs.

Accommodation rental costs

2.50. Accommodation rental costs represent the rental charges that Openreach incurs to occupy exchange buildings.

[26] LLU Statement §A9.14.
[27] Ofcom Defence Annex A §§37–39.
[28] LLU Statement §A9.24.
[29] Ofcom Defence Annex A §79.1.
[30] Ofcom Defence Annex A §79.1.

2.51. In relation to accommodation rental costs, Ofcom stated[31] that nearly all of Openreach's accommodation costs were covered by a single sale and leaseback agreement with Telereal (a joint venture between Land Securities Trillium and The William Pears Group) and that under the terms of these long-term arrangements, BT rented the properties from Telereal at annual rents that increased automatically by 3 per cent each year. Ofcom stated that it had no reason to consider that this was not a reasonable deal for BT and that the arrangements provided no real ability to negotiate lower rents.

Tapering rate of efficiency savings

2.52. Ofcom did not consider Openreach to be efficient[32] and, in Ofcom's view, Openreach's own external review on comparative efficiency levels supported that assessment.

2.53. Openreach argued that the rate of savings accomplished or anticipated in the period from 2008 to 2010 reflected some 'quick wins', which could not be maintained.[33] Ofcom, while not persuaded by the extent to which Openreach claimed quick wins, did accept that the rate of savings might decline. As to the years after 2009/10, Ofcom explained that Openreach had provided it with confidential data showing that savings in the past had been facilitated by reductions in the more flexible elements of its labour force, and there was limited scope for further such reductions. Openreach said that, if it were to maintain a 4 per cent rate of savings, it would necessitate a [✂] per cent reduction in the number of its employees by 2012/13. Ofcom considered this reduction in Openreach's staff numbers to be too severe and accepted that Openreach faced a declining opportunity to reduce its costs. Consequently, Ofcom accepted that it should set a target for Openreach to achieve a declining rate of annual efficiencies. The rate at which Openreach would be expected to make efficiency gains, excluding fault rate considerations, was cut to 3 per cent for 2010/11 and to 2 per cent for 2011/12 and 2012/13.[34]

Ofcom's financial model for Openreach

2.54. Although the LLU price controls have effect only from 22 May 2009 until 31 March 2011, Ofcom applied its rate of efficiency savings assumptions to a financial model containing a forecast of Openreach's cash costs in the four-year period 1 April 2009 to 31 March 2013. Ofcom used a financial model that it obtained from Openreach spanning the five-year period 1 April 2007 to 31 March 2013, for which the first year was historical data, derived from Openreach's management accounts for the financial year to 31 March 2008, and the subsequent four years were forecasts generated by financial modelling assumptions that Ofcom applied by making adjustments to the Openreach assumptions.

2.55. Ofcom produced its price determination between 2008 and 2009, having published its First Consultation on 30 May 2008 and the LLU Statement on 22 May 2009. This interval spanned BT's financial year end 2008/09, and for the majority of this time, BT's financial year end 31 March 2008 was the most recently available actual information, whereas the 2008/09 period remained a future estimate, even though the LLU Statement was published after the corresponding financial year had ended.

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[31] Ofcom Defence Annex A §79.2.
[32] LLU Statement §A9.31
[33] LLU Statement §§A9.107 & A9.108.
[34] Ofcom Defence Annex A §§27–30.

2.56. Ofcom reviewed, adapted and periodically updated the financial models throughout the course of the LLU review, which concluded shortly after the end of Openreach's financial year end 31 March 2009. Ofcom sought to validate its modelling assumptions with reference to additional evidence that it obtained from Openreach with respect to the financial years 2008/09 and 2009/10.

2.57. Within the cash-flow model that Ofcom obtained from Openreach and adapted, costs were classified as compressible or non-compressible according to whether Openreach was able to achieve savings over the four-year period of the forecast rather than over the period of the price control.

2.58. There were two principal parts to the financial modelling. The first part was a cash flow model for Openreach as a single business unit.[35] The efficiency targets were applied to the forecast costs of Openreach within this cash flow model before accounting rules (eg whether to treat a cash cost as an operating expense or a capital expenditure) were applied to these costs. The second part involved allocation and accounting models,[36] which produced forecasts for the individual LLU products (including MPF and SMPF) based on a set of modelling rules to allocate Openreach costs to specific products.

2.59. Ofcom applied its efficiency savings target to Openreach's gross costs expressed in nominal terms. The financial model included estimates of costs that would be incurred in order for Openreach to achieve savings ('implementation costs'). Ofcom said that 'efficiency targets should be considered on a "net" basis, after taking account of both efficiency savings and the investment required to achieve those savings'.[37] The model will only result in a nominal reduction in costs if the target set exceeds inflation.[38]

CPW's challenge to the efficiency assessment

2.60. CPW claimed that Ofcom did not set sufficiently demanding efficiency targets for Openreach.[39] The reasons relied on by CPW can be summarized using the same framework that we have applied above:

(a) Sources of efficiency: CPW did not take issue with Ofcom's decision to identify separately two sources of efficiency savings—general efficiency and fault rate reduction—but it considered that these sources excluded some potential efficiency savings.

(b) Measurement of the rate of efficiency savings: CPW criticized Ofcom's overall methodology and approach to measure efficiency targets, including the relative weight attached to various quantitative and qualitative techniques.

(c) Application of the rate of efficiency savings to Openreach's costs: CPW criticized the way in which Ofcom had applied efficiency measures to elements of Openreach's costs, in particular the treatment of some costs as non-compressible costs rather than as compressible costs, and the decision to apply the efficiency target as a 'tapering' rate over the forecast period. CPW also said that the financial modelling approach resulted in lower net efficiency savings being applied to Openreach's costs than was apparent from the LLU statement.

[35] This is known as the Cash Flow Model or CF Model.
[36] Known as the Oak Model and RAV models.
[37] LLU Statement §A9.11.
[38] LLU Statement §A9.9.
[39] CPW NoA §§76–84.

CPW's issues with respect to sources of efficiency savings

2.61. In relation to sources of efficiency, CPW did not take issue with Ofcom's decision to identify separately two sources of efficiency—general efficiency and fault rate reduction, but it was concerned that Ofcom had omitted some sources of potential efficiency savings, and Ofcom had thereby understated the total efficiency saving that Openreach would be capable of achieving in total. These potential sources of efficiency were summarized by Mr Heaney to be:[40]

(a) operational efficiency from reduced task times, more flexible working and de-layering of management; and

(b) reductions in overheads allocated by BT Group to Openreach.

2.62. The approach that CPW took to quantify these omissions was to present a revision of the range set out in the KPMG efficiency review.

CPW's issues with respect to measurement of the rate of efficiency savings

2.63. In relation to measurement, CPW argued that in setting efficiency targets, Ofcom should have given weight to a number of 'objective indicators and inputs', such as benchmarks from relevant companies or industries, historic rates achieved by Openreach, management plans and expert views.[41] CPW submitted that what Ofcom should not do was rely on Openreach's own statements, as Openreach's incentive was to understate the gains that could be made, so as to enable it to set higher prices and so make increased profits. Further, in CPW's view, Openreach tended as a matter of fact to underestimate the potential for efficiency savings. CPW said that in the LLU Statement Ofcom had effectively relied on Openreach's representations about the scope for efficiency savings.

2.64. In support of this argument, CPW pointed to what it described as an array of evidence that indicated that more exacting efficiency targets should have been imposed:[42]

(a) First, CPW pointed to the conclusions of the KPMG report which stated that savings of 3.2 to 3.5 per cent a year were necessary until 2013 if Openreach was to achieve what would be achieved in a competitive environment. Indeed, CPW went further and, 'correcting for omissions', suggested that the true scope for efficiency gains identified in the KPMG report was 4.5 to 6.1 per cent.

(b) Second, it said that Ofcom gave insufficient weight to rates at which savings had been made in the past, which indicated Openreach's ability to sustain savings at rates of around 4 per cent.

(c) Third, CPW said that Ofcom had set a lower efficiency target for 2009/10 than even Openreach itself planned to achieve.

(d) Fourth, CPW pointed to other documentary evidence, for example CPW said that the BT Group told its shareholders that efficiency gains of 4.5 per cent were expected across the BT Group in 2009/10. CPW noted that the BT Group had

[40] CPW W/S Heaney I §§84–87.
[41] CPW NoA §78.
[42] CPW NoA §81.

indicated that it would 'over achieve' in the savings it made. CPW could see no reason why such savings should not be made across Openreach.

(e) Fifth, CPW objected to Ofcom's assessment of the rate at which faults were likely to fall.

2.65. CPW's arguments are set out in further detail below.

KPMG efficiency review

2.66. CPW argued that the KPMG efficiency benchmarking study (commissioned by Ofcom)[43] was an objective indicator of future potential efficiency savings at Openreach.[44] Mr Heaney stated: 'This type of analysis is a good complement to other benchmarks since it can provide a more detailed analysis than top-down comparators.'[45]

2.67. CPW argued that Ofcom did not place sufficient weight on KPMG's conclusion that annual efficiency gains of 3.2 to 3.5 per cent from 2008 to 2013 would be consistent with an organization operating in a competitive environment. Mr Heaney explained:

> The KPMG report recommended that a 3.2% to 3.5% efficiency improvement was reasonable. If KPMG's analysis is corrected for omissions (KPMG and Ofcom accept that there have been omissions) the report implies that BT should be able to achieve between 4.5% and 6.1% efficiency savings a year.[46]

2.68. CPW argued that the KPMG study was an objective indicator of the rate of efficiency savings that Openreach would have to achieve to catch up with an efficient operator. CPW agreed with the KPMG methodology which was described by CPW as a forensic review of the individual cost categories, including engineering workforce, IT costs and overheads and a comparison of Openreach's costs with industry best practice. CPW added that the KPMG study did not take account of a number of other sources of efficiency gains, including fault rate reductions and reduced task times. Mr Heaney explained:

> KPMG's review of Openreach's operating costs was focussed on assessing the extent to which Openreach is operating efficiently and thus the scope for future improvements in cost efficiency. The review and efficiency estimates were based on two factors: (a) a detailed analysis and benchmarking of the cost levels of different parts of Openreach's business compared to best practice to provide the amount of efficiency improvement to 'catch-up' to the 'efficiency frontier' (b) an assessment of the change/improvement in best practice or the efficiency frontier over time. This is in essence the average rate of improvement for the most efficient companies over time and effectively provides a minimum level (or floor) of potential efficiency improvement.[47]

[43] LLU Statement §A9.38.
[44] CPW NoA §81.3.
[45] CPW W/S Heaney I §72.
[46] CPW W/S Heaney I §73.
[47] CPW W/S Heaney I §74.

2.69. Mr Heaney stated that he broadly agreed with this methodology[48] but he went on to say: 'However, by KPMG's own admission their analysis was partial and did not take into account a number of important sources of efficiency gains. In particular, KPMG did not include the impact of fewer tasks and/or reduced task times.'[49]

2.70. Mr Heaney explained the reasons why he believed that the KPMG efficiency review understated Openreach's potential efficiency savings by about 1 to 2 per cent a year:

> There are other factors that KPMG did not take into account which would also improve efficiency. Firstly, it appears their methodology does not fully account for more flexible working practices allowing more efficient use of time (ie higher proportion of time being productive) or less overhead resulting from de-layering the organisation and removing 'middle management'. Secondly, KPMG's approach to benchmarking overhead activities effectively underestimated the potential cost reduction. KPMG benchmarked separately the overhead activities 'allocated' to Openreach from BT Group, and those overhead activities incurred by Openreach. This approach does not provide an overall view as to whether Openreach's total overheads in aggregate are reasonable. The overall effect of this would be to under-estimate the potential efficiency gain. … For the purposes of providing a better estimate of the efficiency gain using KPMG's methodology I have conservatively assumed an extra 4% to 8% catch-up from these other omitted factors over four years (i.e. 1% to 2% extra per year).[50]

2.71. In support of his argument that Openreach should be able to achieve a greater magnitude of cost savings than KPMG had assumed, Mr Heaney set out a comparison of overhead expenditure at Openreach and TalkTalk:

> Openreach's cost of corporate activities e.g. finance, HR, strategy, legal is excessive. The costs of these activities accounts for 8.4% of their total cost base. TalkTalk Group provide the same activities for 2.5% of total cost even though TTG have a much smaller operation than Openreach and therefore should enjoy fewer scale economies. Thus on a simple level Openreach should be able to reduce its corporate overheads costs by 70% (from 8.4% of total costs to 2.5% of total costs) which equates to a reduction of 6% in its total costs.[51]

2.72. In support of his argument that Openreach should be able to achieve efficiency savings by reducing task times, Mr Heaney explained:

> … efficiency improvements from reduced task times can be delivered in many ways such as by better equipped/trained engineers, smarter working, better information, improved diagnostics, fault repair being successful first time or more automation. Many of BT's known efficiency improvement programmes (e.g. Right First Time programme) are focussed on just this—reducing the time and cost of the tasks or the need to do them a second or third time ... I believe that it is reasonable to assume that these could result in 10% to 15% cost reductions over

[48] CPW W/S Heaney I §75.
[49] CPW W/S Heaney I §77.
[50] CPW W/S Heaney I §§84–86.
[51] CPW W/S Heaney I §107.

> the next 3 to 4 years (excluding the impact of fault rate reductions which are accounted for elsewhere in Ofcom's calculations).[52]

2.73. CPW argued that Ofcom had ignored CPW's adjusted KPMG report. CPW said that it set out its reasons as to why the efficiency range in the KPMG report should be adjusted to 'restate the KPMG data on a basis that makes it appropriate for the use to which it was being put'. CPW argued that the KPMG estimates should be revised upwards from the original range of 3.2–3.5 per cent a year to 4.7–6.3 per cent efficiency saving a year *including* the fault rate reduction efficiency, and reflecting the introduction of additional 'catch-up' efficiency savings from unassessed factors. CPW said that the adjusted KPMG range *excluding* fault rate reductions should be 4.2–5.8 per cent.[53]

Historical indicators of Openreach efficiency

2.74. CPW argued that Ofcom had set an efficiency target for the four years at a rate which was below the historical rate achieved by Openreach in 2007/08 and 2008/09 without justifying why. Mr Heaney told us that the historical rate of efficiency savings would be a reliable benchmark. Mr Heaney said:

> I think that for the last three years we would have said history would be a good starting point to proceed and then we would ask: are there good reasons why one should go above or below that? The reason for history being the predictor, broadly, is that effectively you have a constant rate and that is what happens in other industries.[54]

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2.75. In CPW's view, the emphasis placed by Ofcom on the BT Group or Openreach's own proposals was misplaced. Mr Heaney stated:

> The appropriate basis for setting the efficiency improvement should not be what BT thinks it could do, but rather what an efficient operator (in a competitive market place) would be able to achieve. In my view, there are a number of systemic reasons as to why the efficiency improvement level that BT could realise would be less than that which an efficient operator could achieve.[55]

2.76. CPW argued that the Openreach business plan for 2009/10 was a source of evidence which Ofcom should have taken into account in setting the target for efficiency savings in the first year of the price control.[56] CPW said that Ofcom ultimately set a less demanding efficiency target for 2009/10 than Openreach itself believed to be achievable, according to its own plans. CPW argued that if BT's own forecasts indicated that Openreach would achieve a higher rate of efficiency savings in 2009/10 than it had achieved in the prior year, there was no basis for Ofcom setting an efficiency target below the rate achieved historically.

2.77. Mr Heaney stated that Ofcom had been provided with the Openreach 2009/10 plan. He also said:

[52] CPW W/S Heaney I §§82–109–114.
[53] CPW W/S Heaney IV §83.
[54] CPW hearing transcript, 5 March 2010, lines 26–28, p15.
[55] CPW W/S Heaney IV §60.
[56] CPW NoA §78 and CPW W/S Heaney I §§57–131.

> … the effect of the deepening recession would have increased the potential scope for efficiency gains. This would mean that the achievable efficiency gains would have been higher than included in the plan. For example, in early July 2009, it was announced that BT had taken certain action to reduce staff costs. A senior BT source was quoted as saying 'most of BT's divisional managers have been ordered to reduce their labour costs by more than 10 per cent'. I believe that these particular initiatives/targets and/or the prospect of a significant cost reduction would have (or should have) been known to Ofcom at the time of the LLU Decision (in May 2009).[57]

2.78. Mr Heaney explained:

> The starting point for estimating the efficiency improvement for 2009/10 should be the Openreach 09/10 Plan. This plan showed that 'Openreach hoped to achieve efficiency gains slightly in excess of the 4% gain delivered on compressible costs in 2008/09' (Defence §A22). In other words, Openreach's plan assumed above 4% efficiency gain for 2009/10 on compressible costs (and 0% on non-compressible). Ofcom said that this efficiency gain target 'would have been deliberately challenging' (Defence §A55). Apparently, on the basis of this, Ofcom considered reductions to this figure due to, for example, execution risks (Defence §§A22, A24). Consequently, Ofcom reduced the assumed efficiency gain from 'slightly in excess of 4%' to 4%. It is unclear how Ofcom reached this conclusion. In particular, it is unclear why the cost to achieve reductions should act as a barrier to achieving the savings (see Defence §A24), since these costs were accounted for in the model. … Ofcom has provided no reasoning or evidence as to why the plan was 'deliberately challenging'.[58]

2.79. Dr Houpis submitted to us:

> There are figures which Ofcom obtained by exercise of its formal powers and they are arguing that therefore they are figures on which we can rely because they are not submissions from BT; they are internal figures. Those internal figures in 09/10 are adjusted downwards in terms of efficiency, so Ofcom has taken the view that BT management is too ambitious. That is also in the model that we have reviewed. We cannot go into the details of the numbers but that is the principle. A similar question arises on 08/09 but the difference is small.[59]

Econometric studies

2.80. In relation to the NERA report, Mr Heaney stated:

> … it is striking that Ofcom has thus attempted to resuscitate an analysis (NERA) in its Defence, which was barely discernable in the consultation/ Decision and, to the extent it was dealt with at all, was explicitly rejected as being useful. This is a clear case of ex post rationalisation. The NERA report was not relevant, it is still not relevant, and it should be ignored.[60]

[57]CPW W/S Heaney IV §63.
[58]CPW W/S Heaney IV §§55–58.
[59]CPW hearing transcript, 5 March 2010, lines 17–27, p22.
[60]CPW W/S Heaney IV §36.

2.81. Mr Heaney then set out the reasons why CPW believed that the NERA report had no relevance:

> … this type of analysis compares BT to other monopolies and not necessarily other efficient companies operating in a competitive environment; is dependent on the availability of detailed financial information which is only available for operators in the US, who may not be the closest comparators for BT; while the analysis attempts to control for a small number of parameters on which the level of costs is dependent, there will be other variables not controlled for, such as the distribution of types of dwelling, which will be significant factors in determining the cost of the access network; and as noted by NERA, it has not been possible to separate the data for the US operators to identify costs equivalent to that of Openreach, so that the analysis can only provide information about BT's fixed line business as a whole.[61]

Measuring reductions in fault rates

2.82. CPW complained that the rate of fault rate reduction was set at too low a rate and the application of the fault rate reduction assumption to Openreach's costs was incomplete.[62]

2.83. CPW summarized the evidence that it considered supported a higher rate being set for the fault rate reduction target:

> BT conducted a number of programmes to reduce fault rates during the 2008/09 financial year (details of these are set out in the slide pack 'Network Health Academy for Ofcom'. These were expected to reduce fault rates by [✂]% (Openreach Annual Operating Plan 19 June 2008 paragraph 6.2.1). However the impact of the changes in working practices was [✂], with the number of faults falling from [✂] in 2007/08 to [✂] in 2008/09 (Access Plus presentation) equivalent to a reduction in fault rates from [✂] (Access Plus presentation).[63]

2.84. Mr Heaney stated:

> … contrary to the impression given in the LLU Decision and in the Defence alike that fault rates would fall by 2% per year, Ofcom appears to have assumed zero reductions in fault rates by Openreach over time, other than in respect of network faults. In relation to exchange faults, in particular, which are certainly within Openreach's control, one would expect reductions to be possible: see Houpis II W/S §§46 and 52. (b) We still have not been provided with any compelling reasons to support the conclusion in the LLU Decision (Decision §A9.118 et seq) that the 2% fault rate reduction assumption is sound. (c) CPW has not been able to satisfy itself that the 2% fault rate reduction equates to a 0.7% efficiency saving on compressible costs.[64]

2.85. Dr Houpis stated: 'A reduction of 2% a year has been applied to the fault rate assumption for the 'Network-Field Repair' series. For the other series, the level of

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[61] CPW W/S Heaney IV §37.
[62] CPW W/S Heaney IV §108.
[63] CPW Reply VI Annex 1 §1.
[64] CPW W/S Heaney IV §108.

faults has been assumed to be kept at a constant level from 2007/08 to 2012/13, hence the overall level of faults is assumed to fall at a rate lower than 2%'.[65]

2.86. Dr Houpis added that it was his understanding that Ofcom's decision in relation to fault rate reductions had applied to all faults, whereas the financial modelling on which the price control was based had only made adjustments in relation to one category of faults. He stated:

> However, no reference was made in any of the paragraphs in the LLU Decision that discussed the fault rate reduction assumptions (§§A9.109–A9.124) to the Second Consultation document, or to the fault rates applying to network only. Ofcom has also changed materially its view of the level of fault reductions, from 4–6% to 2%. I think it is therefore reasonable to assume that Ofcom would have been expected to specify 'network faults' if they were only referring to network faults and, absence such reference, it seems reasonable to me to assume that the 2% assumption applied to all faults.[66]

2.87. CPW argued that there was no evidence to support Ofcom's conclusion that a 2 per cent annual reduction in faults was appropriate for the future, nor that this saving should have been applied only to 'network faults'. CPW argued that the documents that originally formed part of the confidential evidence that Ofcom obtained from BT contained references to a BT Group target to achieve reductions in fault rates of [✄] per cent or more.

Summary of CPW's view on appropriate weight for the measurements of efficiency

2.88. Mr Heaney said that the quantitative evidence should be interpreted as follows:

> In terms of the benchmarks we would then look at to assess whether or not that was reasonable, the two main ones would be, first, history which implicitly says that it will be reasonably constant. The second would be the efficiency frontier which was moving at 2% plus. I think we would then look at KPMG because that was a forensic look at BT's costs per engineer, per IT station and overhead costs. We would look at it forensically and ask: how does BT Openreach compare with best practice? That would be a good benchmark. KPMG and Ofcom admitted that that did not include all forms of catch-up, so you need to add in the other ones. That would come up with a range of about 4–6%; history would suggest 3–4.5%. As we suggested, that would give an answer of about 4–5% on a net basis excluding faults.[67]

2.89. CPW argued that the BT Group's incentives to generate efficiency improvements had increased because a price control with a four-year glide path provided a fixed period over which BT could capture excess efficiency savings over and above the efficient cost targets set by the regulator.[68]

2.90. Mr Heaney explained that there were two main sources of quantitative evidence available to Ofcom to estimate efficiency savings*:*

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[65] CPW W/S Houpis II §46.
[66] CPW W/S Houpis V §35.
[67] CPW hearing transcript, 5 March 2010, lines 1–16, p16.
[68] CPW NoA §81.1.

> … we have two main relevant benchmarks for the efficiency gain in years 2–4 (on all costs, excluding fault rate). These are … in the range of about 2.7% to 5.8%: (a) KPMG: (i) 2.7% to 3.0% excluding certain important sources of efficiency improvement; and (ii) 4.2% to 5.8%, once all factors are included. (b) History, which is particularly relevant since one can reasonably expect historic levels of efficiency to continue unless there is a compelling reason as to why they increase or reduce. The benchmarks are: (i) 2007/08 and 2008/09: 3.0% to 4.5% and (ii) 2009/10: 4.3%.[69]

2.91. In summary, CPW argued that there were two principal quantitative measures from which to estimate the appropriate efficiency saving target for 2010/11, 2011/12 and 2012/13: historical indicators and the KPMG efficiency benchmarking study.[70]

2.92. Mr Heaney summarized his view on the rate of efficiency savings that should be set for Openreach: 'For the purposes of illustration a reasonable set of assumptions might be: (a) 5% efficiency gain on the 75% of costs called compressible and 2% on non-compressible costs. This is equivalent to 4.25% reduction on all costs excluding fault rate (compared to Ofcom's assumption of 3% on all costs).'[71]

CPW's issues with respect to the application of the rate of efficiency savings to Openreach's costs

2.93. CPW argued that Ofcom's application of the rate of efficiency improvement to Openreach's costs resulted in a price control that was not sufficiently demanding. Specifically, in CPW's view:

(a) Ofcom was wrong in its conclusions on non-compressible costs, and the efficiency target should apply to all Openreach costs.

(b) A tapering rate of efficiency target was inappropriate.

(c) Efficiency targets should be reflected in Openreach's costs on a 'net' basis.

Non-compressible costs

2.94. In relation to the application of efficiency rates to Openreach's costs, CPW argued that Ofcom erred in its assessment of the extent to which Openreach's costs were compressible and, in particular, it disputed Ofcom's finding that Openreach's 'cumulo rates' bill and its rents payable under long-term contracts were non-compressible costs. CPW claimed that Ofcom did not apply regulatory best practice because it treated a high proportion of Openreach's costs as non-compressible.[72]

2.95. Mr Heaney stated: 'Ofcom has persisted with its rather abnormal approach that certain costs are "immune" from any efficiency improvement and consequently assumed zero efficiency improvement for them. It refers to costs treated in this way as non-compressible costs.'[73]

[69] CPW W/S Heaney IV §104.
[70] CPW W/S Heaney IV §69.
[71] CPW W/S Heaney IV §68.
[72] CPW NoA §83.1.
[73] CPW W/S Heaney IV §40.

2.96. Mr Heaney set out the reasons why, in his opinion, Openreach should be able to achieve efficiency savings on categories of cost that Ofcom had treated as non-compressible:

> Accommodation—Ofcom said that accommodation costs were excluded from efficiency gains since they were on long term contracts (Decision §A9.15). However, the terms of the contract (with Telereal) actually allows for reduction in costs and, anyway, even within the Telereal deal, properties can be sublet to reduce costs. … Fleet costs—there are efficiency gains that will result from fewer engineers requiring fewer vans. Ofcom claims [sic] are already reflected in the fleet cost. However, there are further efficiency improvements that Ofcom has not accounted for that could result from reducing the unit fleet cost per engineer by, for instance, purchasing lower specification vehicles, achieving a higher utilisation of vehicles or renegotiating leasing arrangements … Cumulo rates—these could be reduced by, for instance: Openreach optimising and reducing its property assets which attract cumulo rates; or in cases where BT vacates or sub-lets property, it would reduce its cumulo rates or the new tenant would effectively pay the cost.[74]

2.97. Mr Heaney stated that costs should not have been treated as non-compressible even if the time required to achieve savings on some categories of cost would be longer than the period of the price control:

> Ofcom's approach to assuming zero efficiency gains in the model for those efficiency gains that require a longer period to be realised is also erroneous ... Certain projects to reduce (say) accommodation through (say) sub-letting may take several years to realise. However, BT will or should benefit in 2012/13 from projects that were started in (say) 2008, prior to the beginning of the price control, just as others which are started during the price control may be realised after 2012/13. Ofcom's approach, of only including efficiency on projects which can both be initiated and realised within the price control period, implicitly ignores the effect of projects coming through that were started before charge control period, and will therefore systematically understate the true realisable efficiency gains. Even if BT claimed that it had not yet started any such long term projects to achieve these efficiency gains, this would be an irrelevant consideration in respect of setting efficiency gains, since the relevant test is not what BT has done but rather what an efficient company could have or would have done. No efficient company would ignore or not undertake efficiency improvement projects simply because they took a long time to achieve.[75]

Tapering rate of efficiency savings

2.98. CPW argued that Ofcom, in reaching its forecast of a declining rate of efficiency savings during the four-year period, accepted Openreach's argument that efficiency savings could be expected to reduce over time. CPW argued that there was no justification for Ofcom to conclude that the opportunity for Openreach to achieve

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[74]CPW W/S Heaney IV §44.
[75]CPW W/S Heaney IV §§45–47.

efficiency savings would decline, and added that Ofcom's decision is unprecedented in the broader economy and within regulatory practice.[76]

2.99. Mr Heaney told us why he considered Ofcom's reasoning for setting a declining rate of efficiency saving was wrong:

> You then need to have a look at the arguments that Openreach and Ofcom have put forward for a tailing-off. Sometimes it is quite difficult to distinguish which are arguments that Openreach has made and which arguments Ofcom has made. But the central one is: 'We have done all the quick wins. It's difficult to identify what the efficiency gains will be in three years' time and therefore we will assume they are less than today.' To us that is simply a nonsensical point. Sitting here today I know how I am to achieve my [✂]% this year and in the plan in three years' time there will be another [✂]%. Do I know how I am going to achieve that [✂]%? Of course I do not. If I knew how to do it I would have accelerated some of it forward and done it this year, so the idea that once you have done the quick wins you run out just makes no sense. The fact it makes no sense is shown across other industries and other regulators. None of them assumes these things.[77]

2.100. CPW told us that in order for Ofcom to accept such a proposal from BT, the case would need to be 'extremely convincing and supported by robust evidence and reasoning—but none has been provided'.[78] CPW said that Ofcom itself had not set out its reasoning for concluding that the rate of efficiency savings would decline in future, but had instead presented Openreach's position on the matter and relied upon it. Mr Heaney said that 'if the Openreach reasons stated in the Decision were indeed the reasons that Ofcom relied on, then Ofcom's justification is flawed'.[79]

2.101. CPW disputed the reasons put forward by Openreach, set out in the LLU Statement,[80] to support its contention that 'maintaining annual efficiency at this level [efficiency savings of 4 per cent of compressible costs in 2008/09] would not be sustainable'. Openreach's reasons relate primarily to the limited scope to make further cost reductions in labour, the consequences of a reduction in Openreach workforce on service quality, the flexibility of the work force to manage fluctuations in demand, the requirement for additional capital expenditure to achieve operating cost savings, and uncertainty in the demand for Openreach's provisioning services. CPW argued that these reasons pointed to the possibility that achieving efficiency savings was hard, but did not support the proposition that achieving efficiency savings would become harder in the future.

2.102. CPW put forward a number of reasons why Openreach's costs are not efficient.

2.103. Mr Heaney said:

> BT's inefficiency on which I will happily expand. One very good example is that their attrition rate is 2.4%. We normally expect in most efficient companies an attrition rate of 10% to 20%. BT's 2.4% implies that people stay with the company on average for 30 or 40 years. The reason the attrition rate is so low is almost certainly because the

[76]CPW NoA §83.2.
[77]CPW hearing transcript, 5 March 2010, lines 7–25, p25.
[78]CPW W/S Heaney IV §90.
[79]CPW W/S Heaney IV §92.
[80]LLU Statement §A9.84.

> compensation packages are very high including pensions and all the other benefits. Again, that is very indicative when combined with the no compulsory redundancy policy of an inefficient company.[81]

2.104. CPW also argued that following its review of the evidence that Ofcom had gathered from BT on a confidential basis, CPW considered that parts of this evidence contradicted BT's submissions to Ofcom that it was operating at an efficient level in 2007/08, and also that there was nothing in this evidence to support Ofcom's decision to apply a tapering rate of efficiency.

Ofcom's financial model for Openreach

2.105. CPW argued that in the financial year ended 31 March 2009, Openreach had achieved reductions in fault rates, had reduced its headcount, and that these represented improvements in efficiency that should have been reflected in the financial model that Ofcom used to determine the price control. CPW argued that this resulted in an overstatement of Openreach's costs in 2008/09 (actual) and 2009/10 (estimate), and outlined a number of suggested amendments to the Ofcom financial model to address the issues that it had identified.

2.106. CPW also criticized Ofcom's approach to net efficiency targets partly due to the inclusion of 'leaver costs' in the forecast of Openreach's direct labour costs.[82] CPW claimed that Ofcom applied the efficiency savings specified in the LLU Decision on a 'gross' basis, whereas the effect on the price control had a lower 'net' impact due to the treatment of various costs that offset the efficiency saving in the financial model.[83]

Sky's Statement of Intervention

2.107. Sky's intervention related both to the measurement of the rate of efficiency savings and to the application of the rate to Openreach's costs. These are summarized below.

2.108. Sky set out evidence relating to its own ability to achieve efficiency savings in business activities similar to those of Openreach. Sky stated:

> In addition to the evidence referred to in CPW's NOA, Sky's own experience of making efficiency improvements across aspects of its business which are comparable with Openreach's business also lends support to Sky's submission that Ofcom should have been more critical of the evidence and submissions provided by BT: As noted by Ofcom at §66.2(a) of Annex A to the Defence, the biggest head of Openreach's operating costs associated with the provision of LLU services is the cost of the van-based force of engineers involved in installing and servicing equipment. In this respect, Openreach's business is very similar to Sky's supply chain function. Like Openreach, Sky has a very extensive field force of engineers involved in installing and servicing equipment. Notwithstanding significant increases in its customer base and the introduction of new and more complex technology, Sky has made (and is continuing to make) substantial efficiency savings in its supply chain function, including increasing productivity of its engineers, reducing the

[81] CPW hearing transcript, 5 March 2010, lines 8–18, p17.
[82] CPW Reply VI §22.
[83] CPW W/S Heaney I §59.

cost per visit, reducing revisit rates and increasing 'first time right' rates.[84]

2.109. Sky argued that the NERA report was given little weight in the LLU Statement, but that Ofcom was seeking to give greater prominence to it in the Defence. Sky stated:

> In its Defence, Ofcom refers at a number of places to a benchmarking report prepared by NERA, which Ofcom claims that it took into account in reaching its Decision and on which it now seeks to rely to rebut CPW's arguments … only minimal reference was made to this report in the consultation documents leading up to the Decision. Both the First and Second Consultations suggested that Ofcom had rejected such benchmarking evidence as being insufficiently robust. Ofcom has not provided any reasons why this conclusion no longer stands and yet it now appears to be suggesting that the NERA Report should be given equivalent weight to other evidence on which Ofcom did explicitly rely in its Decision, such as the KPMG Report and Openreach's historic efficiency levels. Sky submits that it is entirely inappropriate for Ofcom to now seek to elevate the significance of the NERA Report, in direct contradiction to the position it took during the consultation process.[85]

2.110. In relation to the KPMG efficiency review, Sky argued that the report's findings should have been given greater weight. Sky stated:

> … greater weight should have been placed by Ofcom on the KPMG Report. KPMG's conclusion that Openreach should be capable of making efficiency gains of 3.2% to 3.5% cumulatively per annum on the totality of its operating costs appears to Sky to be reasonable … although this does not take into account the impact of reduced task times or fault rates, which would imply that Openreach should be capable of achieving higher efficiency rates. This is supported by Sky's own efficiency savings in these areas.[86]

2.111. In relation to Ofcom's treatment of costs as non-compressible, Sky stated that it should be possible to make some savings in respect of almost all costs over a four-year horizon.[87]

2.112. Sky explained that it believed that efficiency savings could be achieved in relation to accommodation rents:

> Sky notes Ofcom's comments in its Defence that BT's rental accommodation costs (which account for 20% of the non-compressible costs) are covered by a sale and leaseback arrangement with Telereal, which fixes the annual rental increase at 3% per annum. However, Ofcom appears to have accepted at face value that this means that BT is unable to reduce its accommodation rental costs to any material extent within the next 4 years … This contradicts public statements by BT at the time of entering into the sale and leaseback agreement that the arrangement provides a flexible approach to BT's property arrangements and allows BT to vacate properties covering approximately 35% by rental value of the total estate over the contract term without penalty

[84]Sky SoI §25.
[85]Sky SoI §23.
[86]Sky SoI §24.
[87]Sky SoI §28.1.

…. Sky is aware that BT has closed a number of local exchanges and plans to close more during the period under review.[88]

2.113. In relation to Ofcom's assumption of a declining rate of efficiency savings, Sky noted that it saw no reason why Openreach should not also be capable of replicating past levels of efficiency savings over the coming four years.[89]

Ofcom's Defence

2.114. Ofcom did not accept CPW's criticisms. The grounds on which it resisted these criticisms are set out in its Defence at §§59–67 and at Annex A to its Defence.

Ofcom's defence of the identification of sources of efficiency savings

2.115. Ofcom dealt with CPW's claims that some sources of efficiency savings had been omitted by explaining that its overall assessment of the potential for Openreach to reduce its costs through efficiency was the sum of the effects of reductions in fault rates plus the effects of the general rate of efficiency savings assumption, and that CPW's references to a number of Openreach or BT initiatives represented 'anecdotal' evidence that could not be converted into a robust efficiency assumption in any more reliable way than Ofcom had adopted.

Ofcom's defence of the measurement of the rate of efficiency savings

2.116. Ofcom said that it knew and accepted the risks of relying on BT's representations, and that it had not relied solely on these representations; rather, it relied on a broad variety of evidence. Ofcom acknowledged that it did obtain Openreach's internal forecasts which proved valuable but argued that it set more demanding efficiency targets than those proposed by Openreach. In Ofcom's view, the various pieces of evidence relied on by CPW, if analysed properly, did not demonstrate that Ofcom set too low a target.[90]

2.117. As to CPW's argument that BT had incentives to understate the potential for efficiency gains, Ofcom considered CPW's arguments to be irrelevant because Ofcom did not rely on BT's statements. Ofcom drew attention to the differences in its targets to those proposed by Openreach and to the way in which Openreach increased its assessment of the scope for general efficiencies (Openreach had argued originally for no more than a 1 per cent saving on compressible costs). Ofcom added that it did not accept even Openreach's increased estimates.[91]

2.118. Ofcom made a number of further points in response to CPW's criticisms of its general method and approach. An important point which recurred in Ofcom's Defence was that in reaching a decision on efficiency targets it placed significant weight on Openreach's budget and internal forecasts, which were obtained under compulsory powers in early 2009. Ofcom argued that, because the forecasts were prepared for internal use, they 'would have been deliberately challenging'.[92] In Ofcom's view, there was no incentive or opportunity for Openreach to understate these numbers. The internal forecasts were therefore more likely to provide a reliable indication of Openreach's true views, reached with the 'benefit of its unique vantage point and in-

[88] Sky SoI §28.3.
[89] Sky SoI §30.2.
[90] Ofcom Defence §63.
[91] Ofcom Defence Annex A §§44–47.
[92] Ofcom Defence Annex A §51.

house expertise'.[93] Ofcom said that this view was not the same as saying that Ofcom relied on BT's statements and that Ofcom placed weight on BT's internal budgets.

2.119. The further important point which recurred in Ofcom's Defence was that the efficiency targets set by Ofcom were 'reasonable judgments' reached on the basis of 'the available evidence'.[94] In support, Ofcom emphasized the challenges and tests that Ofcom set for various sources of evidence, including Openreach's own forecasts.

2.120. Ofcom said that it obtained information about Openreach 2009/10 plans on a confidential basis.[95] Ofcom concluded that this confidential evidence indicated that Openreach's internal plans included initiatives that could potentially give rise to efficiency gains in excess of the 4 per cent of compressible costs delivered in 2008/09.[96]

2.121. During the progress of the LLU Appeal a number of Openreach documents were admitted into the confidentiality ring. These included documentary evidence of the Openreach 2009/10 budget. Table 2.3 sets out a summary of the Openreach efficiency targets based on financial forecasts produced in December 2008.[97] This indicated that Openreach had identified efficiency savings of 2.6 per cent of total cash costs in 2009/10 and modelled additional 'central challenge' savings of 1.5 per cent of total costs (0.4 per cent in 2008/09), and further 'economic downturn' savings of 1 per cent of total costs (0.0 per cent in 2008/09). The total of these three components is 5.1 per cent in both 2008/09 and 2009/10.

TABLE 2.3 **Openreach efficiency targets**

			£m
	2007/08	*2008/09*	*2009/10*
Total cash cost (Dec 2008 estimate) (£m)	[✂]	[✂]	[✂]
Identified efficiency savings (£m)	[✂]	[✂]	[✂]
Central challenge	[✂]	[✂]	[✂]
Economic downturn	[✂]	[✂]	[✂]
Total efficiency challenge	[✂]	[✂]	[✂]
Identified efficiency savings on total cash cost (Dec 2008 estimate) (%)	[✂]	[✂]	[✂]
Total efficiency challenge on total costs (%)	[✂]	[✂]	[✂]

Source: Openreach.

2.122. Ofcom agreed with CPW that efficiency savings targets should be set in a way that takes into account the available evidence and does not rely solely on one source. Ofcom said that it had to consider the merits of each source of evidence and place more reliance on some sources than on others.[98] Ofcom drew attention to the differences between the benchmarking reports from NERA and KPMG. The KPMG report, in Ofcom's view, indicated that there was significant scope for efficiency gains, including the need to catch up with industry best practice. In contrast, the NERA report indicated that BT was already operating at a reasonably efficient level. Ofcom said that it also considered historic efficiency savings rates and other evidence. Ofcom stated that it recognized the limitations of historical trends and

[93] Ofcom Defence Annex A §51.
[94] Ofcom Defence Annex A §52.
[95] LLU Statement §A9.88.
[96] LLU Statement §A9.91.
[97] Openreach QRF3 Review—Tony C Pack, 19 December 2008. Note that this was updated as Openreach QRF4 Group Review, 26 February 2010.
[98] Ofcom Defence Annex A §58.

benchmarking evidence and instead considered it appropriate to place significant weight on BT's own budget and forecasts obtained under compulsory powers.[99]

2.123. Nevertheless, Ofcom did not agree with CPW that other studies or benchmarks supported a higher rate than the efficiency targets it set. Ofcom considered the benchmarks relied on by CPW to be incomplete and tend to overstate the potential for efficiency gains. Ofcom considered that CPW had ignored benchmarks that indicate that efficiency rates should be lower, such as the NERA report, while it overstated the significance of benchmarks that suggested that efficiency ranges should be higher, such as the KPMG report.

2.124. In Ofcom's view, Openreach's ability in the past to achieve efficiency savings of between 2.4 and 3.6 per cent of total costs did not mean that Ofcom should have set the rate of efficiency savings higher than it did. Ofcom said that, while Openreach may be becoming more efficient, such efficiencies did not necessarily extend to MPF and SMPF. Ofcom said that the principal operating costs of relevance to the LLU price control were the costs of providing and maintaining the copper-based access network, ie the engineers and equipment necessary to install, repair and upgrade underground networks. In Ofcom's view, there was no reason why efficiency measures that might have an impact elsewhere in the BT Group should necessarily have an impact on these costs.[100]

2.125. As to CPW's reliance on the KPMG report, and its conclusion that efficiency gains of 3.2 to 3.5 per cent a year would be necessary for an organization in a competitive environment, Ofcom made the following observations:

(a) KPMG's report, which Ofcom described as 'desktop research', was less reliable than Openreach's own budgets;

(b) the KPMG report did not indicate how savings might be made, or quantify implementation costs;

(c) the NERA report concluded on a lower rate of efficiency savings; and

(d) CPW's arguments as to why the KPMG report should be revised to show greater scope for efficiency savings were not set out clearly.[101]

2.126. Ofcom questioned the relevance of much of the other anecdotal and benchmark evidence put forward by CPW. In particular, Ofcom said that close parallels could not be drawn between organizations such as Sky and CPW and an organization like BT. In Ofcom's view, the statement made by the BT Group to its shareholders about efficiency targets of 4.5 per cent was, at best, an extrapolation and may have been out of context of the LLU Statement. Ofcom noted that the BT Group comprised operating units with different structures and activities. Furthermore, Ofcom alleged that there were some flaws in CPW's criticisms, eg double counting.

2.127. Ofcom addressed CPW's criticisms of its treatment of Openreach's fault rates. Ofcom said that it reached its fault rate reduction forecast of 2 per cent after probing BT's internal forecasts. Ofcom said that it paid attention to the factors which might drive fault rates up, as well as down, as well as to Openreach's record in reducing fault rates. Ofcom said that it did not accept Openreach's internal projection of a decline in fault rate to less than 1 per cent, and imposed a 2 per cent target instead. In Ofcom's

[99] Ofcom Defence Annex A §60.
[100] Ofcom Defence Annex A §66.
[101] Ofcom Defence Annex A §68.

view, CPW had failed to mount any real challenge to Ofcom's forecast. Ofcom expanded on how it had reached its decision on fault rates.[102] It identified the classes of costs which were linked to fault rates either directly (eg the salaries of engineers) or indirectly (eg fleet costs, related to the number of engineers). Ofcom stated that fault rates depended on the number of lines of different types (ie MPF, SMPF, etc) and the likely number of faults per line for each different type of line.

Ofcom's defence of the application of the rate of efficiency savings to Openreach's costs

Non-compressible costs

2.128. In its Defence, Ofcom said that distinguishing compressible and non-compressible costs did not represent a major change from the traditional approach. Ofcom considered that it allowed 'a better approximation of the impact of efficiency savings of individual cost categories'.[103]

2.129. In response to CPW's claims that Ofcom identified wrongly some costs as non-compressible, and that it should have pursued a 'traditional' approach, Ofcom restated its preference for targeting and analysing those costs where genuine savings could be made.[104] Ofcom's approach was to identify the compressible costs which could be the subject of savings, even though it then applied an aggregate rate of efficiency improvement to these costs.

2.130. Ofcom said that its approach to compressible costs was orthodox and represented a necessary investigation of the scope for savings, and that cumulo rates and accommodation rents payable were considered carefully. On this basis, Ofcom considered that its approach was consistent with regulatory best practice.

2.131. Ofcom responded to CPW's arguments with regard to the specific categories of costs that were treated as non-compressible costs (ie cumulo rates and rental charges).[105] Ofcom said that CPW's argument that Openreach could control the amount of space it occupied and thus the cumulo rates which were payable was really no more than speculation. Ofcom said that, furthermore, the courses of action which CPW suggested were open to Openreach were not cost free. With regard to Openreach's rental charges, Ofcom stated that under the Telereal sale and leaseback agreement, rents increased at 3 per cent a year and BT had no real ability to negotiate lower rents. Ofcom said that it had no reason to believe that these terms were unreasonable.

2.132. With regard to the relationship between the long-term trend of efficiency savings and the efficiency savings which might be achieved over the four-year price control period, Ofcom stated that its preference was to assess the costs savings that were capable of being made in the price control period rather than extrapolating from the past.[106]

2.133. In relation to cumulo rates, Ofcom said:

> As explained in the LLU Statement, outside of the scope of the efficiency assumption, Ofcom separately reviewed Openreach's forecast for cumulo

[102] Ofcom Defence Annex A §§10–18.
[103] Ofcom Defence Annex A §26.
[104] Ofcom Defence Annex A §70.
[105] Ofcom Defence Annex A §§79.1 & 79.2.
[106] Ofcom Defence Annex A §83.

rates and reduced the forecast allocation of cumulo rates to the Core Rental Services by £19 million (§A6.28). CPW says that further savings should have been anticipated to reflect BT's ability to control the amount of space that is occupied and on which rates therefore have to be paid. But CPW has failed to provide any evidence to show that BT could in fact efficiently take steps to reduce its cumulo rates liability. There are costs involved in removing assets (such as underground cabling and street cabinets or vacating specialised accommodation), and it may not be efficient to incur those costs. In any event, it is by no means clear that the kind of actions suggested by CPW would in fact lead to any material reduction in BT's cumulo rates. On the basis of Ofcom's discussions with BT, Ofcom has accepted, and is satisfied, that BT cannot be expected to achieve efficiency gains by materially reducing its cumulo rates liability over the next 4 years. CPW has not provided any credible evidence to show that cumulo rates could efficiently be reduced. In the context of Ofcom's overall approach to predicting aggregate efficiency gains, it was therefore reasonable for Ofcom to have treated cumulo rates costs as being non-compressible.[107]

Tapering rate of efficiency savings

2.134. Ofcom said that it did not suggest that Openreach would run out of savings, only that there was a declining opportunity for them. Ofcom observed that it did not find that Openreach would 'run out' of opportunities to make savings.[108] Ofcom said that, rather, it focused on what opportunities existed to make savings in the four-year reference period of the price control. Ofcom added that it could have set an average and constant efficiency target, which would have had an equivalent effect to the declining target it set. However, because the evidence was that efficiencies would be harder to come by, it did not take this alternative approach. Ofcom said that Openreach had declining opportunities to make further savings in employee-related costs, while maintaining certain standards and not incurring unjustified capital expenditure. Ofcom accepted that these reasons drew heavily on Openreach's own analysis but argued that it discussed this analysis in detail with Openreach.

Ofcom's financial model for Openreach

2.135. Ofcom argued[109] that it had not set the efficiency assumptions from a starting position that BT was fully efficient in 2007/08, and that the evidence that CPW had cited from the previously redacted material was not incremental to the efficiency savings that Ofcom had set.

2.136. Ofcom argued that it had validated the outputs of the financial model to ensure that the cost estimates were valid for the period 2008/09 to 2012/13 and that there was no need to make any of the changes to the inputs to the financial model that CPW suggested. In Ofcom's view, the key consideration was whether the forecasts for costs were appropriate, and that this was more important than the specific value of individual input parameters.

[107] Ofcom Defence Annex A §79.1.
[108] Ofcom Defence Annex A §85.
[109] Ofcom's written submission in response to CPW's submissions on confidential materials disclosed by BT (Reply VI).

BT's Statement of Intervention

2.137. In support of its intervention, BT produced a witness statement by Mr Shurmer, who is Director of Regulatory Affairs for Openreach, and an expert report by Mr Corkery, who is Global Head of Telecoms Regulation at Ernst & Young LLP and who advised BT during the consultation leading to the LLU Statement.

2.138. In the context of our framework for assessment of this case, Mr Corkery's evidence generally addressed 'measurement of efficiency' issues and Mr Shurmer's evidence generally dealt with the application of the rate of efficiency improvement to Openreach's costs.

Measurement of the rate of efficiency savings

2.139. Like Ofcom, BT considered that there was no foundation in CPW's allegation that Ofcom relied on BT's 'statements'. In BT's view, Ofcom had relied on a wide range of information and evidence, including BT's internal management planning information obtained under compulsory powers. BT's view was that, in these circumstances, information generated by BT and relied upon by Ofcom could not be disregarded as created for the purposes of a regulatory investigation. Nor did BT consider that there was any reason to think that it had at any time misled Ofcom with regard to its efficiency targets.

2.140. Further, said BT, CPW's arguments challenged two intuitive and orthodox propositions: *(a)* that over any specific period it might not be possible to reduce particular types of costs; and *(b)* that the scope for savings might diminish during the course of a price control. BT also disputed a number of the arguments made by CPW about the scope for savings within BT and Openreach and about the extent to which Ofcom had departed from regulatory practice. BT considered that Ofcom had relied on a wider range of information than was the norm for regulators and, in doing so, Ofcom's approach, and the judgements it made, were reasonable. In BT's view, it was CPW, and not Ofcom, which had erred in relying too heavily on a single piece of evidence (the KPMG report).[110]

2.141. Mr Corkery's report contained an analysis of Ofcom's approach to setting efficiency targets in the LLU Statement. In it, he set out the full range of evidence he considered Ofcom had at its disposal in forecasting efficiency gains:[111]

(a) Historic data: (i) analysis of unit costs of relevant services performed by Ofcom, based on data from BT's regulatory accounts; (ii) analysis of historic cost performance by Openreach in respect of relevant services; and (iii) Q3 2007/08 to Q3 2008/09 efficiency gains as noted by Openreach in its response to the Second Consultation.

(b) Forecast data: (i) cost model from Openreach; and (ii) financial forecasts and forecasts of cost savings which provided the basis for the calculation of the efficiency gains for 2008/09 and 2009/10. These were obtained by Ofcom from Openreach through the use of its statutory powers.

(c) Benchmarking of key metrics: (i) confidential cost review provided by Openreach to Ofcom; (ii) report by KPMG benchmarking prices for a subset of inputs used by Openreach. The KPMG report was commissioned by Ofcom; and (iii) review of

[110] BT SoI §§36–38.
[111] BT W/S Corkery I §63.

the KPMG report by Ernst & Young. The Ernst & Young report was commissioned by Openreach.

(d) Statistical studies: (i) Deloitte studies, engaged by BT; and (ii) NERA study, engaged by Ofcom.

2.142. In Mr Corkery's view, Ofcom did not lack any type of evidence necessary to a regulator in reaching a conclusion on efficiency gains. Indeed, he considered that regulators made decisions on less. Mr Corkery stated that Ofcom had identified those costs on which efficiency improvements might be realized in the period under consideration, acquired an appropriate volume of evidence to assess the potential for future efficiency improvements, and considered the available and relevant evidence to forecast achievable efficiency gains over the period of the review.[112]

Historical indicators of Openreach efficiency savings

2.143. Mr Corkery said that it was right to be cautious when extrapolating from historic rates of savings to assess the scope for future efficiency gains, because past performance was not a perfect predictor of the future.[113] Mr Corkery identified a number of factors to take into account: *(a)* the extent to which past efficiency gains had been driven by one-off programmes or by continuous improvement across the business; *(b)* whether historic savings were calculated on total costs (which, if so, meant they provided little information about what had driven savings or whether they had been simply the result of a change in variable costs associated with a change in volumes) and *(c)* the extent to which historic savings were calculated by changes in unit costs or their individual components (unit costs were relevant in identifying what cost should be recovered through the price of a regulated service but might still provide little insight into the reasons for changes, because of the impact of volume changes). Nonetheless, Mr Corkery considered historic information a valid piece of evidence for forming estimates of future efficiency gains.

Openreach 2009/10 budget

2.144. Mr Corkery observed that a regulated entity is best placed to understand and forecast costs for its own operations.[114] However, he considered that such forecasts were most reliable in the short term and recognized the incentive for regulated companies to under-represent the scope for efficiencies. These incentives were, in Mr Corkery's view, less likely to be evident in a regulated entity's actual financial and business plans than in its submissions to regulators. For these reasons, Mr Corkery said that forecasts obtained from Openreach were a valid and useful source of information for forecasting Openreach's potential efficiency gains, though the incentive for Openreach to underestimate its potential efficiencies must be taken into account by the regulator. Mr Corkery placed more weight on the additional information obtained by Ofcom under compulsory powers. He believed that Ofcom had not accepted uncritically the information provided by Openreach so its forecasts should be considered a valid piece of evidence, and provide 'strong support' for Ofcom's assumption of a 4 per cent efficiency gain for 2009/10.

[112]BT W/S Corkery I §80.
[113]BT W/S Corkery I §37.
[114]BT W/S Corkery I §§92–94.

KPMG efficiency review

2.145. Mr Corkery said that benchmarking consisted typically of a comparison of unit input prices and factor productivity with appropriate benchmarks. He considered that both the price per resource and output per resource should be compared. In addition, he suggested that there would be pitfalls in focusing on a single cost item, and that a sample set and not a single comparator would be required. He identified two benchmarks used by Ofcom: *(a)* a confidential report provided by Openreach and *(b)* a report by KPMG commissioned by Ofcom. Mr Corkery noted that Ofcom did not describe the content of the confidential report in the LLU Statement so he could not comment on it. However, he led the Ernst & Young team which responded to the KPMG report on behalf of Openreach, so he was able to summarize that team's key findings. He said that they found four key failings in the KPMG report:[115]

(a) KPMG benchmarked the unit costs of inputs without considering the productivity of the unit acquired.

(b) KPMG used generic economy wide benchmarks, reflecting a mix of industries with potentially quite different skill levels and requirements.

(c) KPMG identified benchmarks for only 35 per cent of Openreach's operating cost base, which it then extrapolated.

(d) KPMG did not consider the trade-off between capital investment and operating costs, which might result in an erroneous conclusion that relatively high operating costs were due to inefficiency rather than other factors, such as an efficient substitution between capital and labour.

2.146. Mr Corkery's view was that the KPMG report did not provide a robust basis on which to estimate the potential for savings in Openreach.

Econometric studies

2.147. Mr Corkery considered the statistical analysis carried out on behalf of Ofcom by NERA and Deloitte. He noted that such statistical reports allowed regulators to assess current and future efficiency gains on a variety of cost drivers simultaneously. He went on to describe two leading techniques, stochastic frontier analysis and total factor productivity. However, he said that the extent to which Ofcom relied on statistical studies was not clear. He noted that there was some consensus as to a lack of direct comparability between Openreach and the LECs relied on by NERA. Nonetheless, given the demonstrable 'statistical rigour' and validity of statistical studies, Mr Corkery considered that the two statistical analyses were useful.[116]

2.148. Mr Corkery said that his analysis of Ofcom's assessment of efficiency gains was from the point of view of 'efficient frontier shift' and 'catch-up efficiency'. Mr Corkery's approach postulated a constant rate of 'frontier shift' (ie companies must always become more efficient), so that a declining rate of efficiencies, such as that identified for Openreach by Ofcom, must be based on a diminishing need for 'catch-up efficiency'. Necessarily, the constant rate of 'frontier shift' must, as a constant, be equivalent to the lowest annual saving target identified by Ofcom which was 2.7 per cent. Mr Corkery's analysis of frontier shift, relying on material from the Deloitte and NERA studies, the Ernst & Young report, the KPMG report and some other sources,

[115] BT W/S Corkery I §99.
[116] BT W/S Corkery I §§102–104.

concluded that the appropriate range was between 0 and 3 per cent on total costs. Ofcom's irreducible 2.7 per cent savings rate was within this range.

2.149. Mr Corkery observed that NERA and Deloitte both considered Openreach to be efficient. However, he noted Openreach's evidence, and Openreach's historic rates of saving, which suggested that it was not. Mr Corkery found no evidence to suggest that Ofcom's forecast of 4.7 per cent efficiency gains on compressible costs (including fault rate reductions) for 2009/10 was unreasonable.[117] He said that Ofcom's forecast of a declining rate of efficiencies in subsequent years was consistent with a situation in which the largest one-off efficiency gains were targeted and realized first and any further catch-up efficiency was increasingly difficult to achieve as Openreach moved closer to the efficient frontier. Mr Corkery considered that Ofcom's reasoning in support of tapering efficiency savings appeared reasonable in principle and in this context. He also agreed with Ofcom's assessment of the rate at which savings would decline. He noted that, while Ofcom's declining rate did not appear 'directly linked' to any specific piece of evidence, it reflected a general view based on all the evidence. He said that it was consistent with the statistical studies which indicated that BT's network business was operating near the efficiency frontier, and with the evidence that some of Openreach's efficiency gains would be realized from 'quick wins' which could not be repeated in future.

2.150. Mr Corkery put more emphasis on the statistical studies than Ofcom, and had not relied on the KPMG report.[118] Nevertheless, he broadly agreed with Ofcom's assessment of the evidence. He concluded that Ofcom's forecast of 4.7 per cent of efficiency gains for 2009/10 was reasonable and well supported by the available evidence. He said that Ofcom's forecast of an efficiency gain of 2.7 per cent a year for 2011/12 and 2012/13 was consistent with a reasonable forecast for the efficient frontier shift, although Ofcom did not define it in these terms. He also said that the profile of tapering appeared consistent with the conclusion that Openreach was at or near the efficient frontier, and that the forecast of achievable efficiency gains in 2009/10 represented an upper bound. He offered no conclusion on the target for 2010/11.

2.151. Mr Corkery said that he would not expect all the evidence to point in the same direction. He stated that 'it is likely that the various pieces of evidence will provide different views as to achievable efficiency gains, and it is part of the role of Ofcom in this context to apply its judgment in arriving at its conclusions'.[119] In assessing the reasonableness of Ofcom's conclusions, Mr Corkery drew a clear distinction between forecasts for the year 2009/10 and subsequent years. He considered the forecasts for 2009/10 to be well supported by the evidence but the forecasts for subsequent years to rest on Ofcom's judgment to a greater extent. He said that the forecasts beyond 2009/10 appeared 'less directly linked to any specific piece of evidence' and 'more a reflection of [Ofcom's] view that efficiency gains can be expected to taper'.[120]

Application of the rate of efficiency savings to Openreach's costs

2.152. Mr Shurmer explained:

> In assessing the historical efficiency gains, Openreach assesses movement in the total cash cost base that is explained by each of volume changes, inflation, efficiency or other factors. The total cash base

[117] BT W/S Corkery I §122.
[118] BT W/S Corkery I §127.
[119] BT W/S Corkery I §80.
[120] BT W/S Corkery I §108.

includes operating costs and capital expenditure in a given year, does not include any historical or incremental depreciation.[121]

2.153. He went on to say:

> The methodology of using total cash cost base to articulate historical efficiencies has been consistently adopted by Openreach in its submissions to Ofcom in the LLU review. Openreach considered that 70% of its operating costs and 80% of its capital expenditure were compressible.[122]

2.154. Mr Shurmer also said: ‘Changes in operating cost and capital expenditure impact the cost base for WLR and LLU services in different ways. Operating costs of efficiencies will be reflected in the year in which they occur. However, reductions to capital expenditure will have a delayed effect.’[123]

2.155. Mr Shurmer explained why historical rates of efficiency savings could not be repeated.[124] He said that Openreach had already made ‘transformational changes’ following its creation in 2006. The workforce was now deployed more efficiently and effectively, allowing it to meet variable and often volatile demand. Significant cuts had been made to indirect labour and could not be repeated. He also said that, with increasing competition, volumes of traffic for copper-based access services continued to fall. Thus, Openreach would have to work harder to deliver extra efficiencies just to maintain unit costs because a large proportion of its costs were fixed over the short to medium term. He said that ‘additional programmes’ would be required to achieve the required efficiencies because the cost base had already been cut significantly. He added that Openreach was a labour-intensive business and was not like other areas of the communications industry which were more high-tech, and where technology developments and enhancements could drive cost reductions in short periods of time.

2.156. Mr Shurmer stated that Openreach’s ability to control fault rates was constrained by several factors.[125] He said that Openreach’s copper network was ageing and degrading and, without further investment, a ‘potential increase’ in the fault rate of approximately 12 per cent a year could follow. Also, as greater demands were made of the network, more investment would be required to support the efficient provision of those services (eg the increasing speeds at which broadband services were provided on a network designed to carry voice traffic). Mr Shurmer also referred to Openreach’s universal service obligations.

2.157. Mr Shurmer noted that [✂] of Openreach’s 32,000 staff were in the ‘operating parts’ of the business.[126] He described the labour element of Openreach’s cost base as its ‘most malleable’. However, he said that simple reductions in the workforce to deliver lower operating costs could have an effect on the levels of service provided, and should not be done hastily. He noted that such reductions could not easily be reversed. Mr Shurmer noted that if Openreach failed to meet the efficiency targets agreed with its customers, Openreach may have to pay compensation.

[121] BT W/S Shurmer I §76.
[122] BT W/S Shurmer I §78.
[123] BT W/S Shurmer I §79.
[124] BT W/S Shurmer I §83.
[125] BT W/S Shurmer I §84.
[126] BT W/S Shurmer I §86.

2.158. Mr Shurmer said that, while most costs were in the very long term compressible, in the shorter term there were costs that could not meaningfully be reduced. He identified the main items that could not be compressed as follows:[127]

(a) Depreciation, which accounted for two-thirds of non-compressible costs, could not be reduced unless at the end of an asset's accounting life fewer or cheaper assets were required to provide the service.

(b) Cumulo rates were the second most significant non-compressible cost. Mr Shurmer said that savings on cumulo rates were not easily realized as Openreach could not close exchanges and reduce its infrastructure at will. Regulatory obligations, such as universal service, and other factors, such as the provision of co-mingling space in exchanges, prevented significant cuts. He noted that, in any event, closing exchanges had significant costs for network re-arrangements and could be time consuming. It was not merely BT, but also communication providers, who might see disruptions as exchanges were closed. Consequently, he said that 'exchanges are only vacated if there is a clear operational need to do so'.

(c) In the financial model, BT's rental accommodation charges were forecast to achieve a 1 per cent efficiency saving even though there was no provision for such a reduction in the contract with Telereal, with the result that an efficiency saving was implicitly contained in the financial model.

(d) Recent changes in BT's pensions arrangements had led Ofcom to reduce its pension costs by more than £18 million. However, in Mr Shurmer's view, that pension renegotiation was a one-off exercise and could not be repeated.

2.159. Mr Shurmer stated that Openreach's historic ability to reduce faults could not be maintained.[128] On the contrary, there was, in Mr Shurmer's view, the possibility that fault rates could increase as the penetration of broadband increases. While accepting that there would be continuing improvements in the management of fault volatility associated with rainfall and network interventions, Mr Shurmer identified a number of factors that were likely to increase the level of faults reported. These factors included natural degradation of an ageing network, and increasing 'cable fill' leading to increasing noise and interference of lines as the penetration of data services increased.

2.160. With regard to efficiency improvements in the BT Group as a whole, Mr Shurmer disputed CPW's arguments for a number of reasons:[129]

(a) He considered that, at times, CPW might have confused cost reductions with efficiency savings (the difference being the extent to which factors such as volume changes and inflation had been taken into account).

(b) He disputed the notion that Openreach and BT were comparable.

(c) He disagreed with CPW's view that Openreach's copper-based services had been protected from competition. While he accepted that BT had significant market power in relation to WLR and LLU, it was not the case that it was free from competition in these services. In his view, they were subject to competition from cable services and mobile services. Also, such services had effectively been

[127] BT W/S Shurmer I §§103–107.
[128] BT W/S Shurmer I §§109–110.
[129] BT W/S Shurmer I §§112–117.

subject to efficiency targets under previous price controls. Furthermore, he said that the labour-intensive nature of copper base access services meant that there was less scope for efficiency improvements when compared with technologically focused services.

(d) He argued that merely because BT had in the past exceeded its own estimates of efficiency savings did not mean that targets had been too low. In his view, RPI–X controls were intended to give the regulated company the incentive to outperform the target.

2.161. In relation to CPW's arguments about the absence of evidence to support Ofcom's conclusions, BT argued that the confidential evidence did not contain materials that demonstrated that Ofcom had erred in its conclusion on the rate of efficiency to apply for the forecast period.

Ofcom's financial model for Openreach

2.162. In relation to CPW's arguments about how Ofcom applied the efficiency savings rate via the financial modelling that it undertook, BT argued that given the timing of the review, Ofcom had no alternative but to start with the 2007/08 actual costs and develop a modelling scenario that included an estimate for the subsequent years until 2012/13. BT argued that Ofcom had used recent evidence from BT to calibrate the model, and that CPW's arguments about further refinement of the modelling assumptions in 2008/09 was neither practical (in terms of timing) nor relevant (as the model contained assumptions for 2009/10 that were consistent with BT's own estimates).

Our assessment

2.163. In this section, we focus our assessment of the evidence based on the framework we have applied throughout:

(a) identification of the sources of efficiency savings;

(b) measurement of the rate of efficiency savings; and

(c) application of the rate of efficiency savings to Openreach's costs.

2.164. It was apparent to us that Ofcom had looked at a number of different quantitative and qualitative indicators to estimate the rate of efficiency improvement. It was apparent that Ofcom, in setting the general rate of efficiency improvement assumption, had not relied exclusively on representations or statements made by Openreach. It was further apparent that there was a substantial overlap between the measurement techniques that Ofcom applied and those that CPW said it should have applied. In this respect, we do not find that CPW has demonstrated that Ofcom's analysis was incomplete.

2.165. However, there are some aspects of the rate of efficiency savings set by Ofcom which cause us some concern:

(a) First, we are concerned that Ofcom may have had too much regard to BT's own forecasts, and thus that Ofcom may not have given the right weight to the various alternative measurement techniques that it applied, such as the KPMG efficiency review and historical evidence. We also concluded that ranges indicated by the econometric studies could not be accorded greater prominence in the Defence than in the LLU Statement.

(b) Second, we think that Ofcom's task was to apply an efficiency target that would incentivize Openreach to bring its costs in line with those of an efficient operator, rather than to set targets closely aligned with the actual savings that the company proposes to make. For example, we were concerned that the application of the rate of efficiency improvement had regard to concepts that had their origins in BT's submissions (eg non-compressible costs and tapering rates). We think that this point is similar to the point made by CPW that the regulator's task is not to merely accept what BT thinks it could do.

Analysis of the sources of efficiency savings

2.166. In light of the approach taken by Ofcom to identify potential sources of efficiency savings, obtain evidence to measure an appropriate efficiency target, and apply this rate to Openreach's costs, we felt that Ofcom's identification of two sources of efficiency (general efficiency, and efficiency from fault rate reductions) that together formed a total rate was appropriate.

2.167. We noted CPW's concerns that the approach taken by Ofcom omitted some sources of efficiency. In our view, the approach that Ofcom took (to identify sources, measure rates of savings, and apply the rate of savings to Openreach costs) is not inherently flawed. We were not persuaded that the Ofcom approach to measurement of efficiency savings was incomplete.

Analysis of the measurement of the rate of efficiency savings

2.168. The three principal sources of evidence used by Ofcom in the LLU Statement were the KPMG efficiency review, the evidence of BT's historical performance, and Openreach's 2009/10 budget for the first year of the price control. In addition, and while not playing a prominent part in the statement itself, Ofcom had also taken account of a fourth measurement technique, the econometric studies produced by Deloitte and by NERA.

2.169. CPW said that Ofcom should have taken Openreach's 2009/10 budget as a starting point to estimate the rate of efficiency savings, and then verified that forecast against historic savings, and the KPMG report. CPW also said that Ofcom should have taken into account other 'anecdotal' measures, such as communications that the BT Group made to its shareholders with respect to efficiency savings, and said that the econometric studies should be put to one side because they did not feature in the LLU Statement.

2.170. We set out our detailed assessment of each of the measures of efficiency savings below.

KPMG efficiency review

2.171. Ofcom commissioned KPMG in November 2008 to conduct an efficiency review of Openreach's operating costs. The review, performed in two phases, involved an examination of some £3.7 billion of operating costs incurred by Openreach in the 2007/08 financial year, categorized by cost headings. KPMG concluded that under its assumption of constant task times and fault rates, Openreach would need to make efficiency gains of between 3.2 and 3.5 per cent a year from 2008 until 2013 on its operating costs to bring its costs in line with that of an organization operating in a competitive environment over a five-year period.

2.172. The principal advantage of the approach adopted by KPMG was that it was an independent examination of Openreach's actual cost base against industry benchmarks. It was also available for independent review. The KPMG efficiency review included an examination of job descriptions and grades in order to identify benchmarks for salaries, an analysis of IT costs to compare costs per workstation with industry averages, and an examination of fleet costs to benchmark Openreach's average cost per vehicle and fleet cost structure to large fleet management companies. A strength of the KPMG approach is that it looked objectively and independently at the individual categories of Openreach's costs, and identified relevant benchmarks for the specific cost types and concluded on an annual rate of efficiency savings for Openreach to redress its inefficiencies over a period of time that coincided with the LLU price control period. KPMG also benchmarked Openreach's overheads, including costs allocated to it by the BT Group. KPMG also used relevant benchmarks from industry and the economy at large and stated that its conclusion was expressed as a range derived for Openreach to eliminate its inefficiencies over a five-year period, incorporating assumptions for industry-wide annual productivity gains of 2.1 to 2.3 per cent. Having carried out its examination, KPMG was able to reach a conclusion as to the efficiency saving that could be achieved in particular cost categories, and then expressed its range in terms of Openreach's total costs. During the consultation on the LLU price review, Ofcom received broad support for KPMG's approach.

2.173. We note that the KPMG approach could have been refined or extended with respect to the sources of efficiency that it sought to measure and the level of detail applied to the measurement of the rate of efficiency improvement.

2.174. Ofcom identified limitations of the KPMG approach in its LLU Statement.[130] In our view, the most important limitations identified by Ofcom were that: *(a)* the underlying financial information on which the review was performed was for a single year; *(b)* KPMG did not examine how productivity changes might affect unit costs (KPMG assumed no changes to task times or to fault rates, rather KPMG stated that if it was assumed that task times were longer, then its finding of an efficiency target of 3.2 to 3.5 per cent would be higher); and *(c)* KPMG's assessment identified benchmarks for no more than 35 per cent of Openreach's operating cost base and relied on extrapolation to apply the identified benchmarks to a further 56 per cent of operating costs.

2.175. We have also considered the criticisms of the KPMG report made by Mr Corkery, which were, in summary, that KPMG: identified unit cost benchmarks but did not consider the productivity of units of input; applied a number of economy-wide benchmarks reflecting a number of industries; identified benchmarks for 35 per cent of Openreach's costs and used extrapolation to extend the analysis; and did not consider the trade-off between capital investment and operating costs.[131] We accept that each of Mr Corkery's criticisms may be valid, but we do not accept that they undermine the relevance or reliability of KPMG's conclusions on their own terms. They are in our view shortcomings of only limited significance and, as we have observed, the KPMG report has some limitations.

2.176. For example, while the operating costs analysed by KPMG were analysed in some detail, the validity of the KPMG report would have been improved had KPMG found a benchmark for a majority (ie at least 50 per cent) of Openreach's total cash costs (ie irrespective of accounting treatment). We note, for example, that BT's response to

[130] LLU Statement §§A9.41–A9.71.
[131] BT W/S Corkery I §99.

our provisional determination highlighted that KPMG had benchmarked operating costs rather than cash costs. Nevertheless, we have not seen any evidence or submission that leads us to think that the limited scope of the benchmarking detracts significantly from KPMG's conclusions nor that the range cannot be validly applied to Openreach's total costs, via the cash flow model, which is accepted by the parties as the appropriate tool to model the efficiency savings target.

2.177. In our view, the main limitation in the scope of the KPMG efficiency review was that it did not measure efficiency savings attributable to fault rate reductions. However, we do not think that the results of the KPMG report should be restated, as suggested by CPW, to incorporate estimates of the potential for reductions in fault rates or task times. In our view, the KPMG report is an important source of evidence to measure general efficiency savings and was distinct from the separate evidence that Ofcom used to measure efficiency savings from fault rate reductions.

2.178. Overall, we believe that the KPMG report presents an important independent review of the general efficiency savings that Openreach should achieve on its total costs. We are not persuaded that the limitations of the KPMG report undermined its conclusions. We consider that the rate of efficiency improvement set out in the KPMG efficiency review should feature prominently in the overall conclusion on the general rate of efficiency improvement.

Historical indicators of Openreach's efficiency savings

2.179. After taking account of inflation and changes in volumes, Ofcom concluded that, for the years 2007/08 and 2008/09, Openreach had made efficiency gains in excess of 4 per cent a year and perhaps as high as 6 per cent of compressible costs).[132] Ofcom said that a lower figure was observed for 2006/07, but it judged that the results for this year were less significant as they relied on comparisons with the period before the creation of Openreach.

2.180. Historical rates demonstrate the efficiency savings that Openreach has been able to achieve in the recent past. However, the weight that can be placed on historical rates in this case is conditioned by three important considerations:

(a) *Limited number of observations.* Ofcom considered only two historical observations to be reliable indicators of Openreach's efficiency (ie the comparisons of 2006/07 with 2007/08 and 2007/08 with 2008/09). The trend indicated is therefore limited.

(b) *Estimation difficulties.* For example, there are difficulties in isolating volume changes from productivity improvements, and difficulties in distinguishing different sources of efficiency (for example fault rate reduction and task time improvements) in historical data. This may account for the apparent differences between Ofcom's and BT's estimation of the historical rate of efficiency savings, summarized in Table 2.2.

(c) *Predictive power.* Ofcom faced a challenge in deciding whether and to what extent historical rates of savings are good guides to future rates of saving.

2.181. We consider that there is some merit in CPW's view that the historical rate of efficiency savings would be an appropriate 'starting point' from which to compare alternative measures in order to estimate a rate of efficiency savings for future years,

[132] LLU Statement §A9.76.

but this evidence could form a part of the assessment of potential efficiency savings alongside other evidence. We observed that the historical data indicated Openreach's recent track record of achieving efficiency savings, whereas KPMG postulated a rate at which savings would be required to eliminate existing inefficiencies. We observed that the historical indicators indicated an efficiency rate of 3.6 per cent in 2007/08 and 2.4–3.5 per cent[133] and this was consistent with the KPMG estimates, albeit exhibiting a wider range of values.

2.182. We considered Mr Corkery's reservations about the extent to which a regulator could rely on historic savings, and his critique of the analysis of historic savings. However, we noted that his analyses of different approaches to assessing historic savings were only a way of identifying how savings had been made, and save to that extent, were not strong predictors of how savings would be made. We think that historic rates are relevant and can be important. However, an important element in assessing their reliability is the extent to which they are corroborated.

2.183. We also noted Mr Shurmer's argument that specific savings Openreach had made in the past were unsustainable. In our view, Mr Shurmer's arguments explained why specific savings made in the past might not be repeated but did not explain why historic rates of savings were an unreliable guide to savings that may be made in the future.

2.184. We agree with Mr Heaney that future savings are likely to be made in places where savings did not previously seem possible.

2.185. In general terms we think that the predictive power of historic rates of efficiency saving diminishes over time as circumstances, including cost structures and technology trends, change. In our view, however, the historical indicators of Openreach efficiency should be reliable for at least the first year of the price control, and represent useful indicators for the whole period under review.

Openreach budget 2009/10

2.186. Ofcom's approach to the limitations of the KPMG report and to the limited predictive powers of historic savings was to obtain additional evidence, on a confidential basis, from Openreach as to Openreach's own forecast of efficiency savings in 2009/10. Ofcom concluded that this evidence indicated that Openreach's internal plans included initiatives that 'could potentially give rise to efficiency gains in excess of the 4 per cent delivered in 2008/09'.[134]

2.187. CPW claimed that Ofcom had attributed too much weight to submissions from Openreach as to the future efficiency savings that Openreach said it could achieve.

2.188. With respect to the Openreach budget for 2009/10, we have no doubt that Ofcom knew and understood Openreach's incentives and that it also took into account the fact that it was a budget for a single year. We do not conclude that Ofcom had set a lower efficiency target in 2009/10 than Openreach itself was targeting. As set out in Table 2.3, Openreach documents dated December 2008 indicated that it had identified efficiency savings of [✄] per cent of compressible costs (equivalent to [✄] per cent of total costs) for 2009/10 and may have been targeting further potential efficiency savings, possibly including one-off initiatives in response to the recession and/or other BT group initatives, that took the total target to [✄] per cent of total

[133] Expressed as percentage of total costs. See Table 2.
[134] LLU Statement §A9.91.

costs for both 2008/09 and 2009/10, whereas Ofcom had concluded from its review of Openreach's budget that a general rate of efficiency improvement of 4 per cent of compressible costs (equivalent to 3 per cent of total costs), and that this excluded efficiency savings from fault rate reduction that contributed an additional 0.5 per cent efficiency savings on total costs.

2.189. We concluded that the identified efficiency savings contained in the Openreach 2009/10 budget are more reliable than brief references to other potential savings in various contemporaneous documents, or statements in more general terms at the BT Group level (specifically, the reference to a 4.5 per cent efficiency target) because its context was specific to Openreach, and that in any event we had confidence that Ofcom had performed its review and financial modelling with appropriate rigour to reach reliable conclusions as to Openreach's plans for 2009/10.

2.190. But we were not convinced that Openreach's internal budget and forecasts for 2009/10 provided a more reliable basis for Ofcom's overall assessment over the four-year period 2009/10 to 2012/13 than the other evidence obtained by Ofcom to measure the general rate of efficiency improvement, such as the KPMG efficiency review (which had a five-year forecast horizon), and historical indicators (which looked back two years).

2.191. The purpose of efficiency targets is to promote efficiency over a longer period than one year, and is not to predict the rate that will be achieved. The target set by Ofcom for Openreach is not necessarily wrong merely because it can be exceeded, or because a plan to exceed it is adopted. In a system of incentive-based regulation, efficiency targets should be capable of being met and exceeded.

2.192. The Openreach budget for 2009/10 provides a relevant benchmark for the rate of efficiency savings for at least the first year of the price control. Its relevance for subsequent years of the price control period would be no greater than the other evidence, including the KPMG efficiency review and historical indicators.

Econometric studies

2.193. In the LLU Statement, Ofcom stated that it had traditionally considered efficiency gains in terms of frontier shift and catch-up efficiency.[135] We understand that in previous price reviews Ofcom commissioned NERA to perform econometric analysis to estimate frontier shift. This analysis involved benchmarking BT's costs against those of the LECs, whose costs were adjusted for known differences such as topography and accounting policies. We agree with Mr Corkery that statistical analyses have merit in the assessment of efficiency savings and the setting of efficiency targets. Indeed, the use of this sort of analysis is well established in price control regulation.

2.194. The advantage of this approach is that it is based on an established body of academic work, incorporates statistical techniques to interpret the robustness of the results and, having been relied upon in a number of regulatory reviews, it promotes some consistency of approach. There are, however, two important limitations to it: (i) the comparison drawn with the LECs is that of the BT Group and not Openreach; and (ii) the comparators might not operate in a competitive market. Ofcom recognized these limitations, stating that 'direct benchmarking of Openreach against the LECs was problematic. We therefore concluded that it was necessary to look for

[135] LLU Statement §A9.28.

alternative efficiency measures to encompass both the frontier shift and catch-up efficiency'.[136]

2.195. We noted that in the WLR price control set in January 2006, Ofcom applied a 1.5 per cent efficiency factor to BT's 2005/06 operating costs, and that a NERA report on BT's comparative efficiency in 2003 formed part of the evidence for this target.[137] We compared this with the historical measures of Openreach's efficiency set out in Table 2.2, and concluded that Openreach had demonstrated a capacity for greater efficiency in 2007/08 and 2008/09.

2.196. We note that, while Ofcom has, in its Defence, placed weight on econometric studies, it did not do so in the LLU Statement. It appears to us that the econometric analysis played relatively little part in Ofcom's final determination in the LLU Statement. While we think that econometric studies can have an important role in the assessment of efficiency savings and targets, we also consider that, in this particular case, Ofcom identified correctly some important limitations in the value of the LECs as comparators and concluded rightly that alternative sources of evidence to measure efficiency rates should be given greater weight in its efficiency assessment.

Fault rate reduction

2.197. In considering the rate at which faults might decline in the future, Ofcom considered historical evidence, BT's internal projections, and the reasons advanced by Openreach as to the levels at which fault rates would decline, noting that while continuing investment in the network was a factor that should lead to a declining fault rate, other factors such as increases in the take-up of broadband were likely to increase the fault rate.

2.198. CPW argued that the fault rate reduction should be higher, at 5 per cent, and complained that there was no justification for Ofcom to revise its range down from the 4 to 6 per cent quoted in the second consultation. Further, following their examination of the financial models CPW's expert advisers noted that the fault rate reduction was in effect lower than 2 per cent because the efficiency saving had been applied to just one of five categories of faults, namely 'network field repairs'. CPW also argued that it did not understand the relationship between fault rate reductions and operating costs in the financial model[138]

2.199. We concluded that Ofcom was right to obtain a range of evidence from BT and third parties in relation to fault rates, including detailed comments in relation to the age and technical performance of the Openreach's network. We were not persuaded that CPW had provided alternative evidence of a similar technical nature, either in the consultation process or in evidence to us, which would lead to a different conclusion to that reached by Ofcom,.

2.200. CPW also submitted evidence that it had obtained from Openreach during the appeal that indicated the number of faults had fallen sharply between 2007/08 and 2008/09. CPW was concerned about possible anomalies in the financial model in relation to whether the quantity of fault incidents recorded in the financial model was consistent with observed data.[139] We noted that this was a historical indicator that had limited predictive power and did not in our view invalidate Ofcom's assumption of a 2 per cent annual reduction in faults.

[136] LLU Statement §A9.31.
[137] *Wholesale Line Rental: Reviewing and setting charge ceilings for WLR services*, 24 January 2006, §3.30.
[138] CPW W/S Heaney IV §108c.
[139] Reply IV, Submission by CPW on confidential evidence. Annex—analysis carried out by Frontier Economics.

2.201. Ofcom stated that a 2 per cent reduction in the rate of faults was equivalent to a 0.7 per cent efficiency saving in the compressible costs of Openreach[140] (equivalent to 0.5 per cent efficiency saving in total Openreach costs). In our view, the effect of the efficiency rate on total costs is more important than the estimate of the quantity of faults because the rate of efficiency savings in total costs is ultimately what affects the price control. We noted that the financial model performed a series of calculations to apply the fault rate reductions input to Openreach's costs. The input for efficiency was applied to network field repair faults only and, based on this input, the number of hours of labour utilized in Openreach was reduced by the efficiency assumption (ie 2 per cent a year), to which unit costs were then applied. We agreed with CPW that, in light of Ofcom's decision to apply the fault rate reduction assumption to 'network field repairs' only, the effective rate of fault rate reduction was less than 2 per cent of total faults. In our view, however, this did not invalidate the relationship between the fault rate reduction assumption and the final effect on Openreach's forecast costs, which could be observed in the financial model. We agreed with Ofcom that the efficiency saving of 0.5 per cent of total costs, associated with future reductions in fault rates, was appropriate. We did not conclude that effect of the fault rate reduction assumption had a smaller impact on Openreach's forecast costs than that presented by Ofcom. We therefore concluded that it is reasonable to expect Openreach to achieve annual efficiency savings of 0.5 per cent of total costs stemming from a declining incidence of faults over the four-year forecast period, independent of the observed number of faults in 2008/09.

Analysis of the application of the rate of efficiency savings to Openreach's costs

2.202. We turn next to our assessment of the application of the rate of efficiency to Openreach's costs.

Compressible and non-compressible costs

2.203. Unlike KPMG, Ofcom sought to distinguish between costs that were and were not compressible. Ofcom applied the general rate of efficiency to compressible costs and exempted non-compressible costs from the rate of efficiency improvement.

2.204. CPW argued that the proportion of Openreach's total costs that Ofcom had found to be non-compressible was too high, resulting in an insufficiently demanding efficiency target, and said that this treatment of costs was unsupported by regulatory precedent. In addition, CPW set out specific concerns about how Ofcom had concluded that certain costs should be considered non-compressible.

2.205. Mr Shurmer's evidence contained a discussion of BT and its activities and Mr Corkery's report presented his views on the role and scope of an efficiency assessment in price controls. Both Mr Shurmer and Mr Corkery supported the approach adopted by Ofcom to the identification of compressible costs and to the application of a rate of efficiencies to compressible costs.

2.206. A close examination of Openreach's costs may have advantages in identifying the individual categories of costs where savings can be made as an analytical step in identifying an overall efficiency target to a regulated business. We encourage an approach that seeks to take specific account of the nature of costs. At the same time, whether a regulator chooses to identify those costs that are compressible and applies

[140] Ofcom Defence Annex A §35.

an efficiency target to just these costs, or whether it chooses to apply a total rate of efficiency improvement to Openreach's total costs, the important point is that the target, however it is expressed, should be sufficiently demanding.

2.207. Classifying costs between compressible and non-compressible costs could not determine the target because, inevitably, it is not feasible for a regulator to specify exactly where management will achieve efficiency savings. Openreach's management is best placed to examine and assess how to implement initiatives to achieve efficiency savings. But we were concerned that both the terminology that Ofcom adopted to describe costs as compressible or non-compressible, and the decisions with respect to non-compressible costs (eg cumulo rates and accommodation rental costs) appeared to accept at face value BT's submissions, and thus introduced the possibility that Openreach would capture the benefits from any efficiency savings that it was able to achieve in these costs. We noted that the specific cost categories on which efficiency savings are achieved will vary from year to year, and that measures of efficiency (including the KPMG efficiency review and historical indicators) are expressed in relation to total costs.

2.208. We turn next to our analysis of CPW's specific concerns about non-compressible costs by assessing Ofcom's conclusions that accommodation rental costs and cumulo rates were non-compressible costs.

Accommodation rental costs

2.209. Ofcom concluded that property rental costs were non-compressible. Ofcom explained that rental charges on property occupied by Openreach were governed by the terms of a long-term sale and leaseback contract into which BT had entered on market terms. Ofcom explained that under the terms of the sale and leaseback agreement the annual inflation factor was 3 per cent.[141] BT noted[142] that changes in Openreach's occupancy of local exchanges would result in costs for both BT and other operators, which would offset potential efficiency savings.

2.210. CPW argued that commentary in the BT annual report indicated that the sale and leaseback agreement was designed to enable BT to generate savings in its estate costs, and that BT was marketing various properties for sale or sub-letting. CPW argued that it was therefore wrong for Ofcom to treat accommodation rental payments as non-compressible. CPW estimated Openreach's efficiency savings in property costs at 2 per cent a year.[143]

2.211. We concluded that BT's sale and leaseback agreement was a relevant factor that Ofcom should take into account in performing its assessment of efficiency savings, and that BT's assertion that no efficiency savings could be achieved on this category of costs merited thorough consideration. We requested a copy of the sale and leaseback agreement, but although Ofcom was not able to supply it, we questioned Ofcom closely about the matter and we have no reason to doubt that appropriate scrutiny of this commercial arrangement took place in setting the price control.

2.212. We examined the financial model and found that the annual efficiency saving applied to accommodation rent was [✄] per cent and the annual inflation factor applied to accommodation rental costs was the 'non-pay inflation' rate, which was equivalent to

[141]Ofcom Defence Annex A §79.2.
[142]BT W/S Shurmer I §105.
[143]CPW W/S Heaney IV §68a.

an annualized rate of 1.87 per cent.[144] (From a financial modelling perspective, the effects of inflation and efficiency offset one another during the forecast period because both factors are applied to the nominal costs incurred in 2007/08.) We found that the annual costs of accommodation rental payments have been inflated in the model at a lower rate than applies under the terms of the sale and leaseback agreement, which implied (whether intentional or not) an efficiency saving of approximately 1 per cent, which is roughly the midpoint between the 0 per cent assumed by Ofcom and the 2 per cent assumed by CPW. In other words, we did not find that accommodation rental costs had been exempted from efficiency savings altogether.

2.213. We also concluded that Openreach faces significant constraints in changing its pattern of occupation of local exchanges but there may be limited scope for improving the use of space, for example sub-letting.

Cumulo rates

2.214. Ofcom also found cumulo rates to be non-compressible. It explained that it had examined the cumulo rates bill, and made adjustments to the financial forecasts to reflect changes in volume forecasts. It said that it had investigated the potential scope for efficiency savings in cumulo rates, and concluded that there was no scope for savings during the period of the price control.

2.215. Both CPW and Sky referred to statutory valuations of the BT network that indicated a declining asset value in the period to April 2010 based on the VOA methodology, which represents a forward-looking appraisal of the market value of rent achievable on assets, but they did not supply evidence to demonstrate how this evidence would result in lower cumulo rates bills for Openreach further than the adjustments Ofcom had made to these costs.

2.216. We concluded that Ofcom had investigated the cumulo rates costs and it made adjustments to costs. We were not persuaded by CPW's argument that Ofcom had erred in concluding that cumulo rates costs were non-compressible during the period of the price control.

Tapering rate of efficiency savings

2.217. Ofcom said in the LLU Statement[145] that it applied a tapering rate of efficiency in light of evidence from Openreach that it would not be possible to sustain the efficiency savings rate included in Openreach's 2009/10 budget during the remaining three years of the forecast period, but it said in the Defence[146] that it did not consider that Openreach's capacity to make efficiency savings was running out.

2.218. CPW argued that Ofcom's decision to set a tapering rate of saving could only be justified by particularly robust evidence.

2.219. We were not persuaded that the evidence gathered by Ofcom demonstrated that Openreach's capacity to achieve efficiency savings across a range of cost categories would diminish during the period covered by the financial model used to estimate Openreach's costs. We were concerned that the application of the rate of efficiency improvement as a tapering rate could lead to a conclusion that Openreach's capacity

[144] Non-pay inflation: 0 per cent in 2009/10, 2.5 per cent a year in 2010/11–2012/13. Annualized equivalent over four years is (1.025^3)^(1/4) = 1.87%. (LLU Statement §A6.55.)
[145] Ofcom Defence Annex §79.1.
[146] LLU Statement §A9.95.

to achieve efficiency savings was finite and also that this could prove an unhelpful starting proposition for subsequent reviews of LLU pricing. We concluded that a flat rate for efficiency savings is appropriate and that a tapering rate is not. Nevertheless, we believe that the more important issue in relation to determining the LLU price control is whether the efficiency target, whether expressed as a flat rate across the forecast period or at a tapering rate, is set at a sufficiently demanding level for the entire period.

Ofcom's financial model for Openreach

2.220. Ofcom said that it obtained a suite of financial models from Openreach and adjusted these models to set efficiency savings at the Openreach level and then calculate the unit costs for MPF and SMPF.

2.221. CPW supported the use of the Openreach financial models for the purpose of the price control, but cast doubt on a number of detailed assumptions contained in these models. CPW detailed adjustments to these financial models that it considered should be made in order to recalculate Openreach's costs to correct for its views on the appropriate rate of efficiency.

2.222. The financial model that Ofcom used to estimate the Openreach costs is based on a large number of assumptions that Ofcom developed during the review it undertook. The broader approach, Ofcom's decision to use a suite of financial models obtained from BT to forecast Openreach's costs, is not in dispute. CPW argued that a number of input assumptions should have been changed to reflect developments in the Openreach business, particularly in relation to fault rates and headcount in 2008/09. In our view a variety of different input combinations could produce the same output (eg cost estimate) and it is not possible to individually validate each and every input to a model, whilst selectively amending inputs would have unanticipated consequences. The more important issue is that the output of the model should represent Ofcom's view of the efficient costs of Openreach that can be considered alongside against other evidence, including indicators of potential efficiency savings. Ofcom undertook a process of evidence gathering and review, and reflected its assessment in the suite of financial models. The financial models were calibrated by Ofcom to reflect its view of Openreach's costs and incorporated assumptions for efficiency. We do not conclude that Ofcom had erred in its application of the efficiency savings rate in the financial models. In our view, it is not appropriate to make selective changes to individual input assumptions to those applied by Ofcom in 2007/08 and 2008/09. Adjustments to the financial model are therefore only required to reflect our assessment that the rate of efficiency in 2009/10 to 2012/13 should be higher.

Assessment on efficiency savings

2.223. Ofcom concluded on a total rate of efficiency savings applied to total costs of 2.6 per cent (see Table 2.1 above).

2.224. We consider that none of the primary sources of evidence to measure the general rate of efficiency savings is decisive on its own, but that together the evidence obtained by Ofcom to measure efficiency savings is sufficient to perform the assessment. In our view, the KPMG report was the most objective, independent source of evidence available to Ofcom; the historical indicators provided the most direct evidence of what Openreach had recently achieved; whilst Openreach's 2009/10 budget was important because it corroborated the historical indicators and KPMG efficiency review and established what Openreach had planned in the first year of the price control. This contrasted with Ofcom's reliance on the Openreach budget for 2009/10 in preference to the other measures.

2.225. The KPMG efficiency review identified necessary annual savings in the range of 3.2–3.5 per cent of total costs a year until 2013, excluding the effect of fault rate reductions. Ofcom's analysis of historical rates of efficiency savings indicated a rate of 4 per cent on total costs excluding reductions in fault rates. Ofcom concluded that Openreach's budget for 2009/10 also supported a 4 per cent efficiency saving of total costs in 2009/10 excluding fault rate reductions. Each of these indicators pointed to a higher rate than that set by Ofcom. The only source of evidence that was lower than the Ofcom range was the data from econometric studies, at around 1 per cent of total costs including reductions in fault rates. However, we conclude that the econometric studies played a limited role, if any, in Ofcom's decision.

2.226. We conclude that the 3.2–3.5 per cent range in the KPMG efficiency review was an objective indicator expressed on a forward-looking basis spanning the entire price control period, and it should be treated as the most important indicator for the general efficiency saving rate in each of the four years 2009/10 to 2012/13. We also conclude that the total rate of efficiency savings should also include an additional 0.5 per cent saving of total costs to reflect the efficiency saving attributable to fault rate reductions, as was the case in the LLU Statement. Taken together, we conclude that the total rate of efficiency savings, expressed as a percentage of total costs, should be in the range of 3.7–4.0 per cent a year. Expressed over the four-year forecasting horizon (2009/10 to 2012/13) this range is equivalent to a total efficiency target of 14.0–15.0 per cent of net costs.[147] The upper end of this range is consistent with recent historical indicators and Ofcom's interpretation of Openreach's budget for 2009/10 but we have more confidence in the lower end of this range because each of the sources of evidence, including the KPMG efficiency review, has limitations, and because the predictive power of recent historical indicators and short-term budgets diminishes after the first year of the forecast.

2.227. Ofcom applied its efficiency target as a tapering rate, and it exempted certain 'non-compressible costs' from the general efficiency target. The efficiency targets were applied to a financial model which contained a large number of assumptions, including estimates for implementation costs. Ofcom's decision to exempt non-compressible costs from the general rate of efficiency savings, and to apply a tapering rate of savings, contributed to its application of a lower rate of efficiency savings than that supported by the measures techniques it used, and that in this regard the total rate of efficiency savings was influenced by BT's submissions.

2.228. Thus, after careful consideration, the conclusion that we have drawn is that the rate of total annual efficiency savings (of all sources) should be 3.7 per cent a year of total costs applied to each year of the four-year forecast period (2009/10 to 2012/13). In our provisional determination we described the target as one 'expressed in net terms, after the inclusion of any implementation costs'. Responses to our provisional determination indicated that the meaning of this was not fully understood. Lest there be any doubt, we do not think that Openreach should be allowed to set-off implementation costs against the target rate of saving. We expect total costs (including operating costs, capital expenditure and implementation costs) to reduce by 3.7 per cent a year in each of the four years.

2.229. We consider that the 2008/09 costs may include costs (eg leaver costs) which may have been estimated in relation to Ofcom's estimated efficiency savings. The

[147] Derivation: (1-3.7%)^4 – 1 = 14.0% and (1 – 4.0%)^4 – 1 = 15.1%.

efficiency assumptions are applied to the total cost base after allowing for volume and inflation changes. We consider that it is not for us to determine how the company should operate within this price control to achieve the efficiency target set by us (it is up to the company to manage its overall costs within the regulatory settlement) and so we make no distinction between types of costs.

Responses to provisional determination

2.230. In responding to our provisional determination on efficiencies, Ofcom and BT both argued that we proposed to set the target too high, criticizing the approach adopted by us on two main grounds. First, they both said that our preference, stated in the provisional determination, for a net efficiency target of 3.7 per cent was not supported by the evidence on which we relied. Secondly, both took issue with our decision to identify an efficiency target by including a specific factor to reflect reductions in fault rates. CPW, while supporting our preference for a higher target than that set by Ofcom, urged us to go even higher relying, as it had throughout the appeal, on what it considered the incompleteness of the KPMG report. Sky agreed with us that the KPMG report is important by noting that other evidence supported the conclusion of a target efficiency rate of 3.7 per cent of total costs net of implementation costs.

2.231. Before we address specific points made by Ofcom, BT and CPW, we think that it is important to identify four relevant considerations.

(a) First, the task of Ofcom, and that of the CC on this appeal, is to identify a suitably demanding efficiency target for Openreach. In identifying that target, both Ofcom and ourselves will rely on the available evidence. However, each of the sources of information we have seen about the savings that Openreach might make has strengths and weaknesses. Consequently we have assessed the evidence in the round, identifying where more or less reliance can be placed on each source of information, recognizing the limitations of each source of evidence, and looking for corroboration among those sources.

(b) Second, in any event, these sources of information are only evidence as to what may be a suitable target. The target that is set is a regulatory standard and is designed to provide an incentive to greater efficiency. It is not, for good reason, a prediction of the savings that Openreach may make. Consequently, the validity of the target set is not something that can be proved by evidence in a mechanistic way.

(c) Third, we have considered a number of specific shortcomings alleged to be found in the evidence about efficiency savings. We have been invited to do so, and it is right that we should. Where, for example, a particular study has limitations in terms of the sources of efficiency savings it considers or makes limiting assumptions—if, for example it assumes a particular parameter remains constant—it is right to recognize that fact. But it would be a mistake to lose sight of the simple proposition that for all the matters canvassed in the appeal, in setting a target we do not purport to specify where Openreach should make savings in future. That Openreach has made savings in certain categories of cost in the past, and that the rate at which it has done so is relevant to the target now set, does not mean that in meeting the targets set for it by us it must make savings in these same costs. It is for Openreach to decide where to make savings.

(d) Fourth, and a related point, it is tempting to try to extrapolate from savings made in the past and then to argue about their consequences should they be repeated. Because it is for Openreach to decide where to make savings we do not wish to

speculate too far about the consequences of any particular type of saving. Some savings might have greater or lesser consequences in say, implementation costs. Because we have not sought to stipulate where a saving must be made, we think it goes too far to presume how they will be made and then to try to predict consequential costs or savings comprehensively. We have satisfied ourselves that the approach that we have adopted reflects a properly challenging target, recognizing the costs that may be incurred, and also that there may be scope for yet further savings.

2.232. Turning then to some of the specific criticisms made by Ofcom and BT, Ofcom's first criticism is that an annual target of 3.7 per cent net is inconsistent with the KPMG report which preferred an annual gross saving of 3.2 to 3.5 per cent a year under an assumption of constant fault rates and constant task times. As to this, we make the following observations. Our target for efficiency savings is based on the complete base of evidence available to us, and is not exclusively determined by the KPMG efficiency review. We agree that the scope of KPMG's review did not extend to an examination of potential implementation costs—for example leaver costs—raised by Ofcom and BT. KPMG stated the rate of annual efficiency savings that it thought Openreach must achieve to bring its costs in line with that of an organization operating in a competitive environment over a five-year period. KPMG concluded that Openreach's costs were 114.5 per cent of the benchmark level in 2007/08, and that assuming a five-year period to reduce excess costs in the context of industry-wide productivity improvements, Openreach would need to reduce its costs by at least 3.2 per cent a year. That is the most important consideration, and to describe the KPMG report as identifying the rate of savings on a 'gross' basis is therefore to miss its point. KPMG simply identified the savings that have to be achieved. Further, and inevitably, the implementation costs of savings are a matter that will be determined by the way in which Openreach's management chooses to achieve efficiency savings, in light of the target it has been set. This is not to say that there will not be zero implementation costs, but we expect them to be treated in the same manner as other Openreach costs.

2.233. The second criticism made by Ofcom is that by adopting a 3.7 per cent net target we would require Openreach to be more than a 'perfectly efficient' firm. We doubt that this is the case. We accept of course that KPMG compared Openreach's efficiency with that of very efficient firms. There would have been little point in comparing it with firms that were not very efficient. It will be recalled that KPMG's conclusions were based on a number of limiting assumptions, including no reductions in fault rates or in task times, and that it stated a range of efficiency savings based on assumptions for economy-wide productivity gains, and the target we have set is consistent with the lowest end of the KPMG range and is applied over a four-, rather than five-year period given that we have not found that there is sufficient evidence to disturb Ofcom's modelling of Openreach's costs in 2008/09. We have therefore allowed Openreach some leeway by choosing not to set the most exacting target from the range identified by KPMG. The target rates identified by KPMG are corroborated and at times surpassed by the rates of saving that Openreach has achieved as evidence by the historical indicators, and by the savings forecast by Openreach itself as evidenced by its budgets. The 3.7 per cent a year target that we have determined is not out of line with what Openreach has shown is within its compass and its aspirations and we consider it to be an appropriate target.

2.234. CPW stated a number of reasons why the efficiency savings target could be set higher. We think that CPW has isolated and criticized specific elements of the complex analysis of efficiencies carried out by Ofcom in order to seek a higher rate of efficiency savings, but that this approach leads to an overstatement of the appropriate target when taken in the round.

2.235. First, CPW observed that the costs figures on which Ofcom based its analysis of efficiencies were those for 2007/8, amended to reflect Ofcom's forecast of costs for 2008/9, and thereby sought downward adjustments to Openreach's costs for the year before the actual price control period. For the reasons that we have explained at paragraph 2.222, we have concluded that Ofcom's approach to the financial modelling was appropriate, and we do not consider that it is appropriate to make adjustments to the financial model in either 2007/08 or 2008/09.

2.236. Second, CPW suggested a number of reasons why the 3.7 per cent a year target might be increased. It said that the higher end of the KPMG range (ie 3.5 per cent a year) should be used because this was based on higher productivity savings associated with the three observed data points that corresponded with recessions, and that the efficiency assumption associated with reductions in fault rates was too low due to outperformance by Openreach on reducing fault rates, and because the fault rate reduction assumption was applied to a limited category of faults. CPW also argued that adjustments should be made for task times, and that a planned labour reduction should have been factored in.

2.237. We consider these points to be examples of the difficulties in identifying the appropriate efficiency target. In setting the target we have retained continuity with the approach that Ofcom took to identify two sources of efficiency savings, seek evidence to measure these sources, and apply the target rate to Openreach's costs. We have assessed each of the pieces of evidence available, taking account of the extent of corroboration between this evidence, and identified a suitably challenging efficiency target for Openreach. None of the sources of evidence or measurement techniques is without shortcomings. We have accepted the evidence for what it is, taking into account its limitations.

Determination in respect of Reference Question 1(i)

2.238. Our determination of Reference Question 1(i) is as follows: we determine that Ofcom erred in so far as it set a rate of efficiency savings that was too low. Our finding takes account of the full set of arguments contained in §§76–84.

2.239. For the reasons given above, our determination is that Ofcom erred in its estimation of the level of efficiency improvements that might reasonably have been expected to be achieved in respect of Openreach's costs and/or BT Group's costs allocated to Openreach, as claimed by CPW in §§76–84 of the NoA. Our determination is that the rate of efficiency savings in the price control should be 3.7 per cent for each year of the four years 2009/10–2012/13.

Reference Question 1(ii): Cost of capital

2.240. This section sets out our determination as to whether Ofcom erred in its assessment of the cost of capital for the reasons set out in §§85–87 of the Notice of Appeal (NoA).

2.241. For the reasons given below in paragraph 2.425, our determination is that Ofcom has not erred in its assessment of the cost of capital as claimed by CPW in §§85–87 of the NoA.

Reference Question to answer

2.242. Reference Question 1(ii) states:

> (1) Whether the price controls imposed by Condition FA3(A) on BT have been set at a level which is inappropriate because OFCOM erred in estimating BT's efficient costs in 2012/13 for metallic path facility rental (MPF), shared metallic path facility rental (SMPF) and associated ancillary services (ancillary services) in one or more of the following respects:
>
> …
>
> (ii) OFCOM erred in its calculation of Openreach's cost of capital for the reasons set out in paragraphs 85 to 87 of the Notice of Appeal.

2.243. §§85–87 of the NoA concern Ofcom's assessment of the appropriate cost of capital for Openreach.

Our approach

2.244. In assessing the evidence, we took into account advice from the CC's Finance and Regulation Group (FRG). The FRG is an expert committee that provides advice to reference groups, where requested, in particular on cost of capital and financeability. It is not involved in decision making on particular cases, which is solely the responsibility of the Group appointed by the CC Chairman to consider and determine a particular reference. Its advice (the 'FRG advice') in the LLU Appeal was provided to the parties for comment.[148] In forming our decision, we have taken into account the advice from the FRG and the comments on that advice received from the parties. In accordance with our stated approach at paragraph 1.57 of the introductory section, we have not carried out additional investigation beyond the scope of the Reference.

Summary contents of this determination

2.245. This determination is structured as follows:

- First, we consider Ofcom's assessment of the cost of capital in the LLU Statement in paragraphs 2.246 to 2.283. This section comprises an overview of Ofcom's assessment and then three sections detailing Ofcom's approach to pension costs, the relative risk of Openreach compared with the BT Group and Ofcom's approach to reflecting short-term conditions in cost of capital components.

[148] CC letter to all parties dated 12 April 2010.

- Secondly, we consider CPW's case (paragraphs 2.284 to 2.303), Ofcom's Defence (paragraphs 2.304 to 2.325), and the arguments of the Interveners (paragraphs 2.326 to 2.340).

- Thirdly, we explain our assessment of the issues in dispute in paragraphs 2.341 to 2.424.

- Fourthly, we make our determination in respect of Reference Question 1(ii) in paragraph 2.425.

Ofcom's assessment of the cost of capital in the LLU Statement

Overview

2.246. Ofcom's assessment of the components of the weighted average cost of capital (WACC) for Openreach, under the capital asset pricing model (CAPM) approach, is set out in Table 2.4.

TABLE 2.4 **The components of WACC used by Ofcom for Openreach**

Component	*Ofcom %*
Risk-free rate (real)	2.0
Risk-free rate (nominal)*	4.5
Debt premium	3
Cost of debt—nominal	**7.5**
ERP	5
Equity beta ('beta')	0.76
Asset beta†	0.55‡
Cost of equity—nominal (post-tax)	**8.3**
Gearing	35
Tax rate	28
Nominal cost of capital (pre-tax)	**10.1**

Source: Ofcom—Annex 8 LLU Statement.

*Years 2 to 4 of the price control. The nominal risk-free rate for year 1 of the price control is 2.5 per cent.
†Asset beta reflects only the systematic risk of a business, whereas the equity beta reflects exposure to systematic risk and financial risk.
‡This is a CC calculation using the formula set out by Ofcom at A8.66 of the LLU Statement and Ofcom's assessment of the equity beta. Ofcom uses a debt beta of 0.15.

2.247. Ofcom's assessment of the cost of capital for Openreach differs from its assessment of the cost of capital for the BT Group[149] only with respect to the equity beta (which Ofcom assesses as 0.86 for the BT Group and 0.76 for Openreach). Ofcom assessed an asset beta for the BT Group of 0.61;[150] the implication of Ofcom's assessment is that it assumed an asset beta for Openreach of 0.55 (CC calculation as noted in Table 2.4 above).

Ofcom's LLU Statement

2.248. We set out our understanding of Ofcom's position as expressed in the LLU Statement below.

[149]In this document we use the term 'the BT Group' when referring to BT in the context of the whole of the BT Group, rather than Openreach, which is a part of the BT Group. 'BT' has intervened in the appeal brought by CPW and so when documenting its arguments we use the term BT.
[150]LLU Statement §A8.65.

Pension costs

2.249. The LLU Statement stated that the:

> cost calculations exclude Openreach's share of annual payments made by BT to address the funding shortfall in its pension scheme. While this approach is consistent with our historic treatment of pension deficits and surpluses, we consider that this issue is of increasing importance to the companies we regulate. Accordingly, we propose to undertake a separate review of our treatment of pension costs which will inform our future approach.[151]

2.250. Ofcom's approach was to consider that regulated charges should not include any amount in relation to the cost of funding of the deficit as it considered these costs to be past service costs and not to be related to the forward-looking provision of Openreach costs and services.[152] Ofcom allowed the annual charge to meet future pension liabilities in its assessment of the recoverable costs.[153]

Relative risk of Openreach vs BT Group

2.251. The WACC components affected by CPW's appeal with regard to the relative risk of Openreach compared with that of the rest of the BT Group are the equity beta, gearing and the debt premium. We review in turn the approach taken by Ofcom in estimating these components.

Openreach's equity beta

2.252. Ofcom stated that 'it is sometimes appropriate to view some large companies such as BT as being a group that consists of a number of firms, or projects, each with its own unique risk profile, that operate together under common ownership'.[154] Ofcom noted that greater clarity over the access services part of the BT Group had been gained since the 2005 Strategic Review of Telecoms Statement through the creation of Openreach.[155]

2.253. Ofcom estimated the cost of capital of the main existing business of Openreach. It stated that 'this is currently dominated by the provision of copper-based access services including WLR [Wholesale Line Rental] and LLU [Local Loop Unbundling]'.[156] In this review, Ofcom referred to this as the 'Openreach' cost of capital but 'recognises that this is a simplification—and that there may be parts of the Openreach business now or in the future to which a different cost of capital may apply'.[157] Ofcom appears to have regarded the copper-based access services as providing a sufficiently good basis for estimating Openreach's cost of capital, and that this has not been challenged. We note that some of the parties' references to Openreach may strictly be to the copper-based access services, but this distinction is not relevant to our determination.

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[151] LLU Statement §1.26.
[152] A New Pricing Framework for Openreach—Second Consultation, §A10.77.
[153] LLU Statement, Table 4.2.
[154] Annexes to LLU Statement §A8.68.
[155] Annexes to LLU Statement §A8.69.
[156] First Consultation §A10.1.
[157] First Consultation §A10.2.

2.254. In the ‘2005 Final Statement’,[158] Ofcom estimated a notional beta for Openreach which was 0.2 lower than the BT Group’s equity beta (which at that time was 1.1). Ofcom assessed the risks in some detail in its 2005 consultation and considered arguments associated with revenue stability, operational gearing and income elasticities.[159] In the LLU Statement, Ofcom stated that ‘while we recognise that the process of disaggregation of equity betas is not an exact science, we remain of the view that Openreach’s beta is below that of the BT Group’.[160]

2.255. For the LLU Statement, Ofcom assessed the BT Group beta, at 35 per cent gearing, to be 0.86 (see Appendix B). Ofcom commissioned The Brattle Group (Brattle) to prepare a comparative analysis of network utilities and their equity betas. In previous consultations, Ofcom had stated that it considered ‘Openreach to have many characteristics of a network utility and therefore to carry less specific risk than the rest of BT Group’.[161]

2.256. The Brattle paper[162] suggested to Ofcom that comparable UK network utilities (specifically United Utilities and National Grid) have equity betas in a range of 0.4–0.7, at a gearing of 35 per cent. This suggested to Ofcom that its ‘assumption of a lower equity beta for Openreach than BT Group is sound’.[163]

2.257. Ofcom concluded: ‘we believe that a reasonable estimate of Openreach’s equity beta, taking into account that of [the] BT Group and of comparable UK network utilities, would be 0.1 lower than for [the] BT Group, ie 0.76’.[164]

2.258. In terms of what the BT Group beta implies for the estimate of Openreach’s equity beta,[165] Ofcom also noted[166] that ‘Openreach is now a larger proportion of the BT Group (measured by mean capital employed) than it was in 2005, having increased from around 40 per cent in 2004 to around 50 per cent in 2007 and 2008. This has a knock-on effect for the beta of the rest of BT’.[167]

Gearing

2.259. It appears that Ofcom assessed gearing on the basis of the book value of net debt[168] divided by the book value of net debt plus the market value of equity.[169]

2.260. In the 2005 Final Statement, Ofcom disaggregated the BT Group beta to provide an estimate for the access business (wholesale LLU and WLR) that was separate from the beta estimate for the BT Group. Ofcom acknowledged that ‘the limitations of its evidence are important, and on this basis proposes a conservative approach to disaggregation (using a single group gearing figure and a limited beta disaggrega-

[158] Ofcom’s approach to risk in the assessment of the cost of capital, Final statement 18 August 2005.
[159] Paragraphs 7.76–7.70, Ofcom’s approach to risk in the assessment of the cost of capital, Final Statement 18 August 2005.
[160] Annexes to LLU Statement §A8.70.
[161] Annexes to LLU Statement §§A8.71 & 8.72.
[162] Equity Beta Estimates of Comparator Companies, March 2009.
[163] Annexes to LLU Statement §A8.73.
[164] Annexes to LLU Statement §A8.74.
[165] It appears that this comment is made as support for Ofcom’s decision to reduce the differential from 0.2 to 0.1.
[166] Annexes to LLU Statement §A8.74.
[167] We note that assuming there are no changes in the underlying asset betas or gearing of the respective parts of the group, then an increase in the size of Openreach (with a lower beta) compared with the rest of BT will reduce the BT Group beta; this will not alter the beta of the rest of the BT Group.
[168] Where net debt consists of loans and other borrowings (both current and non-current), less current asset investments and cash and cash equivalents, ie excludes retirement benefit obligations.
[169] This is consistent with Brattle and BT’s measure of gearing.

tion)'.[170] It therefore assessed the access business on the same capital structure as the BT Group.

2.261. In the First Consultation, Ofcom does not appear to have considered splitting the capital structure of Openreach from that of the BT Group.[171] In response to CPW's suggestion in the consultation phase that 50 to 60 per cent[172] gearing for Openreach would be more appropriate, Ofcom stated: 'We believe that there is no significantly good reason to alter our assumption of 35 per cent optimal gearing for BT and Openreach, particularly at a time when financial markets are wary of companies with higher levels of debt'.[173] This statement was repeated in the LLU Statement.

Debt premium

2.262. Ofcom assumed that Openreach would be exposed to the same level of risk as the BT Group and made no consideration of a separate debt premium for Openreach and assessed this for the BT Group as a whole. We set out the approach taken by Ofcom in estimating the debt premium in detail in paragraphs 2.264 to 2.276.

Adjusting components to reflect short-term conditions

2.263. Ofcom stated that setting a new price control in the context of significant uncertainties surrounding the short-term macro-economic outlook and unusual levels of volatility in capital markets was challenging.[174] It recognized that certain eventualities might present unforeseen challenges that would necessitate intervention to ensure the effectiveness of the price controls. We note that such intervention is at Ofcom's discretion and is not based on any trigger mechanism.[175]

Ofcom's approach to estimation of the debt premium

2.264. In assessing the debt premium, Ofcom referred to the 'spread' on debt.[176] We take this to mean the difference between the market return on the debt instrument and the risk-free rate, where the risk-free rate is proxied by the return on gilts of a similar term unless otherwise stated.[177] Ofcom was concerned with setting a nominal cost of capital, and so when assessing the debt premium generally considered prices of both corporate debt and gilts in nominal terms. Ofcom assessed the risk-free rate using index-linked gilts; it estimated a real risk-free rate to which it then applied an inflation assumption[178]—see paragraph 2.277.

2.265. In the First Consultation, Ofcom noted two recent (May 2008)[179] and partially offsetting effects:[180]

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[170] Ofcom's approach to risk in the assessment of the cost of capital: 18 August 2005, §7.65.
[171] The First Consultation assumed 35 per cent optimal gearing. The rationale for this was not explained. The Second Consultation describes the 35 per cent optimal gearing as being 'consistent with [the] BT [Group]'s observed gearing level in recent years'.
[172] From Frontier Economics analysis.
[173] Second Consultation §A12.64.
[174] LLU Statement §1.12.
[175] LLU Statement §1.25.
[176] In this document, we have referred to the spread on debt in terms of basis points and to the debt premium in terms of percentages. The LLU Statement uses a mixture of both basis points and percentages when expressing spreads.
[177] We note that in the LLU Statement (at §A8.114) Ofcom referred to a bond issuance at 155 basis points above mid swap rates.
[178] LLU Statement §A8.98.
[179] First Consultation A10.71—cited 'in recent months'—the First Consultation document was published in May 2008.
[180] LLU Statement §A8.86.

(a) Bank interest rates and the risk-free rate declined whilst volatility and uncertainty in credit markets increased.

(b) Demand for corporate debt decreased and the required spread on corporate debt issues increased.

2.266. Based on spreads on the BT Group's traded debt, Ofcom proposed a range for the debt premium of 2 to 3 per cent—see Appendix B, paragraph 1.

2.267. Ofcom considered the financial crisis to worsen between the First and Second Consultations and noted an increase in investor preferences for low-risk assets which drove gilt yields down and increased the spreads on corporate bonds.[181]

2.268. In the Second Consultation, Ofcom considered evidence on UK investment grade corporate debt spreads and the (then) current spreads on the BT Group's traded debt and left its range for the debt premium unchanged at 2 to 3 per cent as a result. It noted that the BT Group's gearing[182] was above its assumption for the optimal gearing.

2.269. Ofcom was mindful of the increased uncertainty and volatility in world credit markets when estimating the debt parameters.[183]

2.270. For the LLU Statement, Ofcom considered that since the Second Consultation, new factors had become apparent:[184]

(a) UK Government borrowing had increased in the last year, resulting in an increase in gilt issuance. It considered that while investor demand for gilts remained strong, the increased supply had reduced prices and increased yields over the month or so prior to the LLU Statement. It expected this effect to continue, given the continuing high level of expected UK Government debt issuance, and noted that the comparatively low yields seen at the time of the LLU Statement were unlikely to endure.

(b) The effect of quantitative easing, which had included the central bank purchasing selected corporate bonds including those of the BT Group, whilst relatively minor, may have helped to increase prices for the corporate bonds in question, which would in turn reduce yields and spreads over gilts.

2.271. Ofcom's expectation was therefore that the (then) current high levels of corporate bond spreads (450 basis points (bps) for the BT Group) were unlikely to remain at such elevated levels for the period of this charge control.[185]

2.272. Ofcom considered that the observed spread of the BT Group's bonds of 450 bps over gilts included at least some element of a liquidity premium, and that the traded debt yields did not necessarily capture the true cost of debt to a firm, and the cost of debt needed to take account of the likelihood of reduced payment or default in the event of financial distress.[186]

2.273. As noted above, Ofcom considered that the high levels of corporate debt spreads at the time of the LLU Statement were unlikely to endure for the period of the charge

[181]LLU Statement §§A8.87 & 8.88.
[182]Ofcom's definition of gearing is net debt to net debt plus the market value of equity.
[183]LLU Statement §A8.85.
[184]LLU Statement §A8.89.
[185]LLU Statement §A8.90.
[186]LLU Statement §8.118.

control.[187] Ofcom selected a debt premium below the spreads at the time of the LLU Statement but, given the high levels of corporate bond spreads seen at that time, selected a debt premium for the BT Group of 3 per cent which was at the top of the consultation range.[188] This represented an increase from the 1 per cent estimated in 2005; Ofcom noted that it felt 'comfortable that market conditions dictate that our debt premium for BT should be materially higher' than in 2005.[189] Additional rationale presented by Ofcom is set out in Appendix B.

Impact of gearing on debt premium

2.274. As noted in paragraph 2.259, Ofcom assessed the BT Group's gearing on the basis of the book value of net debt divided by the book value of net debt plus the market value of equity.

2.275. Ofcom did not make any comments about the potential effect of the BT Group's actual gearing on the debt premium. Ofcom assumed a notional gearing of 35 per cent; the gearing at the time of the LLU Statement was around 60 per cent.[190]

2.276. Ofcom referred to the gearing level at the time of the most recent debt issue in June 2008 (see Appendix B): this was around 38 per cent, ie close to the notional gearing adopted. Ofcom considered that capital markets had deteriorated such that debt spreads had increased irrespective of the gearing level and that the premium on debt issued in June 2008 (155 bps) was no longer a reliable indicator of the BT Group's debt premium.[191]

Risk-free rate

2.277. Ofcom estimated the real risk-free rate by assessing the yield on five-year index-linked gilts.[192] Ofcom noted that yields had recently fallen and that real gilt yields at the time of the LLU Statement were close to 1 per cent.[193] Ofcom gave what it described as a broad range for the real risk-free rate of 1.9 to 2.1 per cent which included average yields on five-year gilts for the last six months, one-year, two-year, three-year and five-year periods to April 2009.[194] It selected a point estimate of 2 per cent as a forward-looking, real risk-free rate.[195,196]

2.278. The inflation assumptions Ofcom applied to calculate the nominal risk-free rate were 0 per cent for 2009/10 (Year 1 of the charge control) and 2.5 per cent for 2010/11–2012/13 (Years 2–4 of the charge control[197]). The nominal risk-free rate assumed was therefore 2.0 per cent in Year 1 and 4.5 per cent in Years 2–4.[198]

Equity risk premium

2.279. Ofcom's Second Consultation range for the ERP was 4.5 to 5 per cent (see Appendix B for more detail on how Ofcom estimated ERP). For the LLU Statement, Ofcom

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[187] LLU Statement §8.119.
[188] LLU Statement §A8.121.
[189] LLU Statement §A8.122.
[190] LLU Statement §A8.131.
[191] LLU Statement §A8.120.
[192] Annexes to LLU Statement—§A8.92 & Table A8.4.
[193] LLU Statement §A8.94.
[194] LLU Statement §A8.97.
[195] LLU Statement §A8.102.
[196] Ofcom's inflation assumptions have not been challenged within the cost of capital ground of appeal.
[197] We note that the charge control was set for 2009/10 and 2010/11 only.
[198] Annexes to LLU Statement §A8.105.

considered that recent evidence at that time (Ofcom's own review of evidence from market commentators, evidence from the Bank of England and the USA, as well as evidence presented by Oxera on behalf of BT) suggested that the ERP had increased in recent years in response to the prolonged downturn in equity markets and high equity market volatility.[199]

2.280. Ofcom considered the downside of setting the ERP too low to be worse than the downside of setting the ERP too high and therefore favoured setting the ERP at 5 per cent which was at the top of its consultation range.

2.281. Ofcom stated: 'Our decision to choose a point estimate at the top of our prior range is in response to increased market volatility and turbulence, which is likely to lead to investors requiring increased returns in exchange for holding equity rather than risk-free assets'.[200]

2.282. In response to CPW's arguments at the consultation stage that there was no evidence that this increase in volatility and corresponding increase in ERP was permanent, Ofcom stated that it was mindful of the view that a temporary effect should not influence its final point estimate for a forward-looking ERP but considered that it would be remiss not to recognize the effects of market volatility in this final estimate. Ofcom believed that there was 'compelling evidence to suggest that investors are [were] recognising the higher perceived risk of equity investments by looking for higher returns'.[201]

2.283. In the consultation phase, BT suggested that there was an inherent asymmetry of risk associated with setting charges too low versus the risk associated with setting charges too high. In response, Ofcom noted that it had taken this into account when setting a high ERP range. Ofcom also noted that it had a duty to promote *efficient* investment, rather than investment per se, and that it should not be encouraging inefficient investment through the setting of charges that were too high. Ofcom therefore rejected BT's suggestion that it should necessarily set final point estimates of the cost of capital for Openreach at the top end of the range of values it proposed in the Second Consultation.[202]

CPW's challenge of the assessment of the cost of capital by Ofcom

Overview

2.284. CPW's challenge of the cost of capital is found in §§85–87 of the NoA.

2.285. CPW considered that Ofcom's calculation of the cost of capital for Openreach (10.1 per cent pre-tax nominal) was flawed and led to an inappropriately high result. CPW considered that a more reasonable estimate would lie in a range between 8.7 and 9.1 per cent.[203] The 8.7 per cent is supported by an expert witness statement from Mr Morris using a weighted average return on assets (WARA) approach.[204] The estimate of 9.1 per cent is presented in the witness statement of Mr Francis, where a

[199] LLU Statement §§8.41 & 8.42.
[200] LLU Statement §A8.45.
[201] LLU Statement §§A8.53 & 8.54.
[202] Second Consultation §§A12.109–12.113.
[203] NoA §86.
[204] CPW W/S Morris I §19.

range for Openreach's WACC is estimated using a standard CAPM approach; 9.1 per cent is the mid-point of this range.[205]

2.286. As well as the range of estimates for Openreach's WACC, CPW presented four main arguments in §87 of the NoA as follows:

(a) Ofcom had failed to act consistently with its general approach of excluding costs associated with the BT Group's pension deficit. In order to ensure that Openreach's charge controls were not inflated by the BT Group's pension deficit, it was necessary in calculating Openreach's cost of capital to take account of the impact of those pension liabilities on the BT Group's beta and optimal gearing ratio. Ofcom had, however, wholly failed to do so.[206]

(b) Ofcom had chosen a cost of capital for Openreach which was implausibly close to its estimate for the BT Group (of 11 per cent[207]) which had activities that would be exposed to far greater risk than Openreach. The substantially lower risks faced by Openreach should be reflected in a substantially lower cost of capital than the BT Group as a whole.[208]

(c) Ofcom had erroneously adjusted components of the WACC upwards (in particular, the ERP and debt premium) to reflect short-term cyclical effects in the economy. There was no cogent basis for such an approach, which (if applied consistently at different points in the business cycle) would tend to create counter-cyclical profits; and (if applied only now during a downturn) would allow BT to earn inappropriately high returns.[209]

(d) Ofcom had failed fully to exploit available data to estimate an appropriate debt premium for Openreach on a more robust basis.[210]

2.287. The following sections describe CPW's challenge on the cost of capital in detail.

Pension costs

2.288. In summary, the core arguments put forward by CPW in relation to pension costs are:

(a) That an efficient operator would not operate a defined benefit (DB) pension scheme and that 'the regulator should set a forward-looking cost of capital that mimics what would be achieved in a competitive market'.[211] CPW considered that the pension liabilities of the BT Group contributed to a gearing structure that was not efficient[212] and that attributing some of the DB pension scheme to Openreach would be inconsistent both with Ofcom's position in the LLU Statement and with a view to setting a price control on the basis of efficient forward-looking incremental costs.[213] In response to the FRG advice, CPW developed its argument reiterating that it would expect an optimally efficient operator not to have a DB scheme but stating that nonetheless its position was neither dependent on, nor confined to, this argument. CPW stated that its argument was not that an efficient operator would necessarily not operate a DB scheme—rather that an efficient operator

[205] CPW W/S Francis I Figure 7.
[206] NoA §87.3.
[207] We note that 11 per cent relates to the rest of BT Group and not to the BT Group as a whole (10.6 per cent).
[208] NoA §87.2.
[209] NoA §87.1.
[210] NoA §87.4.
[211] Response to the CC's questions of 19 February 2010 Q7.3(iii).
[212] CPW W/S Francis I §97.
[213] Response to the CC's questions of 19 February 2010 Q7.3(i).

would not have a DB scheme of the scale and nature of the BT pension scheme and therefore it was appropriate to exclude all or most of the impact of its pension scheme on the cost of capital used to calculate LLU costs.[214] CPW argued that: BT's annual pension cost was higher than best practice; that the cost was more than the annual ongoing cost of servicing new pensions; and that BT had taken a relatively risky approach to investment.[215]

(b) The scale[216] of the DB pension scheme assets and liabilities would distort the BT Group beta as a guide to the risk of the operating assets.[217] The future free cash flows of the BT Group would be generated by the operating assets of the business, including the Openreach assets, but would also be affected by the existence of a DB pension scheme.[218] The BT Group beta would reflect this.[219]

(c) Specifically, the DB pension scheme had the following effects:

(i) The operating asset beta, calculated[220] by stripping out the assumed effect of the pension scheme assets and liabilities from the observed equity beta, was likely to be lower than the estimate of the asset beta[221] of the operating assets compared with Ofcom's calculation, even if the magnitude was hard to assess (due to material uncertainties regarding the beta values for the pension scheme).[222]

(ii) 'True' gearing, including the current pension deficit, was also higher than that estimated by Ofcom. The observed equity beta reflected this higher level of gearing and Ofcom, in failing to take account of the pension fund deficit in its de-leveraging of the BT Group equity beta, had overestimated the BT Group asset beta.[223]

(iii) Widening company pension deficits might result in corporate credit rating downgrades. To the extent that Openreach bore a pension deficit, the pension deficit might raise the cost of debt.[224,225]

(d) Elsewhere in its charge control calculations, Ofcom adopted a policy of excluding costs associated with the BT Group's pension deficit, ie excluding the contributions that the BT Group was making to repair the deficit in its pension scheme from the allowable costs. As a matter of consistency, Ofcom should have adjusted for the above factors in its calculation of the Openreach beta and optimal gearing ratio.[226]

(e) Historically, the BT Group shareholders took all of the risk of the pension scheme and the pension holidays taken by the BT Group in the past were the upside for

[214] CPW's comments on FRG response to appeal group §13, dated 27 April 2010.
[215] CPW's comments on FRG response to appeal group §14, dated 27 April 2010.
[216] Using December 2007 data where possible and in the case of the pension deficit the December 2005 figure, Frontier Economics shows that the size of the pension fund assets and liabilities are significant compared with the operating assets: pension assets £40 billion; pension liabilities £43 billion; and operating assets £36 billion.
[217] CPW W/S Francis I §97.
[218] CPW W/S Francis I §76.
[219] P12 Frontier Economics for CPW [SD4/2] referred to in CPW W/S Francis I §77.
[220] This argument relies on Jin, Merton and Bodie (2006) (JMB) who propose the formula: $\beta_{OA} = E/OA.\beta_E + D/OA.\beta_D - [PA/OA.\beta_{PA} - PL/OA.\beta_{PL}]$. Where: E – equity, D – debt, PA – pension assets, PL – pension liabilities, OA – operating assets β_{OA} – beta of operating assets, β_E – equity beta, β_D – debt beta, β_{PA} – beta of pension assets, and β_{PL} – beta of pension liabilities.
[221] CPW W/S Wright I §22 also considers that the asset beta is likely to be overstated.
[222] CPW W/S Francis I §§77 & 78.
[223] CPW W/S Wright I §25 second bullet.
[224] CPW W/S Wright I §22.
[225] CPW made it clear that it was not suggesting that Openreach should bear any of the deficit. See CPW Response to the CC's questions of 10 February 2010 Q7(c).
[226] NoA §87.3.

shareholders. CPW argued that the 'downside is coming' and it was wrong to 'take some of that risk in the cost of capital and try to pass some of that on to customers'.[227]

(f) The uncertainty associated with the impact of the pension scheme strengthened the case for basing assessment of the Openreach cost of capital on comparator data rather than adjustments to the BT Group beta.[228] The BT Group's cost of capital could not properly be relied on for estimating Openreach's cost of capital because it was contaminated by the effects of the BT Group's pension liabilities; the only (alternatively, most) credible evidence was a comparison with similar regulated infrastructure businesses.[229] Ofcom could not sensibly place substantial weight on the unadjusted BT Group equity beta when deriving an equity beta for Openreach.

2.289. CPW argued in its response to the FRG's advice that there was no link between inclusion of DB deficit costs in charge control and the inclusion of the impact on the DB scheme on the cost of capital. In other words, it argued that the decisions on whether to include the impact of the DB scheme in the cost of capital and whether to allow BT to recover DB scheme deficit costs were independent. CPW considered that Ofcom also agreed that there was no direct link.[230] CPW argued that there was no link because the size of the deficit depended on investment returns; whether it would be appropriate to include any deficit in the price control depended on whether it would be fair, just and economically efficient. The magnitude of the impact on cost of capital depended on the scale of the scheme and the betas and the risk of the scheme assets and liabilities compared with those of the operating assets.[231]

Relative risk of Openreach vs BT Group

2.290. The core arguments presented by CPW were that:

(a) Ofcom placed too much weight on the BT Group data when calculating beta and not enough on comparator data. CPW argued that the pension deficit contaminated the BT Group beta (as noted in paragraph 2.288*(f)*) and that in any event Openreach's activities were more similar in terms of risk to other regulated infrastructure businesses than the BT Group's non-regulated activities.[232] In support of this first point, CPW presented the following evidence:

(i) Mr Francis compared the risk of Openreach to the rest of BT setting out his assessment of the cash-flow risks of: overall demand volume, forward-looking prices, forward-looking operational expenditure, forward-looking capital expenditure and asset stranding.[233] This was a qualitative analysis which left Mr Francis concluding that 'the risk profile of the rest of BT's assets [is] materially higher than the risk profile of Openreach'; and from this, that the beta for Openreach would be less than that of the BT Group.[234]

(ii) Mr Francis also compared the risk of Openreach to regulated utilities and regulated airports using the same cash-flow drivers.[235] He concluded that

[227]Hearing transcript, p100, line 29–p101, line 10 (Mr Heaney).
[228]CPW W/S Francis I §78(b).
[229]Reply I §106.
[230]CPW's comments on FRG response to appeal group §10, dated 27 April 2010.
[231]CPW's comments on FRG response to appeal group §11, dated 27 April 2010.
[232]Reply I §106.
[233]CPW W/S Francis I, Table 6,
[234]CPW W/S Francis I §54.
[235]CPW W/S Francis I Table 7.

'Openreach's risk profile is similar to that of other regulated activities, although it appears more risky than the energy networks'.[236] CPW considered that airports were likely to be exposed to greater systematic risk than BT [Openreach].[237]

(iii) In terms of beta estimation, Mr Francis believed that the scale of the BT pension scheme distorted the cost of capital estimate for the BT Group and using comparator estimates rather than the BT Group beta was therefore a better approach.[238]

(iv) CPW argued that 'even putting aside the issue [on] pension costs, CPW's approach which starts from comparator regulated companies remains superior to an approach starting with the BT Group'.[239] CPW's rationale for this was that 'BT [Openreach] is close in risk profile to these businesses whilst quite distinct in terms of risk profile from the unregulated parts of BT which will have a substantial influence on BT Group's equity beta'.[240] CPW considered the 0.1 adjustment made by Ofcom to the BT Group beta to be 'essentially a "black box"' and that CPW's approach was superior because the judgement it applied had a more structured and logical framework for assessing relative risk.[241] In response to the FRG advice, CPW argued that a more detailed scrutiny of Ofcom's conclusions was required. The implication that the risk of the rest of BT must have declined more than the risk of Openreach/LLU services was implausible. The rest of BT had been exposed to significant new competition through changes in market power findings to no SMP whereas Openreach had only experienced a small increase in competitive risk from mobile services.[242]

(b) Openreach should be assessed as a stand-alone business and as if it were efficiently financed[243] it should not automatically have the same gearing and the same debt premium as the BT Group. CPW contended that this would produce a higher level of gearing and a lower debt premium than Ofcom allowed for in its LLU Statement. This is because:

(i) Mr Francis considered the BT Group's current financial structure to be inefficient.[244,245]

(ii) Mr Francis[246] and Mr Wright[247] considered that Openreach had lower risk than the BT Group, which meant that it could support higher gearing as well as a lower debt premium.

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[236]CPW W/S Francis I §98(h).
[237]Reply I §111.
[238]CPW W/S Francis II §45.
[239]Reply I §110.
[240]Reply I §106.
[241]Reply I §110.
[242]CPW's comments on FRG response to appeal group §§30–34, dated 27 April 2010.
[243]Response to the CC's questions of 19 February 2010 Q5.2.
[244]CPW W/S Francis §23.
[245]He noted that the current book gearing of the BT Group was 99 per cent and that the current market gearing of the BT Group was around 70 per cent. These estimates included the net pension deficit in the calculation of debt.
[246]CPW W/S Francis I §23.
[247]CPW W/S Wright I 'other comments' under §25—bullets 1 and 3.

(iii) Ofcom needed to exclude the effect of the pension fund liabilities on gearing in order to be consistent with its treatment of deficit repair contributions.[248]

(iv) In response to the FRG advice, CPW argued that a natural consequence of the lower-risk profile of Openreach compared with the BT Group was that at the same level of gearing it would face a lower debt premium.[249]

2.291. CPW argued that the 'duty to finance' obligations imposed on other regulators did not undermine the value of other regulated utilities as comparators. In response to Ofcom's answers to questions from the CC (see paragraph 2.313), CPW considered Ofcom to have 'somewhat misunderstood or mischaracterised the duty to finance'.[250] CPW's understanding was that other regulators interpreted the finance obligation as an ex-ante duty to set prices such that an efficient operator could finance its functions and earn an adequate return on capital. It believed that other regulators had made it clear that this was not a guarantee or an ex-post underwriting of financing costs. CPW did not see this as very different from the approach that Ofcom took in setting prices. It also noted that the CAA did not have a duty to finance with respect to airports and noted that it (CPW) had included airports in the evidence it had used.[251] CPW highlighted that Professor Franks' responses[252] in the LLU Appeal had noted Ofcom's need to ensure that investment could be financed.[253]

Adjusting components to reflect short-term conditions

2.292. The principal arguments CPW presented were that:

(a) Selecting values for components of the WACC adjusted to reflect short-term market movements was inappropriate as this could lead to counter-cyclical profits.[254]

(b) Ofcom placed too much weight on (the then) current market conditions and had not given a coherent explanation as to why short-term effects in the financial markets in 2008/09 should be expected to have an effect on the cost of capital in 2012/13 (the relevant question for the price control). Regulators should place greater weight on longer-term trends in the data, as it believed this promoted stability and regulatory certainty, and was therefore consistent with the principles of regulatory best practice, in industries where the assets had long lives and investors were being asked to commit capital that would be recovered only over a long period of time.[255] In response to the FRG advice, CPW argued that the objective was not to set the cost in the period May 2009 to March 2011. It was to estimate costs in 2012/13. CPW would expect that in 2012/13 parameters including the ERP and debt premium would have reverted to long-term averages.[256] Even if it were to set a cost of capital for May 2009 to March 2011, then as a matter of regulatory orthodoxy and best practice it was better to set a cost of capital that reflected the long-term average. Indeed Ofcom had not previously adjusted rates to reflect short-term cyclical effects. CPW considered that an approach based on long-term average rates ensured better stability as financial markets did exhibit excess volatility and mean reversion in the short

[248] CPW W/S Francis I §75.
[249] CPW's comments on FRG response to appeal group §38, dated 27 April 2010.
[250] Hearing transcript (CPW), p89, line 20 (Mr Francis).
[251] Hearing transcript (CPW), p89, line 28–p90, line 18 (Mr Francis).
[252] By which we assume it means Professor Franks' witness statement submitted as part of Ofcom's Defence.
[253] Hearing transcript (CPW), p91, lines 1–6 (Mr Wright).
[254] NoA §87.1 and CPW W/S Wright I §32.
[255] CPW W/S Francis I §94.
[256] CPW's comments on FRG response to appeal group §§49 & 50, dated 27 April 2010.

term. It also considered the approach to be more practical and transparent, as longer-term estimates were easier to observe and the data was more robust.[257]

(c) The approach of other regulators did not support Ofcom's decision-making as suggested by Professor Franks.[258] Other regulators did not support focusing on short-term trends—Ofwat and Ofcom (previously) both explicitly relied on long-run data; and whilst Ofwat took account of short-term trends, it had not done so across all debt, but rather only in respect of that proportion estimated as requiring financing during the control period. Moreover, it had been consistent in its use of data on the risk-free rate (which had moved downwards, just as premiums had moved upwards).[259]

(d) The approach taken would allow inappropriately high returns to be earned by BT on its sunk investments to the detriment of both consumers and to competitors that were less able to compete effectively against it.[260] Review of the 2009 BT Group Annual Report showed that a large proportion (74 per cent) of the BT Group debt incurred a fixed rate of interest (average effective rate 8.1 per cent) and 53 per cent of the debt was due for repayment after more than five years. Even if it was believed that market conditions in April 2009 would continue until 2012/13, this would not mean that it was appropriate to apply those market rates to all of BT's debt—much of which was insulated from the effects of capital markets.[261]

(e) Ofcom acted inconsistently taking account of short-term movements in risk premiums whilst using a long-term risk-free rate. This 'pick-n-mix' approach was analytically unsustainable. At the very least, if Ofcom (wrongly) intended to have regard to short-term effects in financial markets, it should have done so consistently.[262] When focusing on observable data rather than 'speculative conjecture', the evidence suggested that the cost of debt may well have fallen between 2008 and 2009 rather than risen. The cost of debt at May–June 2009 had been overestimated by Ofcom.[263]

(f) The account provided of Ofcom's previous decision with regard to ERP in 2005 was incorrect (see paragraph 2.317*(c)*). The decision to reduce the ERP figure from 5 to 4.5 per cent was based on reappraisal of the evidence on historical equity returns (using Dimson, Marsh, Staunton (DMS) data). It was expressly not because the underlying level of risk associated with investing in equities had changed.[264]

(g) Ofcom's approach of adjusting Openreach's allowed return up and down in line with changes in the cost of capital overlooked important investment incentive issues,[265] in particular:

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[257] CPW's comments on FRG response to appeal group §52, dated 27 April 2010.
[258] CPW W/S Franks I §36
[259] Reply I §98.
[260] Reply I §97.
[261] Reply I §97, footnote 19.
[262] Reply I §103.
[263] Reply II §93(b).
[264] Reply I §104.
[265] Reply I §§96 & 97.

(i) High prices for services such as MPF may well depress the investment by the BT Group's competitors such as CPW.[266]

(ii) Investment decisions depended not only on the cost of raising finance but also on the price of the investment itself. Investment decisions were long run and taken on the basis of their long-run costs—which required a focus on a cost of capital with a corresponding time horizon.[267]

(iii) If there were genuine, evidenced concern (which there was not) of under-investment by Openreach, Ofcom had other, far better tools for requiring specific investment than allowing excessive returns over a price control. Increasing the rate of return could well have no effect on the extent of investment undertaken unless there were relevant projects at the margin; it would, however, unequivocally allow shareholders greater returns.[268]

Debt premium assessment

2.293. The approach specifically referred to in the NoA is that proposed by Mr Wright as set out in his first witness statement.[269]

2.294. Mr Wright did not agree with Ofcom's assumption that the BT Group and Openreach should have the same capital structure (see paragraph 2.290*(b)*(ii)) and therefore suggested a method of estimation which did not involve the use of the BT Group's debt premium.

2.295. Mr Wright argued that the credit risk of Openreach should have been assessed in isolation from the rest of the BT Group.[270] He considered a study by Minardi, Sanvicente & Artes (2007) which used US firm data to estimate credit ratings of business units or privately held companies.[271]

2.296. The model proposed used various factors: a size variable (assets); a financial leverage variable (debt/total assets); a solvency ratio (EBIT/net debt); operational performance variable (ROA and EBIT/net income); and a stability variable (volatility of stock returns).

2.297. Mr Wright noted that 'The fitted model correctly classified 58% of the sample, while nearly 97% of firms were classified either correctly, or in the immediate superior or lower neighbour category [categories]'.[272]

2.298. Mr Wright believed that this model could be applied to available data on Openreach and suggested that this 'might give a better estimate of the likely cost of debt for Openreach, rather than BT as a whole'.[273]

2.299. CPW also noted that:[274]

(a) The only variable needed that could not be directly observed would be the volatility variable. It would be relatively straightforward to use an average figure or the

[266] Reply I §97(b)(ii).
[267] Reply I §97(b)(i) & (iii).
[268] Reply I §97(b)(iv).
[269] NoA §87.4.
[270] CPW W/S Wright I §20.
[271] CPW W/S Wright I §21.
[272] CPW W/S Wright I §21.
[273] CPW W/S Wright §21.
[274] Response to CC written questions of 19 February 2010 Q21.

BT Group's figure as in initial estimate, and stress test by using a wide range of possible values. As this was only one of five predictor variables, it seemed unlikely that much would be lost from this approach.

(b) There was no obvious reason why this approach would not be reliable for the UK. Credit spreads in the UK and USA were highly correlated and likely to be driven by similar economic factors.

WARA

2.300. CPW noted that in a situation where there were quoted comparators that exactly matched the activities of Openreach, then it was likely that the CAPM approach would be sufficient, but as this was not the case then it was important to consider a wide range of evidence. CPW saw the main advantage of the WARA approach to be that it provided an alternative and additional source of evidence on the costs of capital which could be combined with that from the comparator approach to build up a more robust analysis.[275] The evidence of Mr Morris was presented to support this approach.[276]

2.301. CPW was not presenting this as a primary approach to cost of capital estimation, rather support for the view that Ofcom's assessment of Openreach's cost of capital was too high. Mr Heaney noted:

> I think if we look at the sort of WARA type of analysis that has been done; I think that would not be our primary choice for assessing it. I think the focus of the right approach is primarily the approach that Rob Francis of Frontier pursued. But I think what is important is that the different approaches tend to focus in on a cost of capital that is substantially below the one that Ofcom assumed.[277]

2.302. In response to criticisms raised by both Ofcom and BT during the LLU Appeal process, CPW noted that the critiques presented by both BT and Ofcom did not displace Mr Morris's conclusions.[278]

2.303. CPW considered the economic foundations of the WARA approach to have been scrutinized in the USA and UK through the use of purchase price allocation methods in IFRS business combination accounting.[279] It considered that the fact that WARA had not been used in this particular regulatory context by this particular regulator did not automatically imply that it was an unreasonable approach.[280]

Ofcom's Defence

Pension costs

2.304. In its Defence, Ofcom noted that it did consider whether to 'depart from the well-established previous approach of making no specific adjustment'.[281] Ofcom's conclusion was that 'due to the materiality of the issue and the breadth of its application across different charge controls (ie not just the LLU Statement), it was appropriate to

[275] Response to the CC's questions of 19 February 2010, Q25.
[276] CPW W/S Morris I–III.
[277] Plenary hearing transcript, p42, lines 17–24—Mr Heaney.
[278] Reply II §101 and Reply I §113.
[279] CPW W/S Morris III §§7–9.
[280] CPW W/S Morris III §10.
[281] Annex B Defence §19.

consult separately on the issue before any change of approach'.[282] Ofcom considered the treatment of pensions to affect more than just the cost of capital and that its forthcoming review (now under way) would address a number of issues relating to treatment of pension costs. Ofcom concluded that 'it would be inconsistent to look purely at the cost of capital effect without considering how pension deficit repair payments and ongoing service costs should be treated in future charge controls'.[283,284]

2.305. Ofcom also disputed CPW's claim that its treatment was inconsistent with the general approach of excluding costs associated with the BT Group's pension deficit. In its Defence[285] it stated: 'Ofcom's approach to pension costs was fully consistent with its previous treatment of such costs'.[286,287] Ofcom also noted that this was 'internally consistent (between different areas of focus, ie ongoing service costs, deficit repair payments, and cost of capital)'.[288]

2.306. Ofcom noted that shareholders paid the deficit costs and took on the associated risk. The cost of capital was calculated on the basis of observed market data and therefore to the extent that this 'contract' was understood by investors then this was reflected in the cost of capital.[289]

2.307. Ofcom considered that even after an initial consultation (published in December 2009, with responses received in February 2010), it was still not in a position to opine on whether there was any effect on observed equity betas resulting from the pension scheme.[290] Ofcom agreed with CPW that there was uncertainty surrounding the effect of the scheme on the BT Group beta.[291] It considered that it was unclear whether there was any effect at all, and if there was an effect, what the size of that effect might be.[292]

Relative risk of Openreach vs BT Group

2.308. In its Defence, Ofcom referred to the 2005 Cost of Capital statement (2005 Final Statement) where Ofcom considered the systematic risk of Openreach to be above that of a pure network utility but below that of the BT Group as a whole.[293] Ofcom stated that 'if Ofcom were to apply a reduction of 0.2 to the BT Group beta (as it did in 2005), then its estimate for Openreach would have been 0.66, well within the range of 0.4–0.7 estimated by Brattle for network utilities'.[294] Ofcom noted[295] that this would have been inappropriate as it considered the systematic risk of Openreach to

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[282] Annex B Defence §19.
[283] Annex B Defence §20.
[284] Ofcom used the term 'deficit repair payments' to refer to payments the BT Group makes to the pension scheme to reduce, ie 'repair' the deficit that has accrued.
[285] Defence §76.
[286] Table 6.3 of the LLU Statement shows that the regulated charges do not include any funding towards the pension deficit, but the regulated charges do include annual charges to meet future pension liabilities.
[287] We note that Ofcom's response here does not address the inconsistency alleged by CPW, it just states that this approach is consistent across price controls.
[288] Response to the CC's written questions of 19 February 2010 at question 31.
[289] Response to the CC's written questions of 19 February at question 30(b).
[290] Response to the CC's questions of 19 February 10 Q30(a).
[291] Professor Ian Cooper (2009) in his report for Ofcom (submitted by Ofcom as part of the response to the CC's questions of 19 February 2010) as part of the ongoing pension consultation exercise argued that the JMB model assumed a rather simplistic relationship between equity beta of a company and its DB pension fund size and pension fund deficit, but that this relationship was subject to a range of other influences such as the risk borne by employees, how much of the pension risk was shared by the tax system etc. Professor Cooper demonstrated that the simple JMB model may produce implausibly low operating asset betas especially for large DB schemes. After including various other factors in addition to the pension assets size and the deficit in his empirical analysis, he found for a sample of UK regulated companies that the impact of the pension scheme was probably downwards but indeterminate.
[292] Response to the CC's questions of 19 February 10 Q32(a).
[293] Annex B Defence §§8 & 9.
[294] Annex B Defence §12.
[295] Annex B Defence §13.

be above that of a pure network utility, due to the risk associated with its business, particularly in relation to mobile substitution of its fixed line services. Ofcom noted that it selected an equity beta for ‘Openreach that was below that of [the] BT Group, but above that of a pure network utility’.[296]

2.309. Professor Franks noted that ‘the decision to enforce different costs of capital was considered very controversial at the time [2005] because of the difficulties of isolating the risk of other companies with similar characteristics to Openreach when few publicly listed companies of similar risk characteristics were available’.

2.310. Professor Franks considered the proposal to separate the financial structure of Openreach from that of the BT Group, ie to differentiate between their debt ratios, credit ratings and debt premiums. He noted: ‘to try to distinguish in a rigorous way between the two entities will prove a difficult task although one which Ofcom may wish to cover in the future’.[297] Professor Franks highlighted the lack of a theoretical framework for disaggregating gearing between a holding company and its constituent businesses and the many determinants of capital structure.[298] He argued that disaggregating beta was based on the theory that betas were additive whereas there was no comparable theory regarding the relationship between holding company gearing and the gearing of the constituent businesses.[299]

2.311. Ofcom considered the identification of benchmark firms to be less straightforward when considering Openreach’s notional gearing or debt premium than when considering the equity beta profile. Ofcom saw the duty to finance ‘guarantee’ that most regulated utilities networks benefited from to be the main reason for this.[300] Ofcom referred[301] to its 2005 Final Statement where it noted that there was no established formulaic relationship between systematic risk and the optimal gearing ratio.

2.312. Ofcom considered[302] Openreach to have a lower risk profile than the BT Group but that there was little evidence to support the proposition that Openreach would have a lower debt premium or a higher gearing level, because investors perceived a lower level of default risk for Openreach than for the BT Group. Further to this, it noted that any new debt funding must be achieved at the BT Group level, with the BT Group credit rating being the relevant benchmark. Ofcom saw the cost of debt for Openreach being necessarily dictated by that of the BT Group.

2.313. Ofcom considered there to be ‘a difference between a regulated business that enjoys an explicit duty to finance guarantee and one that does not’.[303] It considered comparing the credit rating of a water company, electricity or gas company with that of the BT Group not necessarily to be valid. Ofcom believed that this ‘guarantee’ allowed them to take on higher levels of debt and gearing than the BT Group. It also highlighted that the BT Group and Openreach were subject to greater levels of competition than other regulated industries, which it considered could materially impact the BT Group’s (and Openreach’s) ability to meet its financing commitments.[304]

2.314. Ofcom considered it speculative to estimate the amount of debt that might be taken on by Openreach as a stand-alone business and highlighted the need to estimate

[296] Annex B Defence §14.
[297] CPW W/S Franks I §52.
[298] Ofcom bilateral hearing transcript, p133, lines 18–24.
[299] Ofcom bilateral hearing transcript, p136, line 26–p137, line 26.
[300] Response to the CC’s written questions of 19 February 2010 at question 26(b).
[301] Response to the CC’s written questions of 19 February 2010 at question 26(a).
[302] Response to the CC’s written questions of 19 February 2010 at question 27.
[303] Response to the CC’s written questions of 19 February 2010 at question 27(b).
[304] Response to the CC’s written questions of 19 February 2010 at question 27(c).

how much of the BT Group pension deficit Openreach might be liable for. Whilst Openreach might take on higher levels of debt than the rest of the BT Group, Ofcom considered it equally plausible that Openreach might have lower levels of debt to provide headroom for future investments in next generation technologies.[305]

2.315. Ofcom noted that the BT Group's net debt remained fairly stable at around £10 billion over the period 2007 to 2009. The BT Group's share price during the period declined, which led to gearing increasing to over 50 per cent.[306] Ofcom believed that investors' expectations would tend towards a more 'normalized' view of gearing closer to the optimal level which it estimated to be 35 per cent. Ofcom believed that an element of the observed debt premium of 4 to 4.5 per cent was due to this higher level of gearing and that the 3 per cent it assumed in the price control was not inconsistent with a 35 per cent gearing level.[307]

2.316. Ofcom recognized 'that the deficit on the BT Pension Scheme has some debt-like characteristics, or at least is perceived as such by investors. This creates further pressure on BT's capital structure, the effects of which may not be straightforward to interpret. Therefore, optimal gearing levels may not reflect the extent to which equity returns are leveraged'.[308]

Adjusting components to reflect short-term conditions

2.317. In its Defence, Ofcom argued that:

(a) It was concerned with the difficulty of identifying short- and long-term market effects. Ignoring the crisis that prevailed at the time of the price control would have suggested that the crisis was necessarily very short term and that the re-pricing of debt and equity was largely reversible and reversible well within the period of the price control of two years.[309] It considered that such a view would carry two risks, one of under-investment and one of financeability.[310]

(b) Where identified, changes in components of the cost of capital should be adjusted for, to avoid encouraging over-investment in good times and under-investment in bad times. It considered that not adjusting components would give incorrect price signals to consumers which might distort their consumption patterns.[311]

(c) Historically it had reduced estimates for the ERP in benign periods (the ERP was reduced from 5 to 4.5 per cent in 2005) and Ofcom therefore considered it consistent to use a higher ERP now if these benign conditions had reversed.[312]

2.318. Ofcom's response to questions from the CC included the following:

(a) With regard to estimation of the ERP, Ofcom noted that it 'did not rely purely on DMS, in part because their data did not take full account of recent market conditions, but also because we felt compelled "to look out of the window" at financial markets and take account of the possibility that the crisis could well

[305]Response to the CC's written questions of 19 February 2010 at question 27(b).
[306]See paragraph 2.259 for explanation of the calculation of gearing.
[307]Response to the CC's questions of 19 February 2010 Q40(c)(ii).
[308]Response to the CC's questions Q27(c).
[309]We note that Mr Francis (CPW W/S Francis I §95) referred to the fact that price limits were based on cost of capital in 2012/13 rather than the exact control period which runs to 2010/11.
[310]Ofcom W/S Franks I §44.
[311]Ofcom W/S Franks I §34.
[312]Ofcom W/S Franks I §35.

persist and that it should not be ignored when setting a price control'.[313] Ofcom considered its approach in 2005 to have been similar, noting that 'benign market conditions and absence of market volatility meant that there was less concern from market participants about macro conditions'.[314]

(b) Ofcom sought to induce Openreach to make efficient investments, but not to make inefficient investments, by allowing an adequate but not excessive return. It noted that it did have other tools available to affect investment but saw these as complementary to, not a substitute for, the allowance of an appropriate rate of return.[315]

(c) Ofcom's principle was to 'always ask ourselves what is BT's cost of capital over the regulatory period' and this was its guiding principle rather than the horizon of investment.[316] Ofcom assessed a cost of capital designed to be applicable until it was revisited in 2011. This time frame was factored in when assessing the parameters.[317]

(d) Ofcom noted that:

> In principle, the factors that make up each component of the cost of capital are not exactly the same; similarly the factors that determine the path of the risk free rate may not be the same as the debt premium. Thus, we see no reason to place exactly the same weight on current rates and averages of past rates for different parameters of the cost of capital as a matter of principle.[318]

2.319. In relation to the assessment of the appropriate cost of capital, Ofcom stated[319] that its estimate was 'designed to be applicable for the course of the charge control ie until March 2011. At that point a new charge control, with a new assessment of the cost of capital, would come into effect'.

2.320. In response to the FRG's advice, Ofcom reiterated that its decision was made at a period of unprecedented uncertainty in financial markets and that it placed great importance on the use of the best available data when selecting each component.[320] Ofcom considered that, with benefit of hindsight, its estimate of cost of debt might be slightly overstated but that it was based on best-quality evidence at that time.[321]

2.321. Ofcom stated that if the CC were to conclude that Ofcom erred based on evidence available at that time and that cost of debt was understated in year 1 and overstated in year 2, the CC should be aware that reducing the year 2 assumption without increasing the year 1 assumption could result in an inappropriate reduction to the year 1 price.[322]

[313] Response to the CC's questions of 19 February 2010 Q38(a).
[314] Response to the CC's questions of 19 February 2010 Q39(a).
[315] Response to the CC's questions of 19 February 2010 Q37(a)(b)(i).
[316] Response to the CC's questions of 19 February 2010 Q34.
[317] Response to the CC's questions of 19 February 2010 Q33.
[318] Response to the CC's questions of 19 February 2010 Q35(b).
[319] Q33 response to questions on cost of capital.
[320] Ofcom's letter to the CC dated 26 April 2010 regarding the FRG advice—p1, paragraph 4.
[321] Ofcom's letter to the CC dated 26 April 2010 regarding the FRG advice—p2.
[322] Ofcom's letter to the CC dated 26 April 2010 regarding the FRG advice—p3.

Debt premium assessment

2.322. Professor Franks highlighted that the Minardi et al paper was published in 2007 and was applied to US data. He considered that 'for Ofcom to be required to apply the latest methodology within a year of the price control is a very high hurdle to jump'.[323]

2.323. In Professor Franks' view, the issue regarding the estimation of the debt premium is:

> less around the need for new data and new tests but rather on two other issues. First, what weight should Ofcom place on prevailing debt spreads at the time of the price control compared with an historic time series of spreads? ... The second issue concerns what emphasis Ofcom should have placed on BT's current debt premium when it had an actual debt ratio well in excess of the notional debt ratio set by Ofcom.[324]

Professor Franks added to this, stating that Ofcom considered the notional structure for the BT Group in setting the debt premium, and he considered that if the BT Group set an efficient capital structure that was close to the notional capital structure but subsequently it became inefficient, then taking some account of actual capital structure was not unreasonable in the current environment providing the BT Group did not borrow recklessly.[325]

WARA

2.324. Professor Franks noted that the WARA methodology was not adopted by UK regulators, and whilst he considered it interesting, he did not feel that it invalidated Ofcom's approach to the price determination.[326] He considered it to be a two-factor model as, in addition to the market return (ie CAPM), Mr Morris was incorporating an additional risk factor captured by the proportion of intangible assets that affected stock returns and cost of capital.[327]

2.325. Professor Franks noted that UK regulators had not been sympathetic to the use of alternative models to the CAPM and that the most common alternative to the CAPM was the Fama French three-factor model.[328] He referred to the CC's price determination for Heathrow and Gatwick, where the CC concluded that CAPM remained the tool with the strongest theoretical underpinning, and that it was not clear from the academic literature that other models had better predictive power when applied to UK companies.[329]

[323]Ofcom W/S Franks I §51.
[324]Ofcom W/S Franks I §§56 & 58.
[325]Ofcom W/S Franks I § 59.
[326]Ofcom W/S Franks I §24.
[327]Ofcom W/S Franks I §76.
[328]The Fama French model incorporates the effect of a size variable and a book to market value variable when estimating return, alongside the ERP (used in CAPM).
[329]Ofcom W/S Franks I §78.

The Interveners

BT's Statement of Intervention

Pension costs

2.326. In response to the FRG advice BT highlighted Ofcom's ongoing pensions consultation and stated that the CC should be mindful of this in making statements in its decision that might be seen as premature or that might potentially constrain the outcome of the review.[330] BT considered that it was not straightforward that if deficit repair payments were included in BT's allowed charges then the WACC should be adjusted downwards or that by contrast, if deficit repair contributions were disallowed, no adjustment should be made, as this view relied on a number of assumptions being realized. BT highlighted a number of potential issues, which included a view that changes to the regulatory treatment of pension risk may not have an automatic one-to-one effect on the cost of raising capital and a view that inclusion of deficit repair payments in BT's regulated charges would not necessarily require a downward adjustment to the cost of debt and equity capital because the markets may have already priced it in; an adjustment would only be required where the regulatory treatment of pension deficit repair costs differed from what the market expected.[331]

Relative risk of Openreach vs BT Group

2.327. In its SoI, BT argued that the equity beta for the BT Group could have been fixed at a higher level than Ofcom's estimate,[332] and that the risk profile of Openreach was closer to that of the BT Group than CPW suggested. It considered that the BT Group faced real and vibrant competition, significant investment risk and a decline in volumes in the coming years.[333]

2.328. BT supported these arguments through its expert witness statements.[334] It considered Mr Francis' qualitative assessment[335] to be contentious and stated 'certainly BT does not agree with it'.[336] BT considered that Mr Francis' report did not provide assurance even on the direction of a beta adjustment, still less its magnitude. It considered that Mr Francis' comparison to utilities 'does not address the extent to which Openreach already faces direct or potential competition now, and that technological substitution may be accelerating'.[337]

2.329. BT considered it 'conceptually appropriate to consider disaggregated costs of capital for investment projects and business divisions of large companies' and accepted that using these risk differentials 'if they can be established with some certainty is likely to improve the economic efficiency and optimal allocation of capital' within a group. BT's concern was that 'if the estimated risk differential is larger than is in fact the case, incentives might be distorted by more than might be the case if a single cost of capital were used'.[338] BT considered that 'in light of the lack of fully robust results

[330]BT comments on FRG Advice of 10 April 2010, p2.
[331]BT comments on FRG Advice of 10 April 2010, p2.
[332]BT SoI §51.
[333]BT SoI §52.
[334]Those of Mr Esslin-Peard and Dr Firla-Cuchra.
[335]That set out in Tables 6 and 7 of CPW W/S Francis I.
[336]BT W/S Esslin-Peard I §51.
[337]BT W/S Esslin-Peard I §52.
[338]BT W/S Firla-Cuchra I §§1.14 & 1.16.

about the magnitude of the risk differentials in this case … Ofcom's decision to use a limited differential in the beta was reasonable'.[339]

2.330. BT considered that 'Ofcom's decision to depart from the observable data for [the] BT [Group] in order to produce two WACC estimates represents a strong assumption'.[340] BT considered that 'Openreach is not in fact so different from the rest of BT to warrant the application of very different beta factors'.[341]

2.331. With regard to gearing, BT noted[342] that Mr Francis' assessment included total liabilities and hence took into account non-interest-bearing debt. BT considered net debt divided by net debt plus the market value of equity to be the appropriate measure and consistent with that used by Ofcom. On this basis, BT noted that the BT Group's gearing was 59 per cent at 31 March 2009 and that this had fallen to 52 per cent by the end of the BT Group's Quarter 1, 2009/10.[343]

2.332. BT considered that, in addition to the high gearing that had resulted from a fall in the share price (and hence market capitalization) due to a sharp decline in profitability as highlighted by Professor Franks, 'it must also in part be driven by the falls in share markets due to financial conditions, as no-one observed any corresponding fall in BT Group's beta factor over this period'.[344] BT considered the rise in its gearing to be both recent and driven more by falls in the value of equity than a rise in borrowing.

2.333. BT argued that 'regulated services provided to other Communications Providers (CPs)—and not to consumers or businesses on retail terms—make up over 80 per cent of BT's capital employed'.[345]

Adjusting components to reflect short-term conditions

2.334. In its SoI, BT argued that 'Ofcom's decision as regards the debt premium more accurately reflects BT's actual cost of debt for the period of the charge control than the apparently abstract and theoretical values suggested by CPW'.[346]

2.335. In support of this, BT noted that its cost of debt continued to be high compared with recent years. Its bond issues in June 2009 (after the setting of the price control) had a spread of 345 bps and the current[347] spreads were in the region of 200–300 bps.

2.336. In response to the FRG advice, BT argued that any apparent inconsistency in Ofcom's assessment of the cost of debt would not cause bias in the results because the overall cost of debt allowed by Ofcom was in line with yields on the BT Group bonds observed at the time of the determination. BT then cited trading yields for the BT Group bonds at the time of the determination as being 7.7 to 7.9 per cent. It considered that to the extent that there was a difference between Ofcom's estimate and observed market yields, it appeared to be negative rather than positive, noting that if Ofcom had estimated cost of debt by combining a long-term risk-free rate with

[339]BT W/S Firla-Cuchra I §1.33.
[340]BT W/S Esslin-Peard I §48.
[341]BT W/S Esslin-Peard I §47.
[342]BT W/S Esslin-Peard I §§63 & 64.
[343]ie June 2009.
[344]BT W/S Esslin-Peard I §65.
[345]BT W/S Esslin-Peard I §74.
[346]BT SoI §53.
[347]The witness statement is dated 10 November 2009.

a short-term debt premium, it could have set a significantly higher cost of debt (8.5 per cent).[348]

2.337. BT considered that Mr Wright's analysis was not accurate as it focused only on one particular bond for each time period and did not provide a representative estimate of BT's overall cost of debt. BT's view was that it was appropriate to consider the average yield and maturity on different BT bonds outstanding at the time of the decision.[349]

WARA

2.338. BT's SoI considered that the WARA methodology was 'of no assistance in this case, and that Mr Morris' proposed application of the method in the present context involves unwarranted and unreliable assumptions'.[350]

2.339. BT's SoI was supported by the witness statement of Dr Firla-Cuchra. In this, Dr Firla-Cuchra raised a number of issues with this approach. In summary, he considered that:

(a) No explanation had been given for its relevance to UK regulatory context or its advantages over other approaches.[351]

(b) The concept of a required rate of return on one category of assets was problematic because the different categories of assets typically generated returns jointly rather than individually.[352]

(c) It might be arithmetically possible to model the costs of capital for different categories of assets by looking at companies that appeared to rely on a significant proportion of one type of asset in their production process, but this was more a data manipulation exercise than an empirical analysis grounded in economic theory.[353]

(d) Even if it were possible to justify a concept of a cost of capital for a certain category of assets, there was a practical problem with Mr Morris's reference to intangible assets as this was not a well-defined or homogenous group, which it was difficult to see being defined by the same level of risk. He further noted that 'the cost of capital is necessarily determined by the risk profile of a stream of cash flows attributable to these assets' and that in this case it was not possible to identify separately the cash flows attributable.[354]

(e) Mr Morris's definition of intangible assets did not distinguish between different types of intangible asset which may have different economic characteristics, eg brand, workforce, software, historic position as incumbent telecoms provider—he was unclear that these all had the same risk characteristics.[355]

(f) The 3 per cent uplift to required return on intangible assets was inappropriate as it was not compatible with the CAPM framework. He found that it contradicted the empirical findings of the Fama-French three-factor model, and asserted that the

[348] BT comments on FRG Advice of 10 April 2010, p1.
[349] BT comments on FRG Advice of 10 April 2010, p1.
[350] BT SoI §54.
[351] BT W/S Firla-Cuchra I §3.32.
[352] BT W/S Firla-Cuchra I §1.22.
[353] BT W/S Firla-Cuchra I §3.19.
[354] BT W/S Firla-Cuchra I §§3.9 & 3.11.
[355] BT W/S Firla-Cuchra I §§3.28 & 3.29.

estimation was technically flawed and appeared arbitrary and likely to introduce bias.[356]

(g) Assumptions underpinning Mr Morris's analysis were unjustified and inconsistent (these are listed in the witness statement).[357]

Sky's Statement of Intervention

Pension costs

2.340. Although Sky's SoI did not specifically address cost of capital issues, in response to the FRG advice, Sky expressed a view that the risk of the DB scheme should either be excluded altogether or be included such that it was consistent with an appropriately sized scheme that excluded equity investments.[358] Sky argued that BT Group's pension risk should be adjusted for the assessment of Openreach as:

(a) The BT Group's pension scheme was very large compared with the operating assets, and far larger than would be the case for a new efficient entrant with a DB scheme.[359]

(b) The BT Group's pension scheme investments included a significant proportion of equity investments which increased the pension asset beta and substantially increased the risk relative to a scheme invested in, say, bonds or gilts.[360]

(c) The link between deficit repair and cost of capital proposed by the FRG was incorrect. It did not follow that if customers did not pay for deficit repair, they should pay for pension risk via the cost of capital.[361]

(d) Various factors drove pension risk, but the most significant was the degree of pension scheme investment in high beta assets such as equities. Shareholders were already compensated for this risk of equity investment by the expected increase in returns (which in the current regulatory framework were not shared with customers) and to allow the associated pension risk to be included in the cost of capital would result in double compensation.[362]

(e) Professor Cooper's work suggested that the JMB adjustment might not be as large as proposed due to attenuation factors. PricewaterhouseCoopers' (PwC) work showed that even if only 50 per cent of the JMB adjustment was allowed, then a 1.2 per cent downwards adjustment to BT's cost of capital would be required.[363]

(f) Excluding the pension investments in equities was approximately 80 per cent of the full JMB adjustment. There was a compelling case for excluding them as not adjusting the cost of capital results in the BT Group's shareholders being compensated twice for the risk associated with equity investments.[364]

[356] BT W/S Firla-Cuchra I § 4.14.
[357] BT W/S Firla-Cuchra I §4.29.
[358] Sky comments on FRG Paper dated 26 April 2010, p1.
[359] Sky comments on FRG Paper dated 26 April 2010, p2.
[360] Sky comments on FRG Paper dated 26 April 2010, p2.
[361] Sky comments on FRG Paper dated 26 April 2010, p2.
[362] Sky comments on FRG Paper dated 26 April 2010, p2.
[363] Sky comments on FRG Paper dated 26 April 2010, p3.
[364] Sky comments on FRG Paper dated 26 April 2010, p5.

(g) Given the compelling case for making an adjustment and the potential materiality of the adjustment, there was a strong case for attaching greater weight to comparator data as proposed by CPW.[365]

Our Assessment

2.341. Our assessment is structured as follows:

- First, in paragraphs 2.342 to 2.353 we consider CPW's arguments around the appropriate treatment of pensions.
- Secondly, in paragraphs 2.354 to 2.375 we consider CPW's arguments around the relative risk of Openreach compared with the rest of the BT Group.
- Thirdly, in paragraphs 2.376 to 2.414 we consider CPW's arguments around adjusting components of the cost of capital to reflect short-term conditions.
- Fourthly, in paragraphs 2.415 to 2.418 we consider CPW's arguments around Ofcom's alleged failure to exploit available data to estimate an appropriate debt premium for Openreach.
- Fifthly, in paragraphs 2.419 to 2.424 we consider CPW's arguments around the WARA approach.

Pensions

Assessment

2.342. Our conclusion is that Ofcom has not erred as claimed by CPW in §87.3 of the NoA.

2.343. In relation to the argument in paragraph 2.288*(a)*, CPW argued that an efficient operator would not operate a DB pension scheme and that the regulator should set a forward-looking cost of capital that mimicked that which would be achieved in a competitive market. CPW's focus was on the cost of capital that it considered would be achieved in a competitive market, but it did not provide reasons why a competitive market would have driven an established access services business not to have a DB scheme nor explained why this is a necessary condition of efficiency. When we put this to it, CPW clarified that its argument went to whether an efficient operator would have a DB scheme of the scale and nature of the BT Group pension scheme. Whilst this is not an entirely new point of appeal, the argument is now being put on very different grounds. The evidence CPW provided (see paragraph 2.290*(a)*) to support its view that the BT Group's DB scheme had been inefficiently managed is insufficient to allow us to conclude that it supports CPW's position or otherwise. We are not persuaded that the points raised by CPW are the result of inefficient management and we believe that a considerably more thorough and rigorous examination would be required in order to form a judgement about this. In our view, CPW has not provided adequate support for either of its positions. We do not consider that CPW has shown Ofcom's implicit decision to assess Openreach with a proportion of the BT Group's DB pension scheme to be inappropriate.

2.344. In response to the FRG advice, and in support of CPW, Sky argued that the BT Group's pension risk should be adjusted for the assessment of Openreach's cost of

[365] Sky comments on FRG Paper dated 26 April 2010, p5.

capital (see paragraph 2.340). We do not consider Sky's argument to be well made; it has not clearly explained its view that the BT Group's shareholders would be compensated twice for pension risk nor explained why it considered a scheme with investments in bonds or gilts rather than equities to be more relevant.

2.345. The arguments in paragraph 2.288*(b)* and *(c)*(i) present a series of statements concerning the effects of the DB pension scheme on the BT Group's beta. We agree with CPW that the future free cash flows of the BT Group will be affected by the existence of the DB pension scheme, indeed we think the cash flows will be affected by funding requirements for past, present and future employee service. We (like both Ofcom and CPW) view the relationship between the pension scheme and the BT Group's beta as particularly complex. We also agree with Ofcom and CPW that the magnitude of the effect cannot be determined with certainty; we consider Ofcom's view, that there may be no effect at all on equity beta, not to be implausible. On the evidence presented, it is not clear that we could go as far as CPW to say that the effect of the pension scheme on beta, if not adjusted for, is likely to overstate the operating asset beta.

2.346. Turning to CPW's argument in paragraph 2.288*(c)*(ii), we consider that the pension deficit may have debt-like characteristics as it represents a liability that the BT Group will have to service in the future by making deficit repair payments. In this respect, the company's 'true' gearing can be perceived as higher than that assessed by Ofcom. We acknowledge that Ofcom used the observed BT Group beta and a conventional measure of the current gearing level (calculated on the basis of the book net debt divided by the book net debt plus the market value of equity—ie excluding the pension deficit) to calculate the asset beta of the BT Group. However, in our view it is not clear that a more accurate asset beta would be derived by using a measure of 'true' gearing as CPW suggested as the relationship between the pension fund and the asset beta is not straightforward.[366] In any event, unless the asset beta was to be regeared to a different level from that of the BT Group for the purposes of calculating Openreach's cost of capital, this would have little effect as the adjustment to de-gear the BT Group equity beta would then be reapplied to regear Openreach equity beta.[367] For these reasons, we do not believe that there is likely to be a significant flaw in Ofcom's estimate of the BT Group asset beta as a result of its treatment of gearing.

2.347. The argument presented in paragraph 2.288*(c)*(iii) concerns the debt premium that may be charged to a company with a DB scheme compared with one without. We consider that if a firm has a pension deficit, then the risk of default on interest payments on the firm's debt (excluding the pension deficit) is higher than for a firm without such a deficit. This is consistent with a view that investors perceive the pension deficit as a form of debt. This additional risk is likely to cause an increase in the debt premium. We consider the materiality of this effect in paragraphs 2.370 to 2.374 when we evaluate Ofcom's method for estimating the cost of debt more generally.

2.348. In relation to the argument in paragraph 2.288*(d)*, CPW's arguments about consistency require consideration of alternative perspectives on pension fund risk

[366]Analogous to the argument put forward by Professor Cooper (see the second footnote to paragraph 68) that the relationship between operating asset beta and the pension fund is subject to a range of influences, it may be argued that the relationship between true gearing and pension fund is also complex.
[367]To control for changes in gearing, it is possible to use a formula to calculate the asset beta (ungeared beta) from the observed equity beta and then use the same formula to 'regear' the asset beta to an alternative gearing level. In this case the gearing level assumed by Ofcom for Openreach is not different from that of the BT Group. The gearing level assumed for Openreach is 35 per cent, which is only slightly lower than that of 38 per cent which corresponds to the observed BT Group equity beta.

sharing and regulatory practices in the UK. Allowing pension deficit repair payments to be included in the regulated revenue means that customers share the pension risk and when investors perceive this sharing of risk, their perception is likely to be reflected in a lower beta and a lower cost of equity.[368] We note CPW and Sky's arguments in their responses to the FRG advice (see paragraphs 2.289 and 2.340*(c)*) where they considered that there was no link between the inclusion of DB pension scheme deficit costs and the cost of capital. We are not persuaded by these arguments because we consider that there is a relationship between investors' required return and the regulatory treatment of the pension scheme. We note BT's comments regarding the complex nature of any relationship, ie that there was not necessarily a one-for-one link as there were a number of stakeholders sharing the risk and that the requirement of an adjustment depended on investors' perceptions of the likely regulatory treatment that would already be factored into the observed equity beta—adjustments would therefore be required where regulatory treatment differs from investor's expectations (see paragraph 2.326). Taking the above into account, it is not clear to us that Ofcom should have adjusted the Openreach beta and gearing ratio as a matter of consistency, as suggested by CPW.

2.349. Whether customers should share—fully, partly or not at all—in the risks of the pension scheme is for a regulator to consider and it must be noted that UK regulatory practice is not uniform.[369] We consider that the considerable practical difficulties associated with estimating the size of any pension scheme effect on the cost of capital are a relevant factor in Ofcom's decision to consult on this issue. Pending the outcome of the consultations that Ofcom has set in motion, its decisions appear consistent with past LLU price controls and the other BT Group charge controls.

2.350. In the argument presented at paragraph 2.288*(e)*, CPW contended that shareholders had taken all of the risk of the pension scheme and enjoyed the pension holidays taken by the BT Group as upside. It considered that if a 'downside' for shareholders 'is coming', it was wrong to pass that risk on to customers through the cost of capital. It is not clear to us that this argument has merit in terms of the assessment of beta. Shareholders are expected to pay for the cost of funding the deficit should a deficit arise and receive a cost of capital based on an unadjusted beta to reflect this risk: this is consistent with Ofcom's past treatment. The cost of capital through the equity beta reflects investors' perceptions of the risk to them of either deficit repair payments or pension scheme surpluses (and possibly associated payment holidays) at a given point in time, and customer charges reflect this. We consider the impact of shareholders being funded in advance for the risk of a pension deficit, through the equity beta, on the assessment of the cost of debt in paragraph 2.372.

2.351. In relation to the argument in paragraph 2.288*(f)*, we agree with CPW and Ofcom that estimating the effect of the pension scheme on the BT Group equity beta is in practice very difficult and subject to significant uncertainty. CPW argued that this strengthened the case for using comparator company data; however, given that we did not feel CPW had adequately supported its argument for assessing Openreach without a DB pension scheme or with a scheme other than that of the BT Group (see paragraph 2.343), it is not clear to us that in this case Ofcom needed to make an

[368] Cooper, ibid, says:

> [p20] For regulated firms there is an additional complication. If the stock market expects some of the pension fund risk to be passed to customers via the regulatory process, that will reduce the amount of pension risk which shows up in the measured assets beta. In the extreme case where the market expects that regulation will allow all pension fund risk to be passed to customers, then no adjustment of the JMB type should be made and it would be an error to include such an adjustment in the cost of capital calculation.

ie the observed beta already incorporates the market's expectations.

[369] For example, Ofwat allows 50 per cent of deficit repair payments based on ten-year recovery whereas Ofgem allows all efficient and economic deficit repair payments. Neither regulator makes adjustment to cost of capital (Ofcom Pensions Review, December 2009, Table 6).

adjustment to the BT Group data to remove or alter the effect of the DB pension scheme. The equity beta incorporates the expected future risk of the DB pension scheme to shareholders and our assessment of CPW's arguments in paragraphs 2.348 and 2.349 did not contradict Ofcom's approach. We consider the use of the observed BT Group beta versus comparator company analysis in greater detail in paragraphs 2.356 to 2.361 when we consider Ofcom's approach to the estimation of beta more generally.

2.352. In response to the FRG advice, both Sky (see paragraph 2.340*(e)*) and CPW[370] referred to a report by PwC that considered the effect on the cost of capital of using a refined JMB adjustment to estimate an appropriate beta. Sky noted that Professor Cooper's work for Ofcom suggested that the JMB adjustment might not be as large as JMB proposed due to attenuation factors. Sky and CPW considered the PwC work to show that even if only 50 per cent of the JMB adjustment was allowed, then a 1.2 per cent downwards adjustment to the BT Group's cost of capital would be required. We note that this is very recent work (March 2010) which has been commissioned as part of Ofcom's ongoing pensions review. Whilst we consider the Ofcom pension consultation to be the appropriate place for such work to be considered, we note that with a 50 per cent attenuation factor (50 per cent of 0.24) the asset beta implied for both the BT Group and hence Openreach would be a within the range of utilities' asset betas. All parties have agreed that the beta for Openreach (and the BT Group) would lie above that of conventional utilities, and therefore the betas suggested by Sky through the PwC work do not appear to be plausible.

2.353. For the reasons given above, we do not consider that Ofcom has erred as claimed by CPW in §87.3 of the NoA.

Relative risk of Openreach vs BT Group

Assessment

2.354. Our conclusion is that Ofcom has not erred as claimed by CPW in §87.2 of the NoA.

2.355. We first address CPW's argument, set out in paragraph 2.290*(a)*, that Ofcom placed too much weight on the BT Group data when estimating the Openreach beta. We then turn to the arguments on whether Ofcom should have calculated a different capital structure and/or debt premium for Openreach.

2.356. The equity beta reflects a business's exposure to systematic risk and its gearing. In terms of paragraph 2.290*(a)*(i), the parties agreed that the systematic risk of Openreach was lower than that of the BT Group and also that the assessment of the BT Group beta, at 35 per cent gearing, of 0.86 was a reasonable estimate[371]—the argument between the parties concerned the extent of the differential between Openreach's beta and the beta of the BT Group.

2.357. The parties have approached the estimation of Openreach's beta from different starting points—Ofcom from a disaggregation of the BT Group beta and CPW from comparator company data. Both approaches produce a range of plausible estimates, and the parties then select a point estimate which they judge to be appropriate. Ofcom directly estimated an equity beta; CPW estimated an asset beta then translated this into an equity beta. Equity betas incorporate the effects of gearing so, to isolate that portion of the difference in the betas advocated by CPW and Ofcom that

[370] CPW's comments on FRG response to appeal group $17 dated 27 April 2010.
[371] CPW W/S Francis I §74.

was due to differences of opinion about systematic risk, we looked at the asset betas. We observe a differential between the two asset betas of 0.05 (from an estimate of 0.55 by Ofcom, and an estimate of 0.5 by CPW).[372]

2.358. In paragraph 2.290*(a)*(ii) we set out CPW's argument that Ofcom should have chosen a beta range for Openreach based around the top of the range of betas for listed UK regulated utilities and regulated airports.[373] We note that Ofcom also assessed the relative risk of Openreach compared with UK regulated utilities and came to the same view as CPW that it was more risky than the energy networks.[374] Using its judgement, it chose a point somewhere between its range of utility betas and the BT Group. We note that CPW's group of comparator companies included regulated airports whereas Ofcom's did not. We consider that Ofcom could have included estimates for UK airports in its comparator set but this would not necessarily provide a more robust result than the use of utilities alone, because of the wide range of plausible estimates and the difficulty of ascertaining where Openreach sits in relation to airports in terms of risk. We do not agree with CPW's assertion that airports are more risky than Openreach. In our view, this is not obvious (particularly in respect of the regulated airports such as Heathrow and Gatwick) and CPW has not provided adequate support for its argument. In our view, this would necessitate considerably more analysis of the relative risks of each. CPW argued for the inclusion (in the comparator group) of the asset betas calculated by the CC in the Heathrow and Gatwick 2007 price controls which were 0.47 and 0.52 respectively. We note that the CC calculated in 2008 that the asset beta for Stansted lay in a range of 0.55–0.67. This suggests that the inclusion of regulated airports in the comparator sample could increase the estimate of Openreach's asset beta depending on the regulator's view of relative risk; certainly the airport asset betas do not appear to invalidate Ofcom's estimate of Openreach's asset beta of 0.55.

2.359. In paragraph 2.290*(a)*(iii) we set out CPW's argument that the BT Group's pension scheme distorted the cost of capital estimate for the BT Group and that the use of comparator data was therefore a better approach. As set out in paragraph 2.351, we consider there to be strong arguments to suggest that the impact of the DB scheme on the BT Group is a relevant consideration of the DB scheme's impact on Openreach. Using only comparator data would not incorporate the effect of the BT Group DB pension scheme into the assessment of Openreach. Therefore, we find no reason to prefer CPW's approach in this respect.

2.360. In paragraph 2.290*(a)*(iv), we set out CPW's argument that whilst its analysis did not take account of the BT Group beta partly because of the issues it considered with regard to the DB pension scheme, setting aside these issues it still considered utility comparators a better starting point as it saw the risk of utilities to be more comparable to the risk of Openreach than the unregulated parts of the BT Group. It is not clear that this is a significant issue as there is a reasonable amount of common ground between the parties on hierarchy of risk. All parties agree on the value for the BT Group beta; all parties also agree that Openreach is less risky than the BT Group as a whole, and that Openreach is more risky than conventional regulated utilities. Whether one begins the analysis with the observed BT Group beta or observed utility betas requires consideration of the differences in risk between the businesses and the impact of these differences on the positioning of Openreach's beta relative to the full comparator set.

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[372]CPW confirmed this difference in its response to the CC's written questions of 19 February 2010, Q19.1.
[373]Indeed CPW argued that the systematic risk for airports should be seen as a sensible upper bound for Openreach's systematic risk (Reply II §98).
[374]See CPW's comment set out in paragraph 2.290*(a)*(ii).

2.361. Because Ofcom's approach makes more use of the information contained within the BT Group's beta, which reflects market data from the entire BT Group, including Openreach, we consider there to be strong arguments that the beta analysis should take the form of a disaggregation of the observed BT Group beta. We note that this would be comparable to the approach that the CC has taken in recent quinquennial airport price control inquiries when disaggregating BAA's beta into betas for airports. While we recognize the difficulties in disaggregating the BT Group beta, CPW has not put forward persuasive arguments in favour of preferring the comparator group approach, which has its own shortcomings (for example, this approach does not incorporate market information on Openreach and the comparator companies are not directly comparable as they are involved in different activities and are subject to different regulation).

2.362. The key issue is then whether Ofcom positioned the Openreach beta too close to the BT Group beta, as CPW contended, or whether a differential of 0.1 appropriately reflects Openreach's riskiness compared with the BT Group's unregulated activities and to other comparators. None of the parties has suggested that it is possible to calculate Openreach's beta with complete precision and they recognize that it is necessary to exercise a considerable degree of regulatory judgement when making a point estimate. In view of the uncertainties involved, including the lack of precision in empirical estimates of beta for Openreach, we do not consider that there are reasonable grounds to contradict the particular judgment that Ofcom applied in the LLU Statement. The qualitative analysis of risk made by the parties indicates that Ofcom's estimate sits in a reasonable position in the 'risk spectrum' (ie above the beta of utility comparators and below the beta of the BT Group) and we do not see a compelling argument for shifting the precise number slightly up or, as CPW would wish, slightly down.

2.363. We were not persuaded by CPW's argument that Ofcom should have maintained the differential of 0.2 in 2005 Final Statement. Ofcom's primary concern was to set a beta for Openreach below that of the BT Group and above that of utilities; in doing so it found it necessary to reduce the 2005 differential from 0.2 to 0.1. Ofcom noted that the BT Group beta had reduced since 2005 and that Openreach had become a larger part of the group. BT and CPW have presented different views regarding the likely change in systematic risk of Openreach relative to the rest of the BT Group since the 2005 review.[375] We are not persuaded on the basis of the arguments presented that it is obvious that the risk of the rest of the BT Group has increased relative to that of Openreach. We considered Ofcom's approach to be reasonable in view of our comments above about the imprecise nature of the exercise and the need to employ regulatory judgement; indeed had Ofcom applied the 2005 differential in an overly rigid manner, this would have risked setting an inappropriately low cost of capital. In particular it is reasonable to expect betas to change over time and important for regulators to have regard to up-to-date data in their assessments: there is no reason to expect betas or the differentials between them to remain static over a period of five years, as relative systematic risks and market perceptions of those risks may change. In this respect we do not agree with CPW that a more detailed assessment of the reasons for the change in differential was necessary.

2.364. We now turn to our assessment of the arguments in paragraph 2.290*(b)* in relation to whether Ofcom should have assessed Openreach's capital structure on a stand-

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[375]BT's view was that Openreach's risk would be expected to increase over time due to increased competition and risk of asset stranding. It considered that maintaining the 2005 differential would have implied that the risks faced by Openreach had declined by proportionally more than the risks faced by the rest of the BT Group. BT did not see clear, robust evidence for this and considered that such an approach would be inconsistent with the high-level evidence on the evolution of Openreach's risks. See W/S Firla-Cuchra I §§5.6–5.8.

alone basis and whether this would have led to an assessment of an efficient notional gearing and/or debt premium that differed from that assessed by Ofcom.

2.365. First, we are not persuaded that CPW has shown that the BT Group is inefficiently financed. CPW stated[376] that the BT Group's gearing level appeared high and above the level that would be considered 'optimal'. We note BT and Ofcom's comments with regard to the reasons behind the gearing level at the time of the LLU Statement and the net debt levels in the period 2007 to 2009 (see paragraph 2.315). We consider that Ofcom has taken into account the effect of this higher gearing in its assessment by using a notional gearing and setting a debt premium it considers consistent with that notional gearing. CPW has not argued that 35 per cent is an inefficient gearing level for the BT Group. The question is therefore whether 35 per cent gearing is appropriate for Openreach. We explore this below.

2.366. In regard to CPW's contention that the lower risk of Openreach meant that it could support a higher level of debt and/or a lower cost of debt than the BT Group, we make the following points. In our view, a business with lower systematic risk will generally be able to support a higher level of debt, although this depends on the overall risk of the business, including the company-specific risk of default on debt. We accept that a business exposed to lower overall risk may be able to target a higher credit rating, and hence a lower cost of raising finance, even at a higher level of indebtedness. However, there is no universally accepted model of an 'optimal' capital structure which would permit us to calibrate the relationship between risk and gearing with any precision.

2.367. In these circumstances, it might be possible to look to the gearing ratios chosen by other similar companies for evidence of what might constitute an optimal capital structure. We note that there is no stand-alone proxy for the Openreach business from which to observe a capital structure or a debt premium. To make an assessment as to what the appropriate capital structure might be for a hypothetical stand-alone business is therefore not straightforward.

2.368. CPW argued that regulated industries provided an appropriate comparator; Mr Wright in particular considered that the nature of regulation itself meant that the optimal gearing for Openreach was higher than for the BT Group.[377] We note Ofcom's argument that regulated utility firms were not directly comparable as they benefited from their regulator's statutory financing duties, but we do not see this as ruling out their usefulness as comparators altogether. Although Ofcom has positioned financing duties as giving a 'guarantee', we do not agree with this characterization, not least because regulators have made it clear that they see their duty as applying to efficient companies and that they are prepared to see inefficient companies go into administration. In practice, we do not see that a statutory financing duty would produce a very different decision from that which Ofcom took in light of its duty to promote efficient investment.

2.369. The parties presented different views regarding the appropriate level of gearing for Openreach (Ofcom used 35 per cent, CPW used 53 per cent).[378] Whilst we acknowledge that there are arguments (particularly those regarding its lower systematic risk) for a gearing ratio of more than 35 per cent for Openreach, we were not persuaded that Openreach should be assessed with a gearing ratio of more than 50 per cent. CPW's comparison with utilities does not reflect the specific risks that a stand-alone Openreach might face, nor does it address the question as to whether the debt

[376]Response to the CC's questions of 19 February 2010.
[377]CPW W/S Wright I: Bullet 1—Other comments under §25.
[378]See Table 1 (Ofcom) and CPW W/S Francis I.

markets/credit rating agencies would take a similar view, on which we have been presented with no evidence. Even if there is an argument that Openreach could gear up beyond the 35 per cent considered by Ofcom to be optimal for the BT Group, a move from 35 per cent to somewhere between, say, 40 and 50 per cent, it is unlikely to make a significant difference to the overall cost of capital.

2.370. This is not in itself sufficient to say that CPW's argument that assessing Openreach's capital structure on an efficient stand-alone basis would have led to an assessment of a debt premium that differed from that assessed by Ofcom entirely falls away. As CPW's representations imply (see paragraph 2.290*(b)*(ii)), by matching Openreach's cost of debt to Ofcom's forward-looking estimate of the BT Group's cost of debt, it could still be that Ofcom exposed Openreach's customers to the costs associated with the inferior credit quality of the BT Group's unregulated activities. In response to the FRG advice, CPW argued that at the same level of gearing as the BT Group, Openreach's debt premium would be lower than that of the BT Group (see paragraph 2.290*(b)*(iv)). CPW also contended that the BT Group's DB pension scheme increased its borrowing costs, ie the risk of the DB scheme increased the risk for the BT Group as a whole and hence investors required a higher return in order to invest.

2.371. On the first of these points, regarding the assessment of Openreach on a credit rating that is exposed to the effects of the unregulated activities of the BT Group, CPW also argued that the debt premium should be assessed on the assumption that Openreach had a single A rating. We are not persuaded that single A is necessarily the appropriate credit rating to use and we note Ofcom's argument that utilities commonly issue debt down to a rating of Baa1/BBB+ or even Baa2/BBB. Given that Ofcom's assessment of the debt premium was made at a time when the credit rating of the BT Group was BBB and that the credit rating of the BT Group had been BBB+ from July 2006 to March 2009, and higher historically,[379] CPW has not persuaded us that Ofcom's assessment of the debt premium reflected inappropriately weak credit quality.

2.372. On the second point, regarding the effect of the DB pension scheme on borrowing costs, we recognize that there will be particular risks associated with the DB pension scheme. We consider the credit rating of a business to be a key driver of the debt premium. The credit rating agencies' assessment of the BT Group will have incorporated views as to the riskiness of the DB pension scheme. Therefore, because the historical observations of the BT Group's gearing and debt premium were taken at a time when that debt received a Baa1/BBB+ or Baa2/BBB credit rating, and we consider (as noted in paragraph 2.371) that these are not obviously inappropriate ratings for Openreach to aim for, it does not appear to us that the cost of debt assessed by Ofcom will have been inappropriate for this reason.

2.373. Credit ratings are not mechanistically applied and reasonably small differences in systematic risk or gearing will not necessarily result in the assignment of a different credit rating. The assessment of a credit rating incorporates a number of factors and credit rating bands can be relatively wide. Taking into account the need to factor in specific risks to the assessment of the credit rating, including for example, technology risks and the risks associated with the DB pension scheme, we did not think CPW had demonstrated that Openreach should be assessed with a superior credit rating to that of the BT Group and a consequently lower debt premium.

[379] S&P rating BBB+ from July 2006 to March 2009 when it was downgraded to BBB. Moody's rating was Baa1 from May 2001; it was Baa2 at March 2009.

2.374. Moreover, we found the nature and scale of the impact of the pension scheme on the BT Group's cost of debt extremely difficult to analyse. This was for two principal reasons. First, as in the analysis of beta (see paragraphs 2.356 to 2.363), whilst it is fairly straightforward to see that the BT Group's credit quality might have been weakened by its pension scheme, the precise scale of the increase in the BT Group's cost of debt is almost impossible to ascertain. Second, and related to this, the knowledge that Ofcom is consulting separately on its whole treatment of pension costs makes it extremely difficult for us to say that the absence of any adjustment to the cost of debt calculation was inappropriate. Given the complexities and circularities in the relationship between the treatment of pension costs and the cost of capital in regulated industries, it appears to us that there are strong arguments to suggest that Ofcom should defer consideration of cost of capital impacts to its later consultation.

2.375. For the reasons given above, we do not consider that Ofcom has erred as claimed by CPW in §87.2 of the NoA.

Adjusting components to reflect short-term conditions

Assessment

2.376. Our conclusion is that Ofcom has not erred as claimed by CPW in §87.1 of the NoA.

2.377. CPW and Ofcom agree that the cost of capital (including the ERP and the debt premium) can be affected by changes in economic conditions. They disagree, however, on the extent to which recent events will have medium-term rather than short-term implications for the pricing of debt and equity finance. We consider CPW's arguments as set out in paragraph 2.292 as follows.

2.378. In paragraph 2.292*(a)*, CPW argued that selecting higher values for components was inappropriate as this could lead to countercyclical profits. We do not see this as a stand-alone argument, rather countercyclical profits would be the consequence of setting an incorrect cost of capital. Both Ofcom[380] and CPW agree that this would be undesirable.

2.379. Secondly, in paragraph 2.292*(b)* CPW argued that regulators should place greater weight on longer-term trends in the data. Our approach to this aspect of CPW's argument started with us considering what it is that a regulator is trying to do when it selects a rate of return for inclusion in the calculation of a company's price cap. To our mind, the objective is to match that rate of return as closely as possible to the expected cost of capital that is likely to prevail during the period covered by that cap. Such an approach has two important attributes: first, it strikes an appropriate balance between the interests of customers and shareholders in safeguarding against the emergence of supernormal and subnormal profits within each price control period; and second, it sends the company the right investment signals in that it neither over-rewards or under-compensates new capital expenditure.

2.380. In saying this, we see merit in terms of certainty and the minimization of regulatory risk in CPW's position as set out in paragraph 2.292*(b)* that in industries with long-lived assets regulators should take a long-term view of the cost of capital and adjust components only when they believe there has been a permanent shift in the pricing of risk.

[380]Ofcom response to the CC's questions of 19 February 2010: 'to the extent we ask ourselves what the relevant cost of capital is, we believe that we can avoid counter-cyclical profits'.

2.381. In this context, we consider CPW's argument that too much weight has been placed on market data at the time of the LLU Statement. On the debt premium, our analysis of the LLU Statement suggests that the regulator did evaluate the implications of the market crisis of 2008/09 on Openreach's likely borrowing costs over the price control period. Ofcom did not simply take the trading range in the spread (that it had observed prior to the LLU Statement)[381] of 400–450 bps above equivalent term gilt yields, but rather allowed for the possibility that financial markets would stabilize somewhat by allowing a debt premium at the top of a lower consultation range of 2 to 3 per cent. At the same time, Ofcom also clearly recognized that higher debt spreads (over gilt rates) were already apparent at the start of Ofcom's consultation process. It also dismissed data from the latest debt issuance (May 2008) as being out of date. In the circumstances that prevailed at that time, it does not seem unreasonable for a regulator to have taken note of this increase in debt spreads and to have considered it unlikely for rates to fall back to long-term average levels early in the (then) forth-coming control period. We consider whether Ofcom's assessment of the balance between market data and longer-term rates (in terms of the cost of debt) was appropriate in paragraphs 2.388 to 2.403, when we consider CPW's argument as set out in paragraph 2.292*(e)*.

2.382. As far as the ERP is concerned, it is conventional practice—including both the CC's and Ofcom's practice (see Appendix B)—to estimate the expected return on the market portfolio using evidence of out-turn stock market returns over long-term historical time periods. The logic behind this approach is that longer-term history provides the best guide as to the potential for equities to generate returns in the future with short-term changes, in both directions, being smoothed or averaged out. Accordingly, we consider that there is some merit in CPW's argument that a regulator should not move its position significantly on the ERP between two price-cap reviews.

2.383. In the LLU Statement Ofcom opted to use an estimate of the ERP at the very top of its consultation range of 4.5 to 5 per cent on similar grounds to its decision to move to the top of its consultation range for the debt premium—ie that there had been a re-pricing of risk that was not merely a short-term phenomenon (see paragraphs 2.282 and 2.318*(a)* above). It also argued for this position on the basis that in the presence of uncertainty, the downsides of setting the ERP too low were worse than the downside of setting the ERP too high—see paragraph 2.280 above. We see nothing objectionable in this approach, per se. However, we feel that Ofcom's assessment of the risk-free rate is an important input into the assessment of the ERP. We therefore evaluate the judgement that Ofcom made and CPW's criticism of that judgement when we consider point 2.292*(e)* in paragraph 2.387 below.

2.384. In paragraph 2.292*(c)*, we set out CPW's claim that the approach of other regulators (Ofwat was cited by Professor Franks in terms of its treatment of the ERP) did not support Ofcom's decision. In support of its argument, CPW highlighted the approach taken by Ofwat with regard to the estimation of the cost of debt. We do not see that either Ofcom or CPW can reasonably rely on decisions per se made by other regulators to support or attack Ofcom's approach, at least without setting out the rationale underlying such decisions.

2.385. Regarding CPW's argument as set out in paragraph 2.292*(d)*, we are not persuaded that CPW's argument as presented shows that Ofcom's approach would allow the BT Group to earn inappropriately high returns on its sunk investments. CPW cited a cost of debt of 8.1 per cent for the BT Group's fixed-rate debt; it also noted that over half of its total debt was not due for refinancing until after the price control had expired, ie

[381] See Appendix B.

was embedded for the period of the price control. It is therefore not clear why CPW considered the allowed cost of debt of a lower rate of 7.5 per cent in the price control to be too high.

2.386. We now consider CPW's argument in paragraph 2.292*(e)* that Ofcom was inconsistent in its treatment of the risk-free rate and risk premiums (both the ERP and the debt premiums). CPW placed emphasis on the inconsistency of the approach taken as the risk-free rate was not adjusted downwards in relation to short-term market conditions, whilst the ERP and the debt premium were both increased, and considered that this was analytically unsustainable.

2.387. In relation to the ERP, Ofcom's estimate of the real risk-free rate (2 per cent) and the ERP (5 per cent) combine to give an estimate for the real expected return on the market portfolio of 7 per cent.[382] CPW's estimates (of 2.25 and 4.75 per cent respectively) also combine to give an estimate for the expected return on the market portfolio of 7 per cent.[383] Accordingly, we are not persuaded that Ofcom's risk-free rate and ERP were inconsistent with each other or that Ofcom placed too much weight on short-term market data when making its decision.

2.388. We now review CPW's argument concerning inconsistency in Ofcom's approach to assessing the cost of debt. Before assessing CPW's argument, we found it useful to refer to the LLU Statement.[384] We noted that in arriving at its debt premium of 3.0 per cent Ofcom made the following points: '… this is a time of volatility and uncertainty in credit markets, and this uncertainty is reflected in corporate bond yields, which have remained very high over the last year'; '… BT debt is currently trading at 400–450 basis points above equivalent gilt yields'; '… the observed 450 basis point spread … includes at least some element of a liquidity premium'; '… we note that the current high levels of corporate debt spreads are unlikely to endure for the period of the charge control, and we are comfortable with an estimated debt premium for BT below this level'; 'As a result, the continued high levels of corporate bond spreads leads us to select a debt premium for BT at the very top of our [consultation] range, i.e. 3%.'

2.389. Having assessed the debt premium to be 3.0 per cent, Ofcom then added it to its risk-free rate of 2.0 per cent (real) and its inflation rate estimates to give a nominal cost of debt of 5.0 per cent in year 1 and 7.5 per cent in year 2 of the price control.

2.390. CPW argued that Ofcom's approach led to it allowing a cost of debt that was higher than the BT Group's actual cost of debt at the time of the decision. Mr Wright's analysis[385] for CPW suggested that the cost of the BT Group debt at May 2009 was 6.66 to 7.16 per cent—see Table 2.5.[386]

[382]Expected return on the market can be calculated from Ofcom's estimates in Table 1 of risk-free rate and ERP. The sum of these components is 7 per cent (real).
[383]CPW W/S Francis I §84 Figure 7.
[384]LLU Statement §§A8.112–8.127.
[385]Mr Wright's analysis showed his view of the implied yields on the BT Group's debt at the points in time for which Ofcom's LLU Statement cited the spread on the BT Group debt. He used Bank of England five-year par yield monthly average figures in his analysis.
[386]CPW W/S Wright III §11.

TABLE 2.5 **Mr Wright's analysis of the implied BT yield**

	*Gilt yield** %	*Spreads* bps	*Implied BT yield* %
June 2008	5.24	155†	6.79
May 2009	2.66	400–450	6.66–7.16
June 2009‡	2.89	344§	6.33

Source: CPW W/S Wright II §11.

*The gilt yields are monthly average figures from Bank of England five-year par yield estimates.
†Issue of a seven-year bond.
‡We note that the June 2009 data was not available to Ofcom at the time of the LLU Statement.
§Issue of a five-year bond.

2.391. We also note from the LLU Statement that Ofcom considered the spot rate cost of the BT Group's debt on 23 April 2009 to be 7.2 per cent.[387]

TABLE 2.6 **Spot rate assumptions for Openreach's WACC**

per cent

	Nominal risk-free rate	*Debt premium*	*Cost of debt (pre-tax)*
23 April 2009	2.7	4.5	7.2

Source: LLU Statement Table A8.6.

2.392. We agree with CPW that Ofcom's cost of debt assumed in the LLU Statement for year 2[388] of the charge control of 7.5 per cent appears to be higher than the estimates in Tables 2.5 and 2.6, and this appears to be inconsistent with Ofcom's stated view that debt spreads would come down over the period of the price control. This inconsistency in the logic of Ofcom's decision appears to result from what CPW termed the 'pick-'n'-mix' approach whereby Ofcom added a nominal gilt yield to a debt premium, each estimated at different points in time or over different time intervals.[389] As CPW pointed out, Ofcom's procedure took account of movements in spreads[390] but treated the risk-free rate as a constant and ignored the possibility that the risk-free rate and the debt premium might contemporaneously move in opposite directions.

2.393. As an example of this, the data in Table 2.5 suggests that between June 2008 and May 2009 the nominal gilt yield declined whereas the premium on the BT Group debt increased. The data in Table 2.5 suggests that the BT Group's cost of debt was relatively stable between June 2008 and May 2009. If, however, the debt premiums were added to a constant long-term estimate of the risk-free rate (instead of the nominal gilt yields in the table), the resulting figures would show a rising cost of debt during this period.

2.394. This demonstrates that focusing on the spread alone and not assessing the spread in conjunction with the risk-free rate prevailing at the same time could lead to a mis-

[387]Annexes to LLU Statement Table A8.6, p173.
[388]We note that in year 1 Ofcom estimated a cost of debt of 5 per cent nominal as its nominal risk-free rate is 2 per cent, coupled with a debt premium estimate of 3 per cent.
[389]Such an approach could also affect the estimate of the cost of equity if long-term ERP is added to short-term risk-free rate or vice versa. In the LLU Statement, this is unlikely to be a serious problem since both the ERP of 5 per cent and the real risk-free rate of 2 per cent determined by Ofcom are relatively long-term estimates. Further, the overall real market return implied by the Ofcom estimates is 7 per cent and that implied by CPW's estimate of 4.75 per cent for ERP and 2.25 per cent for real risk-free rate is also 7 per cent. Thus the two estimates are not far apart because of the long-term nature of these estimates, as noted in paragraph 2.387.
[390]CPW W/S Wright III §11.

statement of the cost of the BT Group's debt. In this case, it appears that the source of the apparent overestimate in Ofcom's calculation is not a miscalculation of the debt premium per se but a result of overlooking the pattern of opposing movements in the risk-free rate and debt premium in the relevant estimation period.

2.395. We consider a relevant question to be whether there is internal consistency between Ofcom's forward-looking risk-free rate estimate of 2 per cent and its forward-looking debt premium estimate of 3 per cent (and possibly also Ofcom's accompanying inflation forecasts). Ofcom was aware of the increase in corporate spreads and decline in gilt rates during its consultation period—see paragraphs 2.265*(a)* and 2.267. Ofcom's estimates are respectively higher than the observed real risk-free rate and lower than the observed debt premium, at the time of the LLU Statement. In addition, it outlined what appears to be a clear rationale for expecting gilt yields to increase (see paragraph 2.270*(a)*) and corporate debt spreads to fall over the control period (see paragraph 2.273). This implies that Ofcom has taken some account of the possibility of the risk-free rate and debt premium moving in opposite directions. However, given the calculations in Tables 2.5 and 2.6 indicating that the BT Group's cost of debt at the time of the LLU Statement was lower than 7.5 per cent, this possibility does not appear to have been adequately factored into its decision.

2.396. Ofcom's response to the FRG advice (see paragraph 2.320) reiterated its view that the quality of the data used in assessing components was important in its assessment. Whilst we agree that data quality is important, we consider that an appreciation of the overall level of the cost of debt is also important when estimating the cost of capital and not just a focus on the component parts. We consider that such an appreciation would have pointed to the inconsistency between Ofcom's stated aim of adjusting the (then) current yield on BT debt and its forecast being higher than that yield.

2.397. In summary, on the basis of the above, we accept CPW's argument that Ofcom's approach was inconsistent and led to a cost of debt being assessed for year 2 that was higher than Ofcom's own view of the BT Group's cost of debt at the time of the LLU Statement. This was inconsistent with Ofcom's stated view that the cost of debt was likely to fall across the price control period from the cost of debt observed in May 2009.

2.398. Having established a fault with Ofcom's approach, we then considered whether this had resulted in a miscalculation of the cost of debt. As stated above in paragraphs 2.380 and 2.396, we consider that in assessing the cost of debt, Ofcom should have had regard to historic rates as well as spot rates and should have had regard to the overall level of the cost of debt as well as its component parts. We apply these principles in the assessment that follows.

2.399. BT commented (see paragraph 2.336) that any apparent inconsistency in Ofcom's approach would not cause bias in the results, because the overall cost of debt allowed by Ofcom was consistent with observed yields on the BT Group's bonds at the time of the determination (7.7 to 7.9 per cent[391]).

2.400. To explore the question further, in view of the differences between the estimates of the BT Group's cost of debt at the time of the LLU Statement produced by CPW, Ofcom and BT, we asked BT to provide further information about its bond yields to provide context for its statements about the BT Group's trading yields as at May

[391]In support of the trading yield of 7.7 to 7.9 per cent cited by BT, BT provided a simple average of the most liquid bonds with maturity greater than five years but less than 15 years. 7.9 per cent represented the average spot yield on 23 April 2009 and 7.7 per cent represented the one-month average between 22 April 2009 and 21 May 2009.

2009. BT said that its assessment of 7.7 to 7.9 per cent was based on a simple average of six listed bonds representing [✂] per cent of the BT Group's total listed debt issuance with maturities of between 5 and 15 years. It said that it had selected these bonds as they were liquid and avoided distortions at the short and long end of the yield curve. On a weighted average[392] basis, the numbers were [✂] to [✂] per cent. BT also provided an assessment of the average trading yields of all its traded debt as at May 2009 of [✂] per cent on a one-month trailing average and [✂] per cent on a spot basis. It also provided a three-year trailing average yield of [✂] per cent. [✂] Table 2.7 summarizes the various estimates.

TABLE 2.7 **Weighted average redemption yields on BT bonds**

per cent

	Spot 23/04/2009	*1-month average 22/4/09–21/5/09*	*3-year average 22/5/06–21/5/09*
BT selected portfolio 5–15 yrs*	[✂]	[✂]	[✂]
BT sterling bonds	[✂]	[✂]	[✂]
All BT bonds†	[✂]	[✂]	[✂]
Cost of cross-currency swaps‡	[✂]	[✂]	[✂]
Total all BT bonds	[✂]	[✂]	[✂]

Source: BT and CC calculations based on BT data.

*A portfolio of bonds of maturities between 5 and 15 years representing [✂] per cent of total BT bond debt.
†Liquid bonds representing approximately 90 per cent of BT bond debt.
‡[✂]

2.401. We consider it preferable to assess the yield on the BT Group's debt based on as representative a sample as possible. The BT Group's sterling bonds account for a relatively small proportion of its total debt. However, we acknowledge that the inclusion of foreign currency denominated debt in the sample is complicated by the need to consider the cost of currency swaps. We note that BT's estimate of 7.7 to 7.9 does not appear to have factored in a currency swap cost despite including US$ and Euro denominated bonds in the sample. For these reasons, we attach more weight to the estimates including currency swap costs for all the BT Group bonds shown in the final row of Table 2.7.

2.402. Further, in accordance with the principles set out in paragraph 2.398, we believe that it is right to take some account of yields over a longer-term period, particularly given the unprecedented market turbulence at the time of the LLU Statement. We asked BT to provide data on the three-year average yields because this period reflects both 'normal' market conditions and the credit crisis with a slightly higher weighting towards crisis conditions.[393] In particular, it includes the rates prevailing in April and May 2009. We believe that this is consistent with Ofcom's stated aim of giving more weight to the historic averages but also some weight to recent market conditions. However, the choice of the appropriate time period is a matter of judgement in the particular circumstances of the case and we recognize that the use of alternative periods or weightings might also be justified. Ofcom had no means of predicting how long the debt markets would take to stabilize or at what level the post-crisis equilibrium would be. We do not suggest that Ofcom should have anticipated rates to return to pre-crisis levels during the price control period. It is our view that in the absence of any other information on how to weight historic and market conditions, and taking into account the market turbulence at the time of the LLU Statement, a reasonable

[392]BT calculated the weighted average based on the face value of each bond.
[393]Assuming the start of the credit crisis to be August 2007. The period between 22/5/06 and 22/5/09 therefore contains approximately 15 months of pre-crisis conditions and 21 months of crisis conditions.

assessment of the forward-looking cost of debt at the time of the decision would have been around 7.0 per cent.[394]

2.403. Considering the cost of debt on a component basis, given Ofcom's estimate of the real risk-free rate of 2 per cent, in our view a reasonable assessment of the debt premium would be around 2.5 per cent. We consider that any adjustment to be made to the debt premium as a result of our findings would equally apply to the debt premium in year 1 and year 2.

2.404. For the reasons set out above, we are satisfied that CPW has shown that Ofcom miscalculated Openreach's debt premium as argued in §87.1 of the NoA. Having regard to the evidence of trading yields on BT's debt, and in particular to the three-year historic average and taking into account the cost of swaps, it is our view that Ofcom's assessment of the debt premium was overestimated by around 0.5 per cent.

2.405. If Ofcom's estimate of BT's cost of debt in year 2 (7.5 per cent) was replaced with a figure 0.5 per cent lower (7.0 per cent) and BT's WACC mechanically adjusted, then the resultant figure would be reduced by 0.1 per cent from 10.1 to 10 per cent. This is because debt represents only 35 per cent of BT's capital structure and because Ofcom rounds WACC estimates to the nearest 0.1 per cent.[395]

2.406. However, we have concluded that it would be wrong to restate the WACC mechanically. This is because the estimation of the cost of equity, which dominates the overall calculation of the WACC, has a significant margin of error. Having regard to the relatively small difference between the resultant estimate of BT's WACC and Ofcom's estimate, and having regard to the inherent imprecision of the calculation of the WACC, particularly where the cost of equity is a substantial part of the WACC, we do not consider that the WACC can be said to have been misstated by virtue of the mistake in calculation that we have identified. We do not think that this miscalculation, on its own, has led to Ofcom setting a WACC that could be said to be in error.

2.407. In response to our provisional determination, CPW described our approach as balancing our finding that the cost of debt had been overstated with a view that the cost of equity was more likely to be too low than too high.[396] Further, it said that our recent provisional determination in the Bristol Water price determination reference[397] implied that the cost of equity for Openreach was at the very top of the range we would consider appropriate.[398] It said that this undermined our approach of not adjusting down the WACC to reflect Ofcom's miscalculation of the cost of debt.[399] We do not accept this characterization and note the following:

(a) The cost of equity incorporates both general market elements and Openreach's beta and gearing. Based on the arguments presented in the LLU Appeal we assessed Ofcom's estimates of both the return on the market and Openreach's beta to be appropriate. We did not find a specific error on the cost of equity. However, we do consider that there is a significant margin of error in any estimate of the cost of equity.

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[394] On a nominal basis assuming 2.5 per cent inflation.
[395] With a cost of debt of 7 per cent the WACC would be 9.94 per cent (to two decimal places); whereas with a cost of debt of 7.5 per cent as in the LLU Statement, the WACC would be 10.12 per cent (to two decimal places). The difference therefore is 0.18 per cent .
[396] CPW response to provisional determination §68(a).
[397] *Bristol Water plc: Determination on a reference under section 12(3)(a) of the Water Industry Act 1991*. See www.competition-commission.org.uk/inquiries/ref2010/bristol/index.htm. The CC submitted its final determination to Ofwat for this price determination reference on 4 August 2010.
[398] CPW response to provisional determination §85.
[399] CPW response to provisional determination §85.

(b) CPW argued that our provisional findings in the Bristol Water price determination reference suggested that 7 per cent was the upper limit that we would accept for the market cost of equity.[400] We do not consider our findings in the Bristol Water price determination reference to be directly applicable to the LLU Appeal. The nature of the LLU Appeal requires us to assess the merits of the arguments presented and not to undertake our own independent estimation of Openreach's cost of capital. Moreover, the reference from the Tribunal requires us to assess whether Ofcom erred in its decision making as at May 2009, whereas the CC's determination of the cost of capital for the Bristol Water price determination reference was made at August 2010. We note that the market circumstances have changed over this period and that Ofcom's assessment of the cost of capital was made at a time of unprecedented volatility and increased uncertainty in the capital markets.

(c) The estimation of WACC takes into account a number of factors with varying margins of error; in this context we find a 0.1 per cent difference in the overall estimation to be within the margin of error associated with the determination of the WACC.

2.408. CPW made a further comment, as set out in paragraph 2.292*(f)*, that Ofcom's account of its previous decision to revise the ERP downwards was incorrect. Ofcom disputed this, considering the 2005 and 2009 decisions to have been consistent in terms of consideration of prevailing market conditions (see paragraph 2.318*(a)*). We are not persuaded by the evidence presented that Ofcom was inconsistent in its approach; whilst the written explanation given in 2005 may not have detailed Ofcom's rationale in full, the outcome has not been shown by CPW to be inconsistent with the approach adopted in 2009.

2.409. We consider CPW's arguments in relation to investment incentives in paragraph 2.292*(g)*; we consider that these do not merely pertain to the weight placed on short-term data but also relate to the accuracy of Ofcom's estimates across the cost of capital calculation.

2.410. We note CPW's arguments here but do not consider there to be compelling evidence that Ofcom has sought to allow Openreach excessive returns in order to stimulate investment. Rather, we consider that Ofcom was mindful of the need to induce Openreach to make efficient rather than inefficient investments—see paragraphs 2.283 and 2.318*(b)*. For this reason, we suggest that CPW's contentions are not a separate point from its more general concerns about Ofcom's calculations of each cost of capital component.

2.411. In paragraph 2.292*(b)*, we set out CPW's argument that the objective was to estimate a cost of capital for 2012/13 rather than estimate the cost of capital for the period May 2009 to March 2011 as Ofcom had done. Ofcom's approach had been to use a glide path to ensure less disruption as sudden changes to revenues and costs were smoothed. The use of a glide path also increased cost minimization incentives by allowing BT to keep the benefits of efficiency gains for a period of time. CPW agreed with this approach[401]—in particular, estimating cost benchmarks for 2012/13 and then applying a glide path to determine prices in intervening years. With regard to cost of capital, Ofcom has not attempted to estimate a cost of capital for 2012/13. Rather for the purposes of the glide path, it has applied a 2010/11 cost of capital in

[400] CPW response to the provisional determination, §§82–85.
[401] We note that CPW has raised specific arguments concerning the glide path Ofcom has used. We assess these in our determination of Reference Question 3.

all subsequent years and said that it would adjust the cost of capital when price caps were reviewed in 2010/11.

2.412. It is our view, however, that this is not inconsistent with the principles underlying the use of glide paths. In particular, Ofcom's approach would not undermine incentives as the cost of capital is largely driven by exogenous factors; any consequential adjustment to the glide path will not reflect Openreach's performance and should not distort incentives to reduce costs. With regard to disruption of prices/revenues, we note that the cost of return on capital is only one of number of inputs to price control.

2.413. In paragraph 2.292*(b)*, we set out CPW's further argument that it was best practice and a matter of regulatory orthodoxy to set a cost of capital that reflected the long-term average. As noted in paragraphs 2.379 and 2.380 above, we consider that a balance needs to be struck in assessing the cost of capital for the regulatory period. We acknowledge the merits of adjusting components only where there has been a long-term change in the pricing of risk but also recognize that regulators must balance this against the need to incentivize efficient investment.

2.414. For the reasons given above, our conclusion is that Ofcom has not erred as claimed by CPW in §87.1 of the NoA.

Debt premium technique

Assessment

2.415. Our conclusion is that Ofcom has not erred as claimed by CPW in §87.4 of the NoA.

2.416. CPW argued that Ofcom had failed to exploit available data to estimate an appropriate debt premium for Openreach. While CPW has presented an alternative approach (see paragraph 2.295), which it considered would allow estimation of a debt premium in isolation from the rest of the BT Group, we have several reservations about CPW's suggested approach. These shortcomings may be summarized in two categories as follows:

(a) The first considers estimation issues with the approach:

(i) Openreach is not a listed entity and therefore assumptions will need to be made about the likely volatility of its stock. The Minardi et al model reveals this to be a particularly important explanatory variable and so the predicted rating would be dependent on a parameter estimated with a good deal of uncertainty.

(ii) Openreach does not have its own debt and therefore a judgement will still need to be taken as to the amount of the BT Group debt attributable to Openreach.

(iii) It is not clear whether the classification rates quoted are based on out-of-sample tests; this would give them more credibility.

(iv) The outcome of the model is an estimate of the credit rating. This will need to be translated into a debt premium. The relationship between debt premium and credit rating is not straightforward; it varies by company and industry.

(b) The second considers more general issues:[402]

(i) The relevance to UK companies and UK regulation in particular has not been articulated by CPW. As Minardi et al note:

> One limitation of the methodology developed here is that we did not include in the analysis country risk. As the companies became more global, it should be interesting to consider the impact of multinationals business units. This is a possible expansion of this work, and it would be necessary to collect issuer's ratings from companies around the world and control for the countries' effects.

2.417. It appears that the approach suggested by Mr Wright based on Minardi et al presents several significant practical issues and has not been shown to be robust in relation to UK data. It is not clear that its application would lead to a superior estimation of the debt premium than Ofcom's stated methodology or that Ofcom not using Minardi et al's framework means that it has failed to exploit fully available data.

2.418. For the reasons given above, our conclusion is that Ofcom has not erred as claimed by CPW in §87.4 of the NoA.

WARA

Assessment

2.419. Our conclusion is that Ofcom has not erred as claimed by CPW in §86 of the NoA.

2.420. CPW argued that Openreach's cost of capital would lie in a range between 8.7 and 9.1 per cent—see paragraph 2.285. The 8.7 per cent was calculated using a WARA approach. We view this methodology as a variation of the CAPM whereby the return is estimated based on the market return and an additional risk factor based on the proportion of intangible assets in the business. As such, we consider it to have similarities to other multi-factor models such as the Fama-French three-factor model.

2.421. We note that multi-factor models of this type are not typically used for cost of capital estimation in UK regulation. Previous CC reports have, for example, stated that at present such models lack a truly comprehensive theoretical justification and their predictive power has not been adequately demonstrated in the UK.

2.422. In addition, we question the robustness of the approach taken in Mr Morris's analysis. A very short run of data is employed, over a particular point in the economic cycle, and no attempt is made to control for possible confounding factors such as size and estimation errors in the beta coefficients. Very little detail is provided on the underlying statistical analysis and as such there is little basis on which we can judge the reliability of the evidence provided.

2.423. BT[403] presented strong arguments that there were a number of specific issues with the WARA approach, most importantly that:

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[402] We also note that the paper—whilst publicly available—has not yet been published in a journal and hence has not been peer reviewed. This was confirmed by CPW's response to the CC's questions of 19 February 2010 Q21.1.
[403] See BT W/S Firla Cuchra.

(a) in practice, intangible assets were not a well-defined homogeneous group which could be viewed as having a similar level of risk; and

(b) there was no sound economic theory for ascribing a separate rate of return to this asset class as they generated returns only in conjunction with other asset types and not separately.

2.424. For the reasons given above, we do not consider that Ofcom has erred as claimed by CPW in §86 of the NoA.

Determination in respect of Reference Question 1(ii)

2.425. Our determination for Reference Question 1(ii) is as follows: for the reasons given above (see paragraphs 2.341 to 2.424), our determination is that Ofcom has not erred in its assessment of the cost of capital for Openreach as claimed by CPW in §§85–87 of the NoA.

Reference Question 1(iii): Cost allocation

2.426. This section sets out our conclusions as to whether Ofcom erred in its assessment of cost allocation for the reasons set out in §91 of the NoA.

2.427. For the reasons given below in paragraph 2.643, our determination is that Ofcom has not erred in its assessment of cost allocation as claimed by CPW in §91 of the NoA.

Reference Question to answer

2.428. Reference Question 1(iii) states:

> (1) Whether the price controls imposed by Condition FA3(A) on BT have been set at a level which is inappropriate because OFCOM erred in estimating BT's efficient costs in 2012/13 for metallic path facility rental ("MPF"), shared metallic path facility rental ("SMPF") and associated ancillary services ("ancillary services") in one or more of the following respects:
>
> …
>
> (iii) OFCOM erred in the allocation of costs as between Openreach and BT's other business activities for the reasons set out in paragraph 91 of the Notice of Appeal;

2.429. §91 of the NoA concerns Ofcom's approach to the allocation of costs between the BT Group and Openreach and, within Openreach, the allocation of costs between the core rental services (CRS) and non-regulated services.

Summary contents of this determination

2.430. This determination is structured as follows:

- First, we consider Ofcom's assessment of cost allocation in the LLU Statement in paragraphs 2.431 to 2.455. This section comprises three parts: a general overview of cost allocation within the context of this price control (paragraphs 2.431 to 2.441); an outline of Ofcom's approach to allocating costs, the methods of allocation used and the initial misunderstanding by CPW as to how certain costs had been forecast and allocated (paragraphs 2.442 to 2.453); and finally an overview of Ofcom's position (paragraphs 2.454 to 2.455).

- Second, we consider CPW's case (paragraphs 2.456 to 2.512), Ofcom's Defence (paragraphs 2.513 to 2.540), and the arguments of the Interveners (paragraphs 2.541 to 2.573).

- Third, we explain our assessment of the issues in dispute in paragraphs 2.574 to 2.642.

- Fourth, we make our determination in respect of Reference Question 1(iii) in paragraph 2.643.

Ofcom's assessment of cost allocation in the LLU Statement

Overview

2.431. In setting the LLU price controls, Ofcom was concerned to ensure that prices paid for MPF and SMPF reflected the efficient cost of their provision. Ofcom had therefore to determine the costs incurred by Openreach in providing those services. Not all the costs incurred by Openreach in the provision of MPF and SMPF will be incurred solely for the purpose of supplying those services and some apportionment of costs between these and other services will be required. Further, some of the costs of providing MPF and SMPF may not be incurred directly by Openreach at all. Such costs lie in other parts of the BT Group (the BT Group or BT), being either costs incurred where a particular function is discharged centrally by BT on behalf of a number of operating divisions (for example, where there is a shared resource) or costs that reflect the allocation of certain tasks within the BT Group to specific operating divisions. An example of the former would be 'group headquarters' (Group HQ) activities such as legal, tax and treasury operations that are undertaken centrally.[404] An example of the latter is the maintenance of vans used by Openreach engineers, the cost of which is met in the first instance by a cost centre in the BT Group called BT Fleet.[405] To establish the cost of providing MPF and SMPF services, some part of the costs of the Group HQ and BT Fleet have to be apportioned first to Openreach and then within Openreach to the services in question. Ofcom terms these apportionments from the BT Group to Openreach 'transfer charges'.

2.432. In assessing the costs of providing MPF and SMPF services, Ofcom assessed Openreach's own estimates of the costs and revenues of the CRS for the period to 2012/13.[406] This included a forecast of the costs that would be incurred directly by Openreach and of the transfer charges from the BT Group. Ofcom then assessed the cost projections for WLR, MPF and SMPF.

2.433. CPW's challenge was concerned primarily with transfer charges, but there were criticisms of the allocation of costs within Openreach itself. CPW also criticized Ofcom's assessment of the overall level of cost incurred by Openreach in providing WLR, MPF and SMPF.[407]

2.434. There are costs within the BT Group that are demonstrably costs incurred either wholly or partly on behalf of Openreach and which must properly be reflected in the regulated prices for MPF and SMPF. The allocation of costs to Openreach where a clearly identified amount of costs can be allocated on the basis of usage or causation is relatively straightforward. However, where usage or causation cannot clearly be identified, or where the quantum of costs to be allocated is less clear, allocation can be more difficult. The quantum may be unclear for many reasons, the most likely of which being that there is doubt whether a particular type of cost can properly be said to have been incurred for a particular purpose, or doubt as to the amount of the cost that can be said to have been incurred for that purpose. In addition, cost allocation in setting a price control involves making projections of the level of transfer costs that will be incurred in future. In Annex 6 to the LLU Statement, transfer charges are projected until 2012/13. It would be wrong to ask for more precision in cost allocation than cost allocation is capable of giving. One consequence of this imprecision is that there may very well be occasions when a regulator will have to decide whether,

[404] LLU Statement §A6.133.
[405] Ofcom Defence Annex C §1.
[406] LLU Statement, Annex 6.
[407] CPW NoA §91.1 is concerned with Ofcom's overall approach to the assessment of costs incurred by Openreach and CPW. NoA §91.11 is concerned with the allocation of costs between CRS and non-regulated services within Openreach.

notwithstanding some uncertainty about the amount or type of costs to be allocated, the expense and effort of further analysis or investigation can be justified having regard to the degree, if any, of greater certainty that will result. This is a problem that Ofcom has encountered in relation to some of the aspects of its cost allocation that are now in dispute. Nonetheless, it remains the case that if too much cost is allocated from the BT Group to Openreach by way of transfer charges, services provided by Openreach will not be provided at efficient prices.

2.435. In §A6.141 of Annex 6 to the LLU Statement, Ofcom identified five categories of group costs, and consequent bases of allocation, where transfer charges would be made. These were:

(a) costs incurred specifically for Openreach and allocated directly to Openreach;

(b) costs incurred by the BT Group and allocated to Openreach based on actual usage;

(c) costs incurred by the BT Group and allocated to Openreach on a basis clearly linked to the cause of the cost;

(d) costs incurred by the BT Group and allocated to Openreach by a combination of direct allocation and indirectly by full-time employee headcount; and

(e) costs incurred by the BT Group and allocated to Openreach on several potential bases.

2.436. Ofcom considered that by breaking down transfer costs and their allocation in these ways, the scope for misallocation of costs from the BT Group to Openreach was significantly reduced.[408] Ofcom described the first four of these methods of allocation as 'reasonable in that there does not appear to be any obviously better allocation methodology'.[409] It described the fifth method as 'justifiable'.[410]

2.437. It is apparent that some of these bases of allocation allow little scope for judgement because the costs in point are directly incurred on Openreach's behalf, or on behalf of other operating divisions, or the actual usage is clearly linked to the cause of the cost. But this is not always the case. While cost allocation is not the sort of exercise where there can always be said to be only one right answer, some methods of allocation will suit some purposes better than others and reasoned judgements can be made.

2.438. In our view, the allocation of costs in category *(e)* present the greatest need for the exercise of judgement. Costs that can be linked to, and allocated on the basis of, a clear cost driver as in *(a)* to *(c)* (and to an extent *(d)*) require less judgement.

2.439. Of the category *(e)* costs,[411] it is the allocation of corporate overheads that is challenged specifically in the LLU Appeal. But there are also challenges to Ofcom's forecast of cumulo rates payable (which represents a transfer charge from the BT Group to Openreach) and, as noted in paragraph 2.433, challenges based on the costs incurred by Openreach on behalf of the BT Group, as well as a dispute about

[408] LLU Statement §A6.142.
[409] LLU Statement §A6.142.
[410] LLU Statement §A6.143.
[411] The category *(e)* costs are stated to include accommodation (allocated on the basis of floor costs), corporate overheads (allocated in proportion to previously allocated costs) and insurance charges (allocated on the basis of head count)—see LLU Statement §A6.141.

the allocation of costs between regulated and unregulated services within Openreach.

2.440. It is almost inevitable that there will be different ways of allocating costs incurred centrally. Different methods of allocation may well differ in their consequences.

2.441. In reaching its conclusions on the allocation of transfer charges to Openreach, Ofcom placed weight on a review by KPMG called the *Review of Openreach Allocation Methodologies*[412] (the KPMG report) as well as on consistency with BT Group's regulatory financial statements (RFS), and upon what seemed a reasonable and unbiased basis.[413] However, Openreach's own cost estimates, and the allocation bases adopted by the BT Group, have been substantially relied upon. In its Defence, Ofcom pointed to the auditors' (PwC) report on the BT Group's RFS as further assurance.[414]

Ofcom's approach

2.442. Annex 6 of the LLU Statement set out Ofcom's approach to determining the unit cost of the regulated services and its conclusions on the key assumptions in these cost calculations. Ofcom used cost estimates provided by Openreach at Ofcom's request as the starting point for its own financial analysis.

2.443. Openreach's internal forecasts were developed within the 'CF Forecast' model and then allocated within Openreach through the Oak Model; these started with 2007/08 data and forecast unit cost projections for Openreach products including CRS to 2012/13. The input or 'base year' data in the models has not been audited. It differs from the RFS (which are audited) for a number of reasons including its treatment of the RAV; its treatment of costs such as pensions, the light user scheme and costs associated with Openreach in Northern Ireland; and one-off current cost accounting (CCA) adjustments. In 2007/08, certain MPF sales within the BT Group were not reported in the RFS.

2.444. In the LLU Statement, Ofcom set out a reconciliation (provided by Openreach), which explained the differences between the 2007/08 RFS and the base year data used in Openreach's internal forecasting models that formed the basis of Ofcom's cost modelling.[415]

2.445. The cost allocation methods used in the RFS are as described in BT's Statement of its Detailed Attribution Methods (DAM). In using the base data provided by BT (indeed in using either the data in the Openreach internal forecasting models or in the RFS), Ofcom will have needed to determine whether the allocation method used was appropriate for the purposes of the price control. In doing so, we consider that Ofcom would have found it necessary to balance the benefits of analysing the data at a more detailed level than the RFS/internal forecasts and the costs in terms of time and effort required to do this. A deeper and more complex method of cost allocation (either in terms of identification of cost driver or the extent of analysis of relevant costs) may not always yield a significantly different or better result.

[412]LLU Statement §A6.123.
[413]LLU Statement §§A6.122 & A6.123.
[414]Ofcom Defence Annex C §9.2.
[415]LLU Statement §A6.278.

Transfer charges in the LLU Statement

2.446. In Annex 6 of the LLU Statement, Ofcom stated the projected transfer costs for the period to 2012/13 as provided by Openreach. These were estimated as £1,196 million in 2009/10 and £1,216 million in 2010/11, rising to £1,241 million in 2012/13. The biggest items of transfer charge were: cumulo rates; charges for the maintenance and support of computer systems known as 'BT Design'; corporate overheads (including BT Group's allocation of central accommodation costs, empty office space, Group HQ costs, Group CTO and overheads from BT Design also known as 'One IT' overheads); accommodation costs including property rentals and facilities management; and a miscellaneous 'other charges' category. We understand this last category to comprise BT Fleet, insurance, supply chain and other charges.[416]

Transfer charges—forecasting

2.447. There are two points related to Ofcom's methodology that we should mention at this stage. First, as noted above, Ofcom had to assess the level of transfer charges from the BT Group to Openreach in 2012/13 and in each year in between. CPW's initial understanding was that the proportion of total BT Group transfer charges to be allocated to Openreach was identified in 2009/10[417] and then applied consistently to each succeeding year of the price control. At CPW's bilateral hearing, Mr Heaney described his revised understanding as to the base year relied on by Ofcom:[418] 'My understanding of the way the model has been done is that it takes the share of FTEs and assets in 08/09, allocates a percentage to Openreach and applies that percentage in every single year'.

2.448. It was not obvious to us why the percentage in 2009/10 or 2008/09 was the relevant figure when the input figures in the models were 2007/08 figures. Ofcom subsequently described its approach in these terms:[419] it determined an allocation of transfer charges to Openreach in 2007/08 and then forecast these costs at the Openreach level using relevant inflation and efficiency assumptions. It had not therefore estimated the proportion of the BT Group costs in 2009/10 that should be allocated to Openreach and had not forecast the total BT Group costs. Ofcom considered that the proportion of the BT Group costs allocated to Openreach in the years after 2007/08 should not change.

2.449. Thus whilst forecasting the year-on-year changes in transfer charges at an Openreach rather than at the BT Group level, Ofcom assumed that the proportion of each type of common cost properly transferred to Openreach from the BT Group was constant over the period of the price control.

Corporate overhead allocation—methodology

2.450. Secondly, there has been some lack of clarity throughout the course of the LLU Appeal as to how corporate overheads have been allocated. The LLU Statement described the allocation of corporate overheads as being 'in proportion to previously allocated costs'.[420] We do not consider this statement to be entirely clear. However, the LLU Statement also stated that 'Group HQ, Group CTO and BT Design overheads are allocated on a full time employee basis whereas group accommodation

[416] LLU Statement §A6.133 and Table A6.5.
[417] CPW NoA §91.12.
[418] CPW hearing transcript p64, lines 15–22.
[419] Ofcom response to CC letter of 15 March 2010.
[420] LLU Statement §A6.141.

and empty office space are allocated on the proportion of space already allocated in accommodation'.[421] This is consistent with the KPMG report and Ofcom's Defence explained that this was the basis of allocation adopted.

2.451. In its NoA,[422] CPW stated that corporate overheads had been allocated on the basis of employee costs and assets. CPW's view was based on the work of Mr Kelly,[423] who stated that:

(a) it was not clear what the LLU Statement meant when it described corporate overheads as being 'allocated in proportion to previously allocated cost';[424]

(b) the KPMG Allocation Methodologies Report stated that corporate overheads (other than property) had been allocated in proportion to FTEs;[425] and

(c) his review of the allocation methods used in the RFS suggested that corporate overheads had been allocated on the basis of pay costs and net book asset values as cited in BT's DAM.[426]

2.452. Mr Kelly and CPW appear to have relied primarily on the RFS and DAM in formulating this assessment of Ofcom's cost allocation.

2.453. Having had access to the models used by Ofcom, Mr Kelly accepted that costs had been allocated on the basis of FTEs for Group HQ, Group CTO and BT Design overheads and that group accommodation and empty office space was allocated on the basis of the proportion of space already allocated in accommodation.[427]

Ofcom's position—overview

2.454. The LLU Statement does not address cost allocation or transfer charges in particular detail. Some further detail is found in Annex C to Ofcom's Defence. Points arising from Annex C are for the most part discussed in paragraphs 2.514 to 2.517 below. It is right that we should pick out two points made by Ofcom in relation to cost allocation and cost forecasting here because they provide important context for many of the points taken in the LLU Appeal. First, Ofcom quite rightly emphasized that the existence of alternative methods of allocation did not mean that chosen methods were inappropriate.

2.455. Secondly, in §§12 to 17 of Annex C to the Defence, Ofcom made a series of points explaining why it relied on BT's cost forecasts for Openreach rather than on its own assessment based on input figures from the BT Group's audited RFS. In summary, Ofcom's argument was that, at the time that the price controls were determined, the most recent available RFS were those for 2007/08. However, Ofcom's focus was on the years to 2012/13. The choice that confronted Ofcom was between starting with the RFS and then modelling changes to them, or obtaining BT's own projections and adjusting them. Ofcom adopted the latter approach, emphasizing in Annex C two considerations: first, the inherent difficulty of the forecast it had to make and the additional complications of the possibility of significant market change in the price control period; and secondly, the importance of BT's vantage point in relation to its

[421] LLU Statement §A6.133.
[422] CPW NoA §91.3.
[423] CPW W/S Kelly I.
[424] CPW W/S Kelly I §§4.4.5 & 4.4.6.
[425] CPW W/S Kelly I §4.4.4.
[426] CPW W/S Kelly I §4.4.7.
[427] CPW W/S Kelly II §4.3.1.

own future costs. Ofcom emphasized that Openreach's forecasts were not created for regulatory purposes and that they were in any event subject to thorough scrutiny by Ofcom and to reconciliation to audited data. Ofcom also stated that Openreach's forecasts were more granular than the RFS. We have some difficulty in accepting that this last consideration can be given much weight.

CPW's challenge on cost allocation

Introduction

2.456. CPW's challenge on cost allocation is found in §91 of its NoA. §91 originally comprised 12 subparagraphs, many of which were themselves sub-divided into different criticisms of Ofcom's cost allocation. During the course of the LLU Appeal a number of these points have fallen away.[428] Further, CPW's approach to the criticisms it levelled at Ofcom's reliance on BT's model rather than on audited RFS, found in §91.1 of the NoA, developed during the course of the LLU Appeal. Ultimately, CPW asked for an 'adverse comment' rather than an adjustment to the price control in relation to its criticisms. For reasons we give in paragraph 2.577 below, we will not make such a comment. However, we have included some of the evidence and submissions put to us on this point because it is valuable context for all the decisions which we have taken.

2.457. The remaining points on which CPW challenged Ofcom's cost allocations were these:

(a) The basis on which Ofcom allocated costs from the BT Group to Openreach, based on employee costs and assets,[429] unfairly loaded corporate overheads into Openreach. CPW claimed that a better approach would be to allocate according to management time associated with the different aspects of the business taking into account revenues and all costs. Such an approach would, in CPW's estimation, lead to a 25 per cent reduction in costs allocated to Openreach.[430]

(b) The allocation failed to allocate any corporate overheads to any of the BT Group's overseas services. CPW claimed that this wrongly increased the cost allocation to Openreach by 19 per cent.[431]

(c) The allocation failed to recognize the significant extent to which Openreach had its own headquarters and consequently allocated too much of the BT Group's headquarters costs to Openreach.[432]

(d) Some of the BT Group's costs, such as sponsorship of the Olympic Games in 2012, were costs that benefited only the retail elements of the BT Group's business and not wholesale elements like Openreach. Consequently no part of such costs should be allocated to Openreach.[433]

[428] CPW NoA §91.2, §91.4 regarding overseas cost centres only, §91.7(b), §91.8 and §91.9.
[429] See paragraphs 2.450–2.453 for an explanation of CPW's understanding of the allocation methodology.
[430] CPW NoA §91.3.
[431] CPW NoA §91.4.
[432] CPW NoA §91.5.
[433] CPW NoA §91.6.

(e) Ofcom had failed to take account of costs incurred by Openreach on behalf of the BT Group, such as the use of the BT Group logo on Openreach vans, and the costs or services provided by Openreach to the BT Group in Northern Ireland.[434]

(f) Ofcom's approach to cumulo rates was unclear and inconsistent.[435]

(g) Within Openreach itself, Ofcom had understated the costs that should be allocated to services other than MPF and SMPF.[436]

(h) Ofcom had failed to take account of what was expected to be a decline in growth in the next few years which, allied with falling line volumes and cumulo rates, should lead to a diminishing proportion of the BT Group's costs to Openreach.[437]

2.458. The following sections describe CPW's challenge on cost allocation in detail.

(a) 91.3—Methodology used in allocating corporate overheads

2.459. CPW's argument as outlined in §91.3 of the NoA was that the allocation of corporate overheads[438] on the basis of employee costs and assets unfairly loaded costs into Openreach. CPW said that taking into account revenue and non-labour costs, in addition to employee costs and assets, would be a more reasonable reflection of 'management time' associated with all aspects of the business. Support for this view was presented in Mr Kelly's first witness statement,[439] where he argued that allocation on the basis of employee costs and assets was not obviously reasonable. He assumed that this was the allocation basis used as it had been used in the RFS.[440] Mr Kelly said that KPMG was unable to confirm that costs had been allocated in a manner consistent with the RFS.[441]

2.460. In particular, Mr Kelly said that:[442]

(a) The cost drivers adopted were staff and assets. But, due to the different cost structures of the BT Group's different operating divisions, the basis of allocation might be biased towards individual operating divisions.

(b) The use of assets as an allocation basis generated a significant distortion of costs towards Openreach because of the asset-intensive nature of its business, compared with, say, BT Retail, a relatively low asset-intensity business, but with greater revenues.

(c) Openreach had the highest proportion of staff costs to operating costs—41 per cent compared with 3 per cent for BT Wholesale.

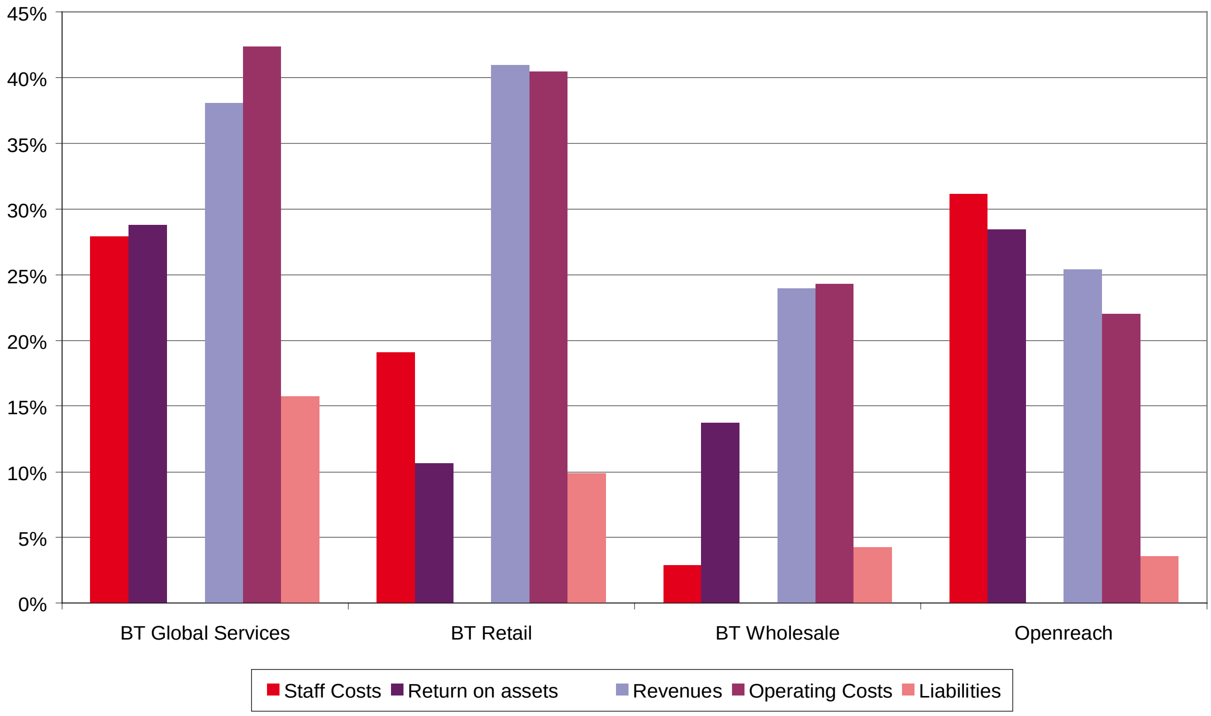
2.461. Mr Kelly provided a chart (see Figure 1 below) showing that if using just one base for allocating costs—revenues, staff costs, operating costs, return on assets, or liabili-

[434]CPW NoA §91.7.
[435]CPW NoA §91.10.
[436]CPW NoA §91.11.
[437]CPW NoA §91.12.
[438]CPW confirmed in its response to CC questions of 10 February 2010 (received 19 February 2010) that at CPW NoA §§91.3–91.5, 'corporate overheads' referred to the transfer charge from the BT Group.
[439]At the time of CPW W/S Kelly I, CPW thought staff costs and net assets were the allocation methods used (this view was updated following access to the model).
[440]The DAM describes corporate overheads as 'Corporate Costs' and explains that by weighting (i) salary expenses drawn from previously attributed pay costs and (ii) net book asset values which have had a 'return on assets' percentage (as determined by Ofcom) applied to them an apportionment basis is derived (CPW Kelly I §4.4.23).
[441]CPW W/S Kelly I §4.3.6.
[442]CPW W/S Kelly §4.4.14.

ties—then 'the two bases used by [the] BT [Group], staff costs and return on assets are, for Openreach the most unfavourable options in the sense that they result in the greatest level of allocation'.[443]

FIGURE 1

Cost bases for allocating corporate overhead costs



Source: BT W/S Kelly I, p25, Figure 2.

2.462. Mr Kelly's view was that a more reasonable approach would be to allocate the cost of corporate overheads according to a wider and more representative range of business activities than staff costs and assets. In particular, he considered it reasonable to include operating costs in a metric for allocating costs as this would include a wider range of business activities (than those incorporated through using staff costs).[444]

2.463. Mr Kelly noted[445] that in the LLU Statement Ofcom stated that it considered a range of potential allocation bases and concluded that where sensible alternative allocation bases existed, they would have only a small effect on the total costs allocated to Openreach. Mr Kelly assumed that Ofcom was referring to analysis it included in the Second Consultation where Ofcom had assessed how much corporate overhead would be allocated on the basis of FTEs.

2.464. Mr Kelly noted[446] that a review of §A10.66 of the Second Consultation showed that Ofcom calculated that corporate overhead allocation to Openreach would be £27 million less if allocated on the basis of FTEs and that it dismissed this as only being a small effect. Mr Kelly said that Ofcom's assessment failed to address the

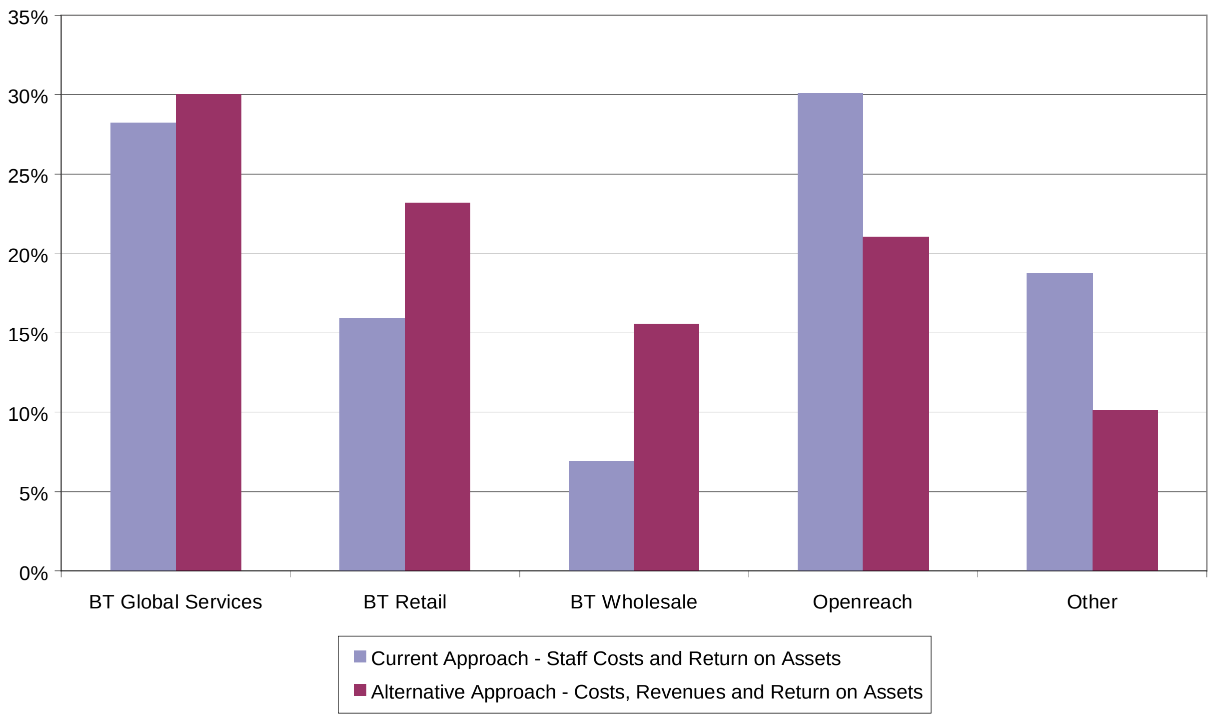
[443]CPW W/S Kelly I §4.4.15.
[444]CPW W/S Kelly I §4.4.16.
[445]CPW W/S Kelly I §4.4.17.
[446]CPW W/S Kelly I §4.4.18.

weaknesses of the approach adopted, as it applied an even more adverse[447] allocation base than FTEs.

2.465. Mr Kelly assessed the impact of allocating corporate overheads on the basis of costs, revenues and return on assets as opposed to staff costs and return on assets (his understanding at that time of Ofcom's approach) and concluded that it would result in a 25 per cent reduction in corporate overhead allocation (see Figure 2). He considered that this 'wider allocation represents a more reasonable one on which to allocate costs as it takes into account other aspects of the business such as sales and non-staff costs which can reasonably be associated with group activities'.[448]

FIGURE 2

Cost bases for allocating corporate overhead costs



Source: BT W/S Kelly I, p27, Figure 3.

2.466. At CPW's bilateral hearing, Mr Heaney expanded on CPW's view that the use of operating costs in addition to staff costs was appropriate:

> If you take procurement costs, for example, those are related to non-labour costs generally and capex which obviously has a linkage to assets. We say that if you are trying to work out how to allocate procurement costs on a fair basis you will take account of non-labour costs. If you take audit or tax, again those are driven by things other than purely assets and labour costs. We think there are other ways of doing it. The way BT has chosen to do it and the way Ofcom effectively has adopted ends up allocating most costs to Openreach in that way.[449]

[447]It is unclear to us that a £27 million reduction means that FTEs alone is an 'even more adverse' basis than that used by Ofcom.
[448]CPW W/S Kelly I §4.4.21.
[449]CPW hearing transcript p49, lines 11–21.

2.467. During the course of the LLU Appeal, CPW was provided with access to Ofcom's model. The model showed that corporate overheads were allocated to Openreach on the basis of FTEs for Group HQ, Group CTO and BT Design and that group accommodation and empty office space was allocated on the basis of the proportion of space already allocated in accommodation.[450] With this understanding, Mr Kelly questioned how Ofcom could have undertaken the sensitivity testing it claimed in the Second Consultation: 'if costs had already been allocated to Openreach on the basis of FTE (as noted by KPMG), then I do not understand how Ofcom could then use this as the basis for a sensitivity test (which is necessarily a variant from the base case)'.[451,452]

2.468. In response to Ofcom's Defence, CPW reiterated its view that a wider cost allocation basis was 'more reasonable'[453] and stated that:

(a) It appeared from disclosure by BT of the Transfer Charges Paper[454,455] that the BT model on which Ofcom based its calculations contained 'a total Group [corporate overhead] cost' allocation that was an estimate. The amount in question, £180.8 million, not only appeared as an estimate in that Transfer Charges Paper but was exactly replicated in BT's and Ofcom's model. It therefore appeared that either BT or Ofcom forgot to update the model with actual numbers from the RFS.[456]

(b) Ofcom's reliance on the audit of the regulatory accounts overstated the case of the reasonableness of employee costs and asset values as a means to allocate corporate overheads.[457] The audit opinion attached to BT's RFS did not cover the reasonableness of the detailed cost allocation methodologies themselves. The 2007/08 opinion was a 'Properly Prepared in Accordance with' (PPIA) opinion that was not strengthened to a 'Fairly Prepared in Accordance with' (FPIA) opinion until 2008/09. The PPIA opinion stated whether the financial statements were properly prepared in accordance with the relevant documents and whether principles and procedures had been applied.

(c) Ofcom's own very limited sensitivity analysis actually highlighted the significant difference in costs allocated that could result from different allocation methodologies. CPW would expect Ofcom to have considered this further: 'Ofcom concluded that its methodology appeared free from any bias, but only one sensitivity was tested, and Ofcom has adopted the allocation basis which is, in fact, the most biased of the available alternatives'.[458]

(b) 91.4—No allocation of corporate overhead to overseas subsidiaries

2.469. At §91.4 of the NoA, CPW argued that it appeared that Ofcom had not allocated corporate overheads to any of the BT Group's overseas services, with the consequence that too much cost was allocated to the BT Group's UK businesses—

[450] CPW W/S Kelly II §4.3.1.
[451] CPW W/S Kelly II §4.3.5.
[452] It seems possible that this could be the case if FTE and property had been used in the base case and only FTE was used in the alternative.
[453] CPW Reply I §123.
[454] Openreach's 'Detailed explanation of Transfer Charges presented in the Strategic Options Paper', dated 18 February 2008.
[455] The Transfer Charges Paper is an internal BT document that describes the assumptions underlying BT's forecasts with regard to transfer charges.
[456] Reply II §106(c).
[457] We note that the audit is of the RFS which allocates corporate overheads in a different manner from that adopted in the price control.
[458] CPW W/S Kelly III §2.3.8.

including Openreach. If corrected, it would suggest at least a further 19 per cent[459] reduction in allocation of corporate overheads to Openreach and possibly a reduction in other allocated costs as well. This argument was supported by Mr Kelly's first witness statement; which argued that:

(a) The DAM indicated that none of the corporate overhead cost (referred to as 'Corporate Costs' in the DAM) was allocated to overseas activities since they were deemed 'non-core'; it is not clear why overseas services and/or non-core products should not have any overhead allocated to them. Inclusion of these activities would decrease the amount of overhead allocated to 'core' activities in the UK by 19 per cent.[460]

(b) All costs that were allocated on the basis of pay (and use as their base FTEs) were similarly not allocated to overseas activities or non-core products. The RFS might systematically over-allocate to the UK business. It appeared that the Oak model did include overseas activities in its cost allocation methodologies so it was difficult to be certain which approach was used.[461]

2.470. CPW's initial argument went both to overseas subsidiaries and overseas costs centres. Following Ofcom's Defence, which explained the treatment of overseas cost centres[462] (see paragraph 2.520), CPW withdrew its complaint 'insofar as it relates to overseas cost centres rather than overseas subsidiaries'.[463]

2.471. Following Ofcom's Defence, CPW said that:[464]

(a) There was no consistency between Ofcom's claims that benefits derived from the group were 'minimal' in terms of overseas subsidiaries but that account must be taken of the benefits derived from the BT Group in relation to UK business units.

(b) There was no cogent reason to support Ofcom's approach to overseas subsidiaries. Ofcom accepted that these subsidiaries derived benefit from UK Group head office functions. CPW considered that even if this benefit was minimal, costs should be allocated to reflect it. If Openreach must receive corporate overhead allocation on the basis that the BT Group as a whole was promoted or that a benefit was conferred, then the same reasoning must apply to overseas subsidiaries.

(c) CPW did not believe that a distinction could be made between overseas subsidiaries as 'self-accounting units' and Openreach which did not produce statutory or regulatory accounts. The fact that overseas subsidiaries produced their own accounts could not justify not allocating any corporate overhead costs to them.

(d) The assertion that this cost was minimal was wrong. In his third witness statement, Mr Kelly calculated this cost to be around £16 million.[465]

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[459] We note that this calculation was made when CPW was querying the treatment of overseas subsidiaries and cost centres; it has subsequently dropped arguments relating to overseas cost centres (CPW W/S Kelly I §4.4.25).
[460] CPW W/S Kelly I §§4.4.23–4.4.25.
[461] CPW W/S Kelly I §§4.4.26–4.4.29.
[462] Overseas cost centres, such as call centres—these are outstations that exist to serve BT's UK operations. None of the overhead is specifically allocated to these overseas cost centres. An alternative approach would be to allocate costs to those cost centres and then reallocate those costs among UK profit centres. This would not necessarily give a 'better' answer than the approach that has been audited and used consistently by BT in past. The impact of adding this additional step is unlikely to be significant. (Ofcom Defence Annex C §31.1.)
[463] CPW Reply I §119.
[464] CPW Reply I §124.
[465] CPW W/S Kelly III § 2.3.12—If half of corporate overheads regarded as relevant to overseas activities then using assets and revenues as allocation bases estimate £16 million from Openreach to Overseas (use revenues rather than employee costs as assume large proportion of overseas employees are in overseas cost centres not overseas subsidiaries).

(c) 91.5—Allocation of group overheads to Openreach

2.472. At §91.5 of the NoA, CPW argued that Ofcom failed to have any or sufficient regard to the fact that, whilst Openreach was part of the BT Group, it was a separate business with its own headquarters, identity, financial reporting and commercial principles. CPW argued that as a result it had greater independence from the BT Group than the other BT Group operating divisions. CPW submitted that in order to identify the correct allocation, it would need access to data which would allow it to identify the additional staff and costs that Openreach incurred as a result of its independence. In support of this, CPW presented Mr Kelly's first witness statement, which argued that:

(a) Costs for 'overhead' activities were allocated from the BT Group even though it appeared that some or all of these were fully or partially provided by Openreach itself. It was not clear why Openreach should be in effect charged twice for these functions.[466]

(b) As a result of the Undertakings, Openreach had its own dedicated functions for human resources (HR), finance, equivalence, regulatory and public affairs, legal, risk and commercial. It was reasonable to assume that, as a result of the establishment of these functions, work that was previously done at group level was now done by Openreach. In consequence, the benefit derived from group services was less than that derived by other BT operating divisions.[467]

2.473. Mr Kelly concluded that the 'stand-alone' nature of Openreach differentiated it from the other BT Group operating divisions, and as a result there were good arguments for allocating costs to Openreach in a way that recognized these differences. As this was not recognized in BT's model or in Ofcom's analysis of the BT Group's costs, Mr Kelly considered that there was a risk that the costs allocated to Openreach in Ofcom's analysis were overstated.

2.474. Following Ofcom's Defence, CPW argued that[468] there was no consistency between Ofcom's claims that benefits derived from the group were 'minimal' in terms of overseas subsidiaries but that account must be taken of the benefits derived from the group with relation to UK operating divisions. It considered Ofcom not to have addressed the point that different operating divisions would not derive the same level of benefits from group activities.

2.475. CPW considered Ofcom to have missed CPW's point: it was not, said CPW, suggested that none of these costs should be allocated to Openreach, or that no benefit was derived by Openreach from these activities; rather that Openreach should be allocated 'a proportionally lower allocation' than other operating divisions.[469]

2.476. Whilst CPW did not have details of the extent to which Openreach itself performed services which the BT Group provided to other divisions, it considered it reasonable at least to make some adjustment to cost to reflect this.[470] It considered that an adjustment to reflect this even if set at the modest level of 10 per cent would be worth £18 million.[471]

[466]CPW W/S Kelly I §4.4.37.
[467]CPW W/S Kelly III §§2.3.15 & 2.3.16.
[468]CPW Reply I §124.
[469]CPW Reply I §124(b).
[470]CPW W/S Kelly III §2.3.18.
[471]CPW Reply I §124(b).

2.477. In response to BT's suggestion that staff numbers for finance and HR at Openreach were not consistent with Openreach having its own support functions, CPW argued that this suggestion was spurious—finance and HR staff could not be a proxy for the independence or otherwise of a particular subsidiary.[472]

2.478. At its bilateral hearing, CPW stressed that the raison d'être for Openreach was to ensure that it operated separately. In particular, Mr Heaney said that:

> One other thing that indicates the level of separation is that a number of organisational rules were written into BT's undertakings in 2005 which limit the involvement of group personnel in Openreach. Again, the corollary or implication of that must be that if group cannot do it for them—for instance, strategy work and certain other functions—therefore they must be doing that themselves. Unquestionably, in my view there must be some reduction to reflect the level of independence.[473]

2.479. In terms of the scale of any error, Mr Heaney said that:

> Putting that into context, there is £180 million worth of corporate overheads. If it was found that 10 per cent or 20 per cent of that was inappropriate it would result in an adjustment of about £1 to £1.50 per line. That is very material. I fail to see how Ofcom can conclude without having done the analysis that the answer is immaterial.[474]

(d) 91.6—Some costs incurred by the group and recharged to Openreach are not relevant to Openreach

2.480. At §91.6 of the NoA, CPW argued that some of the costs that were incurred by the BT Group were only tangentially, or not at all, relevant to Openreach since it was not a retail-customer-facing business. CPW criticized BT and Ofcom's approach to allocating costs for taking no account of the non-customer-facing nature of Openreach, with the consequence that excessive levels of costs had been allocated to Openreach. In particular, CPW cited the BT Group's sponsorship of the 2012 London Olympics and hospitality and market research as costs incurred by the BT Group which should, in CPW's view, be more focused on customer-facing businesses than on wholesale providers such as Openreach.

2.481. CPW presented Mr Kelly's first witness statement to support its position. In it, Mr Kelly said that he undertook a 'limited review' of BT's DAM which suggested that there were a number of 'corporate' costs included in corporate overheads which might not be relevant to a wholesale-only operation such as Openreach. Mr Kelly said[475] that the following list was not exhaustive, but rather served to illustrate that there appeared to be BT Group level costs which were allocated to Openreach that should not be:

- B8 207160 Market Research;
- B8 207172 Other Publicity;
- B8 207182 Consultancy;

[472] CPW Reply II §106(d).
[473] CPW hearing transcript, p59, lines 4–13.
[474] CPW hearing transcript, p60, lines 15–20.
[475] CPW W/S Kelly I §4.4.40.

- B8 207183 Hospitality;
- B9 206400 Finance & Billing Other Finance Expenses;
- H7 517446 Provn Unaccrd Litigtn Claim; and
- H8 3545TA Creditor Provisions—Litigation.

2.482. Mr Kelly's view was that it was reasonable to expect that certain overheads should not be allocated to Openreach since it was a business unit that offered only wholesale services 'the majority of which are internal sales'.[476]

2.483. CPW argued that 'it is not clear what, if any, work Ofcom has done to satisfy itself that the activities included in Group costs are in fact relevant to Openreach at all, and if they are whether the amounts are reasonable'.[477]

2.484. At CPW's bilateral hearing, Mr Heaney stated:

> I think the benefit Openreach gets from the BT logo being on its van is small and diminishing. It is also worth noting that a lot of other organisations that go out there to read meters or whatever it may be who are not well known customer brands yet gain access to people's homes and are trusted. Therefore, I think the argument that there are lots of benefits to Openreach from BT raising its profile publicly, which in a sense wears off on Openreach, is not really a valid point. I candidly cannot see how Openreach will benefit in terms of its commercial business from BT spending on the Olympics, for instance, whereas BT Global Services and BT Retail will benefit because of their customer base.[478]

(e) 91.7—Certain costs incurred by Openreach on behalf of the rest of the group are not allocated

2.485. At §91.7 of the NoA, CPW argued that BT (and Ofcom) had failed to allocate costs incurred exclusively by Openreach but which benefited other BT Group operating divisions to those other operating divisions.[479]

91.7(a)—BT Group enjoys an advertising benefit from the presence of the BT logo on Openreach vans

2.486. CPW argued that the BT Group enjoyed an advertising benefit from the presence of the BT logo on Openreach vans. CPW said that this could be worth as much as £30 million to the BT Group (based on the costs of comparable advertising space on taxis[480]) and should effectively be deducted from the costs of Openreach.

2.487. In Reply I,[481] CPW argued that Ofcom's reference to the fact that the cost of painting the BT logo on the Openreach fleet was not significant did not address the value that the customer-facing parts of the BT Group derived from this advertising. CPW con-

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[476] CPW W/S Kelly I §4.4.39.
[477] CPW W/S Kelly III §2.3.24.
[478] CPW hearing transcript, p61, lines 16–29.
[479] CPW gave three specific examples at § 91.7(a)–(c) NoA. It has subsequently withdrawn 91.7(b).
[480] CPW W/S Heaney I §278(a).
[481] CPW Reply I §126(a).

sidered that BT's retail business derived greater value from the advertising of the brand on the van fleet than did Openreach.[482]

91.7(c)—Costs related to operations in Northern Ireland

2.488. CPW argued that Openreach effectively provided product management and systems services to WLR and LLU in Northern Ireland[483] (part of BT Retail), and costs should therefore be allocated from Openreach to the Northern Ireland unit. It said that Ofcom's approach relied on an argument that any adjustment to reflect this would not be material. Initial support was provided by Mr Heaney's first witness statement.

2.489. Subsequently, CPW noted that Ofcom appeared to accept this argument but dismissed it as immaterial.[484] CPW argued that the calculation of an adjustment was simple if Northern Ireland accounted for 4 per cent of the line volumes; CPW estimated the required adjustment that should be allocated away from Openreach[485] to be £[✂].[486]

(f) 91.10—Cumulo rates

2.490. At §91.10 of the NoA, CPW argued that Ofcom's approach to cumulo rates was opaque and appeared to be inconsistent with Ofcom's other cost allocation assumptions.

2.491. CPW supported this argument through the first witness statement of Mr Kelly, where he argued that:

(a) It was not clear from either the KPMG report or Ofcom's documents how the amount of BT rates allocated to Openreach in the model was calculated.[487]

(b) The amount allocated to Openreach for 2007/08 in the KPMG report differed from that shown in the Second Consultation, representing an 8 per cent increase from the KPMG report.[488]

(c) BT's statement in the Second Consultation with regard to cumulo rates suggested that it had amended its allocation basis inconsistently with the DAM and the basis reviewed by KPMG and described by Ofcom.[489]

(d) Based on information in the BT model, cumulo rates appeared to have increased by more than inflation between 2003/04 and 2007/08 and it was not clear whether the costs in the model were reasonable. KPMG's report raised a number of queries relating to the calculation of cumulo rates which did not appear to have been addressed by Ofcom. The additional breakdown of rates costs provided to CPW appeared incorrect. Overall there was a risk that the assumed total costs for cumulo rates in the model were unreliable.[490]

(e) In the KPMG report a number of queries were raised in relation to the calculation and allocation of cumulo rates, specifically in relation to the consistency between

[482]CPW Reply I §126(b).
[483]CPW W/S Heaney I §278(c).
[484]CPW W/S Kelly III §2.3.20.
[485]CPW Reply I §125.
[486]CPW W/S Kelly III §2.3.22.
[487]CPW W/S Kelly I §4.7.5.
[488]CPW W/S Kelly I §4.7.6.
[489]CPW W/S Kelly I §§4.7.7 & 4.7.8.
[490]CPW W/S Kelly I §§4.7.9–4.7.13.

the way cumulo rates were levied on the BT Group and then allocated to lines of business. KPMG did not have access to the calculation used by the BT Group to allocate cumulo rate charges to the lines of business so could not comment on the objectivity of this calculation.[491]

2.492. Following Ofcom's Defence, Mr Kelly expressed concern that a number of queries from his initial review of the model were still outstanding:[492]

(a) It was not clear how Ofcom's adjustment at §A6.154 of the LLU Statement was implemented in the model.[493]

(b) The model assumed that the total amount of cumulo rates allocated to Openreach was constant and that amounts allocated to different activities were constant. Therefore the amount allocated to copper loops increased with inflation and did not fall with declining volumes—this appeared inconsistent with the underlying basis for rate valuations. This was likely to overstate the forecast cumulo rates costs in future years for Openreach and for the individual services.

2.493. CPW considered that its criticism of Ofcom's approach to allocating cumulo rates as opaque was well founded, noting:[494]

(a) It was only in the Defence that Ofcom confirmed that the methodology in the model departed from that in the DAM and that KPMG was not given final numbers.

(b) It was still not clear how the proportion of the BT Group's cumulo rates that was allocated to Openreach had been derived. Ofcom said that it had provided a clear explanation but had not provided it.

(c) BT's witness Mr Dolling[495] said that the percentage allocated to Openreach was 90 per cent, not 76 per cent—CPW[496] did not see where either proportion had come from.[497]

2.494. CPW also said that Ofcom failed to account for falling volumes in allocating cumulo rates costs. It considered that a £19 million adjustment had been made on account of falls in volume which had already occurred but this did not reflect the 7 per cent fall in volume which was projected by Ofcom.[498]

2.495. CPW also said in Reply I:

(a) Ofcom's Defence appeared to concede that no account had been given for these future reductions. It simply said that it was not straightforward to make this adjustment. Ofcom had accepted that it was appropriate to make adjustments to the model to reflect falling line volumes and had done so through the £19 million rebate adjustment. It had also reduced Openreach's projected profits to account

[491] CPW W/S Kelly II §4.1.2.
[492] CPW W/S Kelly II §4.1.12.
[493] We note that this adjustment was to reduce cost estimates to reflect the expected fall in copper line volume and the move towards MPF, as well as reflect the rebate received between the Second Consultation and the LLU Statement to reflect the fall in copper line volumes. §A6.154 also noted that a future 5 per cent increase to cumulo rates had also been proposed with a staggered implementation over several years.
[494] CPW Reply I §128.
[495] BT W/S Dolling I §83.
[496] CPW W/S Kelly I §4.7.9.
[497] Ofcom confirmed 76 per cent to be the correct amount directly allocated to Openreach—it considered it possible that the 90 per cent figure included amounts allocated indirectly to Openreach, possibly through the use of line cards (Ofcom response to CC questions of 10 February 2010—Q5(ii)).
[498] CPW Reply I §129.

for the 7 per cent fall it projected. CPW considered that there could be no serious suggestion that a reduction in line volumes would not reduce BT's cumulo rates or that it was anything but appropriate to adjust for this.[499]

(b) Ofcom's projections failed to take into account the actual and expected reductions in BT's cumulo rates as a result of the Central Rating List for England. The fall in rates was substantial: 27 per cent in 2009. A further reduction of 37.6 per cent was expected for April 2010. No consideration for this was given in the LLU Statement.[500]

2.496. In Reply II, CPW said that:

(a) BT's SoI confirmed that the £19 million adjustment reflected falls in line volumes that had already occurred and not anticipated future volume reductions.

(b) BT suggested that rates for 2010–2015 were not known and that it could not speculate on how this might change Openreach's costs. However, Ofcom had acknowledged the propriety of adjusting forecast cumulo rates to reflect declining volumes of lines in the LLU Statement and had itself reached a view of a 7 per cent decline. BT had not addressed the fact that the 2009 revision of rates resulted in a 27 per cent fall in BT's cumulo rates bill which did not appear to have been fully taken into account either in 2009/10 costs or future years. A draft revision for 2010 was available which indicated that a further fall of 37.6 per cent was likely.[501]

2.497. Reply II was supported by Mr Kelly's fourth witness statement, which noted that:

(a) BT said that the rateable value for five years from April 2010 was not available and therefore it could not speculate on how this may change rates going forward. However, Mr Kelly did not see this as justification for assuming no reduction in costs, as costs had already been reduced because of past volume reductions.[502]

(b) BT suggested that the £19 million reduction included the 2009 reduction; it was not clear to Mr Kelly that this had been included and if so how. The anticipated 2010 reduction had not been included and Mr Dolling's witness statement confirmed this. BT's submissions made it clear that no reduction in forecast cumulo rates had been assumed for future volume reductions; Mr Kelly considered this to be in contrast to Ofcom's impression that it had provided for future cost reductions arising from future volume reductions in its model based on the BT assumption.[503]

(g) 91.11—Underestimate of the costs of non-regulated services

2.498. At §91.11 of the NoA, CPW argued that Ofcom had underestimated the costs that should properly be allocated from CRS to non-regulated services since it appeared to have ignored capital employed, overestimated the margin (and so costs) of these non-regulated services, and assumed too low a proportion of the non-regulated services costs that should come from CRS. In support of this argument were the first witness statements of Mr Kelly and Mr Heaney.

[499] CPW Reply I §130.
[500] CPW Reply I §131.
[501] CPW Reply II §106(b)(ii).
[502] CPW W/S Kelly IV §§2.4.3 & 2.4.4.
[503] CPW W/S Kelly IV §2.4.6.

2.499. In Mr Kelly's first witness statement, he argued that:

(a) Ofcom's Second Consultation identified that the BT model failed to allocate any, or only a very small amount of, costs, to certain unregulated services, and concluded that an adjustment was required to ensure that costs were appropriately allocated to the services. Ofcom estimated that £88 million should be allocated to these 'smaller services' from CRS. This was based on an estimate of the gross margin which applied to the services to estimate the costs that should be allocated out. This resulted in an adjustment to operating costs, but no corresponding adjustment was made to mean capital employed (MCE).[504]

(b) Estimating the amount of MCE to be applied assuming the same proportionate returns as for Openreach as a whole gave £591 million MCE to be allocated to the smaller services. Applying Ofcom's estimate of the proportion of smaller service costs to be allocated away from CRS suggested that the MCE of CRS should be reduced by £266 million, implying a reduction in CRS costs of £27 million.[505]

(c) For some of the smaller services, the costs could have been identified from the RFS rather than needing estimation. BT's model for 'Redcare' services appeared to have included no costs at all, but the DAM indicated that Redcare was accounted for as a separate product. Ofcom could have improved the reliability of its estimates of the costs for at least some of the smaller services by cross-checking back to the RFS.[506]

2.500. Having reviewed the models, Mr Kelly's second witness statement presented as part of CPW's NoA considered that the £88 million of costs to be reallocated from CRS services to non-regulated services was allocated across CRS services on the basis of revenues, but that it was not clear that this was appropriate because:

(a) it was not clear that revenues reflected cost causality; and

(b) the £88 million was calculated as the proportion of costs of CRS as a percentage of total Openreach costs. Sub-allocating this on the basis of revenues was clearly inconsistent with the previous allocation round.[507]

2.501. Mr Kelly therefore considered that a more reasonable approach would be to allocate the £88 million among CRS in proportion to total costs. This would result in a reduction in average unit costs for MPF of £2.93 per line compared with £2.62 per line calculated by Ofcom using revenues as the basis for apportionment.[508]

2.502. CPW in Reply I said that Ofcom (in its Defence) accepted that it had not made a specific adjustment to reflect any reallocation of MCE but suggested that an overall adjustment was made which could be considered to include MCE. However, the basis on which Ofcom calculated its adjustment appeared to be such that, contrary to what it now suggested, it could not be considered reflective of any capital costs. Ofcom quibbled with CPW's calculation of a reasonable adjustment but that did not undermine the basic point that some adjustment was required and Ofcom failed to make it.[509]

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[504] CPW W/S Kelly I §§4.9.2 & 4.9.3.
[505] CPW W/S Kelly I §4.9.4.
[506] CPW W/S Kelly I §§4.9.5 & 4.9.6.
[507] CPW W/S Kelly II §4.6.11.
[508] CPW W/S Kelly II §§4.6.12 & 4.6.13.
[509] CPW Reply I §132.

2.503. In Reply I, CPW submitted that whether the MCE calculation was correct or not was not the point; the real point was that an adjustment should have been made. Mr Kelly[510] accepted that the capital intensity of these services might be lower than for others, but considered that these services used at least some assets and Ofcom's approach ignored this.

2.504. Mr Heaney agreed with Ofcom's overall approach to correcting the allocation, but did not agree with all the assumptions used:[511]

(a) He considered that it was not clear that there were not other similar mistakes that needed correcting.[512]

(b) Ofcom's assumption of an EBIT margin of 20 per cent applied in assessing the adjustment was too high. He formed this view as he had noted[513] that Openreach's profit margin was 23 per cent, which reflected the high capital intensity of the overall services that it provided. These non-regulated services involved the use of relatively few assets since they depended on engineers and therefore should not or need not require high margins. Given this difference, a realistic margin would possibly be around 10 to 15 per cent. TalkTalk Group's overall margin was about 10 per cent: this reflected the type of margin that might be expected in a competitive market. An appropriate assumption would be 10 to 15 per cent.

(c) Ofcom assumed that 45 per cent of the underallocation should come from CRS. This was based on the mid-point of the consultation range of 30 to 60 per cent which was not explained. Mr Heaney considered 55 per cent to be more appropriate, as 55 per cent was the revenue of CRS as a proportion of the total Openreach revenue.

(h) 91.12—Openreach has been allocated the same proportion of BT group costs in each year

2.505. CPW argued at §91.12 of the NoA that Ofcom's methodology assumed that Openreach was allocated the same proportion of the BT Group costs[514] in each year as in 2009/10. It considered that this approach failed properly to take account of a number of future changes that should reduce the proportion of the BT Group costs allocated to Openreach in future years, including that:

(a) Openreach was expected to grow more slowly than the rest of the BT Group, and this should account for a smaller proportion of total allocated cost.

(b) As line volumes fell (as Ofcom predicted would happen), so too should cumulo rates charges fall (which BT and Ofcom failed to account for).

2.506. Mr Kelly's first witness statement was presented in support. In it, Mr Kelly considered that Ofcom's assumption to apply a constant proportion of the BT Group's overheads to Openreach would be reasonable if the key cost drivers used to allocate overheads

[510]CPW W/S Kelly III §2.6.6.
[511]CPW W/S Heaney I Annex II §271.
[512]CPW W/S Heaney I Annex II §272.
[513]CPW W/S Heaney I Annex II §273.
[514]In its response to the CC questions of 10 February 2010 (received 19 February 2010), CPW confirmed that this argument related to all Transfer Charges.

to the BT Group's different lines of business were all expected to grow (or reduce) at a constant rate.[515]

2.507. His view was that there was evidence to suggest that this was not the case. The BT Group was planning significant cost cuts which were likely to change the proportions of different cost drivers across the different businesses.[516]

2.508. Further, Mr Kelly argued that:

(a) External commentators expected that the BT Group's business would grow at different rates. On average, analysts expected that revenues for Openreach would fall 1 per cent faster a year compared with the rest of the BT Group's operating divisions.[517]

(b) The views of external analysts suggested that Openreach would represent a shrinking proportion of the BT Group's overall business in the future (at least by revenues), which suggested that it would be reasonable to apply a reducing proportion of overheads to Openreach.[518]

2.509. Mr Heaney's first witness statement reviewed (then) recent analyst reports which suggested that Openreach's revenue growth would decline on average at 1.5 per cent faster than that of the rest of the BT Group.[519]

2.510. In Reply I, CPW repeated that Openreach was expected to grow more slowly than the rest of the BT Group and that Ofcom should have considered adjusting the model to account for this. It noted that Ofcom rejected the evidence presented by CPW on the grounds of it not being compelling or cogent. It considered this attempt to shift the burden on to industry to be inappropriate. It said that in this context the type of evidence which Ofcom would consider compelling or cogent was not going to be in the possession of any industry party other than BT, which would have little incentive to provide it. At the very least, Ofcom should have considered whether an adjustment would be necessary.[520]

2.511. In support of this, Mr Kelly's third witness statement argued that:

(a) It would have been reasonable to have expected Ofcom to have investigated this matter further. For example, to review BT's own strategic plans for the BT Group to determine whether the assumption that Openreach should bear a constant proportion of overheads was a reasonable one. Mr Kelly had not seen anything to suggest that such an exercise was conducted.[521]

(b) Mr Kelly accepted that Ofcom dismissed his evidence concerning the anticipated growth rates of the BT Group and Openreach on the basis that the analyses were not prepared for the purposes of projecting revenues and were complied at a time of uncertainly. However, in Mr Kelly's view it would be unlikely for an analysis of the kind Ofcom contemplated to be publicly available.[522]

2.512. At CPW's bilateral hearing, Mr Heaney summarized the issue as follows:

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[515]CPW W/S Kelly I §4.8.2.
[516]CPW W/S Kelly I §§4.8.3 & 4.8.4.
[517]CPW W/S Kelly I §4.8.5.
[518]CPW W/S Kelly I §4.8.6.
[519]CPW W/S Heaney I Annex IV §§284 & 285.
[520]CPW Reply I §133.
[521]CPW W/S Kelly III §2.7.3.
[522]CPW W/S Kelly III §2.7.4.

> Just to summarise our point, Openreach is forecasting a 7 per cent decline in the number of CRS lines, that is WLR plus MPF. As far as I understand it, I do not believe the rest of BT is saying that it will decline by 7 per cent. I do not think that is what BT Global Services, BT Retail and BT Wholesale have been telling their analysts. Therefore, it would seem wholly appropriate, even if you used the allocation based on net assets, employee costs and other costs, that you would necessarily see a decline in this number. We do not have a view on the precise answer. Again, this is one of those points where we believe a proper decision should have taken account of it.[523]

Ofcom's Defence and BT's SoI

Ofcom's Defence

NoA 91.3

2.513. Ofcom did not accept CPW's criticisms of its cost allocation. In its Defence in §§79 to 82, Ofcom argued that CPW's challenge on cost allocation was an 'array of detailed criticisms' which did not raise points of principle but which amounted to a series of complaints about cost allocation. These were therefore matters where, in Ofcom's view, the CC may legitimately confine itself to considering whether there had been material error, rather than acting as duplicate regulator.

2.514. Ofcom's Defence is developed in greater detail in Annex C where specific responses to CPW's criticisms are found. Ofcom accepted that in some cost categories there was no clear 'right answer' as to which method should be used to allocate costs and accordingly a judgement had to be made. In making these judgements, Ofcom considered a number of factors, including the benefits of following an approach that was consistent with the treatment in the RFS, with past practice and with other current charge controls. It also considered the extent to which the use of that allocation method would produce a result that was broadly in line with the result that would be produced by using other methods that might also be said to be reasonable in the circumstances.[524]

2.515. In relation to CPW's criticism of the basis of allocation of corporate overheads around employee costs and assets, Ofcom drew attention to BT's DAM explaining that corporate overheads related to 'head office'-type expenses such as the Chairman's office and the group secretariat. The purpose of these head office activities was generally seen as twofold: management of the employees within the company and management of the assets of the company to create a return. It therefore saw no error in using employee costs and assets (or reasonable proxies thereof) as a reasonable allocation method for corporate overheads.[525]

2.516. Ofcom argued[526] that BT's DAM had been reviewed by BT's auditors. In 2009, those auditors concluded that the Secondary Accounting Documents which included the DAM were appropriate to implement the principles contained in the Primary Accounting Documents which set out regulatory accounting principles. This, said Ofcom, provided assurance that the allocation bases in the DAM were reasonable.[527]

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[523] CPW hearing transcript, p63, lines 7–20.
[524] Ofcom Defence Annex C §8.
[525] Ofcom Defence Annex C §27.
[526] Ofcom Defence Annex C §28.
[527] We note that the actual method adopted in the price control for corporate overhead allocation is different from that set out in the DAM: both could be seen to use a variation on employee costs and assets as cost drivers.

Ofcom also stated that relying on those allocation bases had the attraction of regulatory consistency.

2.517. Ofcom explained the nature of corporate overheads as follows:[528]

(a) property—costs relating to property used by BT Group divisions in the UK;

(b) Group HQ—head office functions such as tax, treasury, legal and financial reporting;

(c) Group CTO—relating mainly to research and development costs in the UK; and

(d) 'One IT' overheads—overhead costs incurred by BT's internal IT department in the UK relating to IT development that was not project specific.

2.518. At Ofcom's bilateral hearing, in relation to the allocation methods used for non-property costs, Mr Brown stated that:

> Our starting point was we were cautious about moving away from the audited allocation basis, which in this case was in accordance with employees. Now, the reason that BT gave—the reason set out in the attribution methodology for using headcount is that management time is directed to sort of managing the individuals and the costs and the effort follow those individuals, and that seems a fairly sensible way of doing it. Now, of course, are there other ways of doing it? Is the way we did it uniquely right? I wouldn't say it is, but in terms of what we're trying to do, which is match the costs to the activities that drive those costs, linking management time to the people that they manage, it certainly wasn't an implausible way, an unreasonable way of doing it.[529]

2.519. Ofcom also noted that it had not seen evidence to suggest that the methods used were unreasonable. Mr McIntosh said:

> We need evidence to justify change for an existing approach and the evidence that we've drawn on specifically in this case, in terms of independent of Ofcom inasmuch as we have drawn on the work that PwC have done who prepared the regulatory accounts, and we've commissioned work specifically by another highly regarded auditor to check with them so I think if they had come up with a view that suggested that there was an arguable basis for being some systematic bias in this, we would definitely have taken account of that. The work that they did, did not suggest that.'[530]

NoA 91.4

2.520. As to the allocation of corporate overheads to the BT Group's overseas services, Ofcom made the following points.[531] First, BT Global Services did pick up a significant portion of the BT Group costs.[532] Second, the BT Group's other overseas services fell into two camps. First, there were overseas cost centres such as call

[528]Ofcom follow-up from 3 March 2010 bilateral hearing, p3.
[529]Ofcom hearing transcript, p81, lines 1–16.
[530]Ofcom hearing transcript p83, lines 4–14.
[531]Ofcom Defence Annex C §§30 & 31.
[532]We note that CPW does not appear to be questioning the allocation of costs to the UK operating division, BT Global Services.

centres. In Ofcom's view, call centres were not overseas subsidiaries which themselves provided services for a consideration, but were operations that existed to provide services to the BT Group's UK operations. Corporate overheads were not specifically allocated to overseas cost centres. Instead, the corporate overhead was allocated to the UK operations that benefited from the services provided by the overseas cost centre.[533] There were some overseas subsidiaries. However, Ofcom considered that these overseas subsidiaries derived only minimal benefits from functions performed by the BT Group head office. Consequently they were not allocated any share of corporate overheads. Ofcom noted that the allocation bases were reviewed regularly by the auditors.

2.521. Ofcom's choice of allocation method was based on explanations given by BT, subsequently investigated by Ofcom using its formal information-gathering powers. Ofcom was aware that these overseas subsidiaries might receive some minimal centralized support from the BT Group head office, for example strategic supervision and treasury function, but did not consider these to be a material part of the overhead to be allocated in consequence of the services provided by the BT Group head office. This position was consistent with the methodology used in the preparation of the audited RFS.[534]

2.522. Ofcom explained where, within the four categories of activities included within the corporate overheads charge (see paragraph 2.517 above), it thought overseas subsidiaries might benefit. Ofcom did not believe that overseas subsidiaries used UK office space, or that One IT overheads related to any overseas IT development. It considered research and development costs within Group CTO to be UK costs. Ofcom said that it was possible that some of the work undertaken within Group HQ might offer benefits to overseas subsidiaries although it had 'no specific example as to what this might include'. On the basis that overseas companies would need to comply with local legislation with regard to legal, tax and accounting advice, Ofcom considered that most, if not substantially all, of the Group HQ functions would relate to UK activities.[535] Ofcom did not have a more detailed breakdown of the costs and their nature other than the split by these four categories.

NoA 91.5

2.523. As to the criticism that Ofcom had insufficient regard to the scope of Openreach's own headquarters, Ofcom observed that group costs allocated to Openreach included head office costs in respect of tax, treasury, legal and reporting, property and 'One IT' overheads, and that these generally related to BT's operations and policies at Group level. Thus they did not duplicate activities carried out by Openreach itself. Ofcom observed that Openreach was an operating division of the BT Group and did not maintain separate accounting records as a reporting unit. Thus, while Openreach had its own finance team producing management accounts and reports, it did not produce statutory or regulatory accounts, being instead consolidated as part of the BT Group. Thus functions such as treasury, tax, legal, accounting, HR and other activities performed at group head office level were performed partly in respect of and for the benefit of Openreach. Ofcom gave by way of further example the HR functions carried out for the BT Group at head office level, which included setting group-wide employment policies applicable to all the BT Group employees in the UK. These policies applied to Openreach and were policies from which Openreach directly benefited. The mere fact that Openreach had some of

[533]We note that CPW has withdrawn its argument with regard to overseas cost centres.
[534]Ofcom's Reply to CC questions of 10 February 2010, Q 3(ii).
[535]Ofcom's follow up from 3 March bilateral hearing.

its own in-house legal management and finance personnel who performed a similar function did not mean that there was any duplication of tasks.

2.524. Ofcom highlighted[536] that in many ways Openreach's separation in terms of divisional accounting and management was very similar to that of the other BT Group operating divisions. The key difference was that there were additional cost burdens imposed by the Undertakings which required Openreach to operate separate facilities and separate operational systems. These differences, whilst very important to implement functional separation, did not lead to a reduction in group level activity in support of Openreach. Aside from the obligation to maintain physically separate premises, staffing and information systems (which were unique to Openreach), the division of responsibility between the other BT Group divisions and the BT Group was broadly similar to that of Openreach and the BT Group. The creation of Openreach as a functionally rather than legally separate entity always envisaged a common corporate function and common supply and capital support. This was seen as an advantage of the approach as it reduced the total costs by allowing Openreach to benefit from shared resources.

NoA 91.6

2.525. As to CPW's complaints that Openreach was allocated a share of some of the BT Group costs that were not relevant to Openreach because of its wholesale and not retail business, Ofcom accepted that some costs might be more relevant to some parts of the BT Group than others. However, in Ofcom's view this did not invalidate the allocation. Ofcom considered that market research, advertising, event sponsorship, consultancy, hospitality and similar costs would normally be incurred by the operating division within the BT Group that used them in connection with its activities. These did not form part of the group costs that were allocated between the different operating divisions. However, some market research, consultancy, event sponsorship and similar costs were incurred at group head office level. In Ofcom's view, the fact that they were incurred at that level indicated that they were required at group level in pursuit of the interests of the group. There was, in Ofcom's view, nothing in CPW's NoA or its evidence to explain why these costs would not be properly allocated in part to Openreach.

2.526. Ofcom said that it had no additional information about the drivers of expenditure on market research, consultancy, litigation etc or how specific business units might have benefited. Its approach was influenced to some extent by the fact that these specific costs represented only a fairly small proportion of the MPF cost stack and that the potential for significant mis-statement was small.[537]

NoA 91.7

2.527. As to CPW's criticism that Ofcom had failed to allow for costs incurred by Openreach on behalf of other parts of the BT Group, Ofcom offered the following defence. First, as to the BT logo on Openreach vans, Ofcom said that it did not give rise to any 'vehicle-related costs' for Openreach. Further, the inclusion of the BT logo on vans reflected no more than that Openreach was part of the BT Group. Ofcom observed that there might be benefits to Openreach from its association with BT. Third, CPW did not demonstrate how any value flowing from Openreach to the BT Group for the use of the logo should be valued. Ofcom could see no reasonable basis on which

[536]Ofcom response to CC questions of 10 February 2010—Q4.
[537]Ofcom response to CC questions of 10 February 2010—Q2(iii).

CPW's suggestion of £30 million was derived. In Ofcom's view, there was no parallel between Openreach vans and black cabs in London.

2.528. As to Northern Ireland, Ofcom's defence was materiality. Given the very small part of the total number of lines in Northern Ireland, which was put by Ofcom at around 4 per cent, the cost to Openreach of providing management services was too small to have a material impact on LLU.[538]

NoA 91.10

2.529. As to cumulo rates, Ofcom started by noting that these rates included street furniture such as ducts and manholes as well as specialized accommodation such as exchanges. In 2007/08, BT's cumulo rates bill was in the region of £300 million, of which 76 per cent was allocated to Openreach.[539] The DAM split the treatment of cumulo rates between rates payable on operational buildings, on which rates were allocated of the bases of space occupied, and street furniture, on which rates were allocated based on the replacement costs of the assets. However, in the allocation of cumulo rates for the purposes of the LLU price control, rates payable on operational buildings had been allocated in the same way as rates payable on street furniture—in other words, according to the replacement cost of the assets.[540]

2.530. As to CPW's objection that the amount adopted by Ofcom for cumulo rates was higher than that used by KPMG, this was explained by the difference between draft and final versions of the actual rates payable for 2007/08. As to CPW's objection that BT amended the allocation of cumulo rates in a way that was inconsistent with the DAM and KPMG's methodology, Ofcom considered this irrelevant because the method of allocation adopted by Ofcom did not change. Finally, as to CPW's allegation that there was inconsistency between information provided by Ofcom to CPW and information in the LLU Statement, Ofcom disagreed.[541]

2.531. Ofcom explained[542] that cumulo rates were difficult to forecast with confidence. It said that the level of cumulo rates reflected the Valuation Office Agency's (VOA's) view of the future rateable value (and therefore, already reflected the VOA's expectations of future volumes). It was difficult to predict how that view of the future might change and the impact of this on any future rates liability.

2.532. Ofcom considered that the £24 million rebate (of which £16 million related to prior years and £8 million related to 2008/09) was not the basis of the adjustment (also £24 million) made by Ofcom in projecting Openreach's annual cumulo rates bill in the future. Of this £24 million, £19 million was allocated to CRS.[543]

2.533. In addition to reviewing the KPMG report with regard to the reasonableness of the cumulo rates transfer, Ofcom met with BT Property to discuss the allocation of cumulo rates on 7 August 2008. At this meeting, BT Property explained how cumulo rates were calculated and applied to BT's lines of business. BT Property's assessment allocated around 80 per cent of the cumulo rates liability to Openreach and the rest to BT Operate on the basis of net replacement cost of assets. This treated access fibre as a BT Operate asset (which was not in accordance with the regulatory view of Openreach). Ofcom verified this percentage with reference to the RFS and

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[538]Ofcom Defence Annex C §39.2.
[539]Ofcom Defence Annex C §52.
[540]Ofcom Defence Annex C §53.
[541]Ofcom Defence Annex C §57.
[542]Ofcom response to CC questions of 10 February 2010—Q5.
[543]Ofcom response to CC questions of 10 February 2010—Q5(i).

also noted that with the allocation of access fibre to Openreach, Openreach's share of the cumulo rates based on net replacement cost was around 90 per cent. This was consistent with the information provided in the BT transfer changes paper and the BT cost forecast models.[544]

NoA 91.11

2.534. As to CPW's criticism of cost allocation between MPF, SMPF and other services within Openreach, Ofcom drew attention to its determination to ensure that costs reasonably allocatable to non-regulated services were properly so allocated. However, Ofcom could identify no single 'correct way' to make the allocation. Therefore, said Ofcom, the adjustment required an exercise of judgement. Consequently, the adjustment made in the price control was £88 million.[545]

2.535. Ofcom then noted that CPW made a number of criticisms. First, CPW said that Ofcom should have reconciled the number adopted against the regulatory accounts. Ofcom considered that exercise to be impracticable, and in Ofcom's view it was not clear that this would have given rise to a benefit to CPW. It gave the example of Redcare, an unregulated retail product providing customers with security monitoring and alarm services based on a regulated input. As an unregulated product, BT was not required to present and disclose cost information in its regulatory accounts that would allow Ofcom to perform the cross-check suggested by CPW.

2.536. As to CPW's suggestion that a further £27 million adjustment should have been directed from MPF and SMPF to non-regulated services to reflect a £591 million understatement in the MCE allocated to non-regulated services, Ofcom made the following points. First, while CPW suggested that the capital employed by these services should be proportionate to their revenue, CPW took no account of the nature of the services. The services themselves, Ofcom said, largely consisted of engineers charging for additional services, which meant that they did not require significant capital. Second, Ofcom considered that CPW's calculation that a further £591 million worth of assets should be allocated to these services was based on a calculation showing a return of turnover of 25.4 per cent. However, in Ofcom's view there was no evidence to suggest that this was the right figure. Third, Ofcom said that these matters were in any event quite clearly matters of judgement. Taking this point further, Ofcom said that, in relation to a number of small services, it simply estimated a reasonable overall adjustment for them. Having done so, it would have been wrong to make a further adjustment specifically in respect of MCE.

2.537. Ofcom confirmed[546] that it did not have a precise view on the appropriate level of capital employed in connection with these services. However, it did not consider that it was likely to be significant. Ofcom highlighted that CPW's response to the Second Consultation said that these were low capital intensity services and therefore that CPW appeared to share this view. It did not see a credible basis for Mr Kelly's assertion that MCE of £591 million should be allocated to these services.

2.538. As set out in the LLU Statement, Ofcom estimated an appropriate level of costs to be allocated to the non-regulated services and then estimated the extent to which costs needed to be reallocated from other services to the non-regulated services to achieve this. Having estimated the proportion of costs that should be reallocated away from other services, Ofcom had to estimate the proportion of those costs which

[544]Ofcom response to CC letter of 8 March 2010—Q6(b).
[545]LLU Statement §A6.177.
[546]Ofcom response to CC questions of 10 February 2010—Q6(i).

might have been incorrectly allocated to CRS and hence which needed adjusting. Where Ofcom considered it reasonable to assume that most or all of the costs might have been allocated to unregulated services rather than the CRS, it deducted the full amount from the CRS costs. In respect of other costs (ie where not all costs were to be allocated to unregulated services), Ofcom assumed that costs had originally been allocated in proportion to the overall level of costs (around 45 per cent). The overall effect of this approach was to reallocate around 63 per cent of the costs from the costs allocated to the CRS.

2.539. Having made this adjustment at the CRS level, Ofcom had to decide how much of the costs should be reallocated from the individual services. Ofcom did this in proportion to revenues as the unit costs were still subject to change at this time. Ofcom estimated that the impact of allocating in proportion to costs rather than revenues would have been tiny: the effect may have been to reduce the MPF costs estimate in 2012/13 by a few pence.[547]

NoA 91.12

2.540. Finally, Ofcom addressed CPW's criticism of the constant proportion of BT Group's costs that were to be allocated to Openreach during the period of the price control. Here, Ofcom observed that its position was that Openreach would continue to take a constant percentage of the BT Group costs absent 'compelling evidence' to the contrary. Ofcom did not consider that CPW had provided any such compelling evidence. The broker forecasts commissioned by CPW were not such evidence. The averages derived from the brokers' reports were effectively derived by taking four separate revenue projections, deriving from them changes in the relative revenues of those parts, and then averaging the annual percentage change. Ofcom considered that these analyses were not prepared for the purpose of projecting relative revenue and, given significant uncertainty about the future performances of BT's activities, were not sufficient justification for Ofcom to change the allocation bases of costs during the period of the price control. Ofcom also noted that the average fall in revenues was distorted by one broker's projections that were out of line with the other three. Further, Ofcom said that to extrapolate a change in Openreach's share of costs from falling BT Group revenue was not necessarily correct. Ofcom considered that costs were allocated on several bases, most of which had only indirect links to revenue. Similarly, there was no necessary straightforward relationship between the BT Group's cumulo rates bill and the share that was attributed to Openreach.

BT's SoI and supporting evidence

2.541. BT supported Ofcom in opposing the grounds of appeal on cost allocation. It did so through its SoI, in the first witness statement of Mr Edward Dolling, Director of Group Regulatory Finance at BT, and in the expert report of Mr Chris Williams. Mr Williams is a partner in the economic consulting department of Deloitte LLP. The substance of BT's support is set out in Mr Dolling's witness statement and in Mr Williams' report. We will set out below a number of matters raised by them that we have found particularly useful. We start with Mr Dolling's evidence.

[547]Ofcom response to CC questions of 10 February 2010—Q6(ii).

W/S Dolling

NoA 91.1

2.542. §§10 to 32 of Mr Dolling's witness statement are concerned with the use made by Ofcom of BT's Oak model for the purposes of cost allocation. Mr Dolling made a number of points in this regard, the most important of which for present purposes are taken up below.

2.543. First, Mr Dolling explained that the Oak model was developed by BT to measure future unit costs on the basis of Openreach management plans and forecasts. It was used by Openreach to present its position to Ofcom for the LLU review, but was built using the same information that Openreach used to plan and manage its business. Mr Dolling believed that Ofcom did not simply rely on the Oak model but used it to develop its own model based in part on information BT was required to supply during the consultation process. It appeared therefore that the creation of the Oak model was part of the 'advocacy process' by which Openreach sought to persuade Ofcom about the right level of prices. By comparison, Mr Dolling described the RFS as a 'backward looking view for a particular year'.[548] Mr Dolling doubted that the RFS could prudently have been used, even if it were possible, as the foundation of a reasonable forecast of the future costs of the provision of MPF and SMPF. A forward-looking model was necessary. Further, the RFS available at the time that 'BT was seeking to respond to Ofcom's consultation'[549] did not provide the sort of information that in Mr Dolling's view would have been needed to forecast costs for the period of the price control.

2.544. In §11 of his first witness statement, Mr Dolling particularized the reasons why the RFS could not be used. These were that: the data underlying the RFS did not exist in a form that could be used for forecasting purposes; linear modelling using cost volume relationships would have been imprudent given the substantial differences in volumes between the RFS and forecasts at the time of the first consultation; the RFS did not show costs for all the products within the scope of Ofcom's consultation; because the RFS for 2005/06 in 2006/07 used different cost allocation methods for internal and external provision of MPF and SMPF, they were not consistent with the equivalence principles necessary for the forecast period; and the RFS for MPF and SMPF had to be significantly adjusted for certain costs disallowed by Ofcom for pricing purposes. In Mr Dolling's view, the model built by BT was suitable to forecast costs for the purposes of a price control. Notably, it adopted the key cost allocation principles on which the RFS were based.

2.545. Mr Dolling added two further shortcomings of the RFS for forecasting purposes. First, the RFS were extremely detailed and covered the whole of BT's business. Second, the detail was built up from extremely detailed and granular information. Mr Dolling suggested that this was a problem as there was too much data to process and usefully adapt for the purposes of forecasting.[550] Mr Dolling also compared the basis on which charges were recorded to produce the RFS, being the actual daily activities of engineers recorded by the hour or part thereof, unfavourably with that in the Oak model, which forecast costs on the bases of the 'full time equivalent employee proportions'[551] required to deliver forecast volumes for MPF and SMPF and so on.

[548] BT W/S Dolling I §10.
[549] BT W/S Dolling I §11.
[550] BT W/S Dolling I §§13 & 15.
[551] BT W/S Dolling I §16.

2.546. Mr Dolling said that the volumes of MPF and SMPF in the RFS, at 227,000 and 731,000 lines respectively, were of an entirely different order from the forecast volumes for the year 2011/12, which showed 10.6 million MPF lines and 4.7 million SMPF lines.[552] Mr Dolling observed that using the RFS in a 'volumetric manner' to determine future cost forecasts was not viable at low volumes or for products whose costs changed in a non-linear response to significant volume changes.

2.547. Mr Dolling also observed that the RFS did not record costs of the supply of MPF and SMPF and that only the Oak model showed both internal and external costs.

2.548. In §22 and following of his first witness statement, Mr Dolling addressed differences between internal and external allocation of costs. He stated that the RFS for 2006/07 did not reflect cost allocations used in Openreach. It was only when Openreach was created in 2006 that all copper access products provided by BT were treated as supplied as a 'complete market' with the engineers and service centres associated with them. Before the creation of Openreach, other divisions of BT operated in the same markets using different practices, processes and systems to deliver copper-based access services internally and externally.

2.549. As to the areas where Ofcom calculated costs on different bases for price control purposes from the bases used by the RFS, Mr Dolling drew attention to the treatment of copper and duct assets registered before 1997, to adjustments to asset values made in Openreach's profit and loss account in the form of holding gains and losses, and to certain classes of costs that were included in the RFS that were disallowed by Ofcom in MPF and SMPF pricing. Mr Dolling did not consider there to be any good argument that the RFS had an advantage in being prepared on a fully allocated cost basis. His view was that the Oak model was based on the same cost allocation principles as, and was reconciled to, the RFS. Finally, Mr Dolling observed a difference in principle between the RFS and the Oak model. This difference lay in the purpose of the RFS which was to assess compliance by BT with cost or intention of obligations. This was a different exercise from the future assessment of costs for the purpose of imposing a price cap. Mr Dolling said that price controls needed to be implemented with a clear understanding of how costs moved over time. It was for this reason that a model such as the Oak model that was closely linked with the business planning models as well as decision makers within the division was more suitable than the RFS.[553]

NoA 91.3

2.550. As to the allocation methodology adopted by Ofcom, Mr Dolling's view was that Ofcom carried out a highly detailed process of consultation and investigation of cost allocation, during which it scrutinized the total amount of group costs and engaged KPMG to carry out a review. Mr Dolling did not dispute that BT had an incentive to allocate costs to regulated rather than non-regulated services. However, he considered that CPW too had a clear incentive, and that was to argue for underallocation of cost to MPF as opposed to WLR or SMPF, because CPW used MPF whereas its two main competitors, Sky and BT Retail, purchased WLR and SMPF. Mr Dolling considered that such incentives on BT were in fact irrelevant, given the transparency of the Oak model and the RFS to Ofcom, the use of external advisers by Ofcom to test forecasts and allocation, and the reconciliation of the Oak model to the RFS. Mr Dolling drew attention to the difference in the unit cost of MPF between BT's original submission to Ofcom, where a price of £120 per unit was advanced, to the

[552] BT W/S Dolling I §18.
[553] BT W/S Dolling I §29(d).

price adopted by Ofcom in its LLU Statement being £97.62, as evidence of the rigour of the forensic scrutiny carried out by Ofcom.[554]

2.551. As to arguments about the methodology of cost allocation, Mr Dolling pointed out that the majority of transfer charges between BT central functions and Openreach were 'objectively applied'[555] according to formulae based on direct usage or causal bases. It was the remaining charges, including corporate overheads, where there was no clear basis of allocation. However, these constituted only a small proportion of the overall transfer charges. Mr Dolling made a number of further points.

2.552. First, as to the methodological error alleged by CPW in §91.3 of its NoA, Mr Dolling offered the following observations. Corporate overheads, excluding property, were allocated to Openreach on the basis of total FTEs including HR, finance and so on. Mr Dolling did not dispute that there were alternative approaches to allocation that might be suitable. However, his view was that CPW did not present sufficient justification for using a different approach. Mr Dolling also pointed out that there was some confusion in CPW's evidence about the allocation of non-property corporate overheads. Mr Dolling had, he believed, noted the KPMG report that such overheads were allocated on an FTE basis. However, he believed that CPW had made an error in confusing that allocation, which allocated costs from BT to Openreach, with the basis on which group costs were allocated within Openreach to specific services. That second basis was that, within Openreach, group corporate overheads were allocated to services in 'proportion to previously allocated costs'. This, said Mr Dolling, was because FTEs were not identifiable at a service and product level within Openreach.

NoA 91.4

2.553. As to the question of allocation to overseas bodies, Mr Dolling agreed with Ofcom that BT's 'in country operations'[556] had their own HR and finance staff with necessary local skills. Because these were some of the issues that were handled at corporate level in the UK group, it was right that costs incurred in the UK headquarters on such matters should not be allocated to overseas operations.

NoA 91.5

2.554. As to CPW's argument that Openreach had a greater level of independence than other BT operating divisions, Mr Dolling stated that while Openreach was a separate operating division within BT, it nonetheless made use of group functions and was charged a reasonable proportion of overheads. Mr Dolling supported Ofcom's description of the need for similar functions at divisional and group level, before going on to note that Openreach had a lower number of FTEs in finance and HR than did most other divisions within the BT Group.

NoA 91.6

2.555. As to CPW's arguments about BT's sponsorship of the 2012 Olympics, Mr Dolling accepted that Openreach was not a retail business. Nonetheless, he considered that its brand awareness with members of the public was extremely important. Openreach must, he said, be perceived as a trusted brand if engineers were to be able to gain

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[554] BT W/S Dolling I §36.
[555] BT W/S Dolling I §45.
[556] BT W/S Dolling I §51.

permission to the areas in which they worked, especially on the public highway, and in customers' homes and businesses. Mr Dolling believed that the use of the BT brand was critical if Openreach was to obtain that trust.

NoA 91.7

2.556. As to the allocation of costs incurred by Openreach for the benefit of other divisions of BT, Mr Dolling made the following points. First, with regard to the BT logo on Openreach vans, he disputed that this was advertising. On the contrary, he said that Openreach was required by the Openreach settlement to incorporate references to BT in Openreach branding. Second, as regards project management on behalf of BT Northern Ireland, Mr Dolling noted that the cost of the product project management team supporting BT Northern Ireland within Openreach was in the order of £[✂] a year. The omission was, in Mr Dolling's view, immaterial.

NoA 91.11

2.557. Mr Dolling's witness statement explained his understanding of Ofcom's approach to the reallocation of costs from CRS to unregulated services within Openreach. It also explained why BT did not agree with Mr Heaney's arguments. Mr Dolling stated that no other unregulated services had been identified that could have a material impact on the CRS cost stack.[557] He considered that a 20 per cent margin assumption by Ofcom could be considered low rather than high as CPW contented. Ofcom saw these services as commercial services that generated value for customers; BT considered that a commercial margin on these products would be higher than 20 per cent.[558] Mr Dolling presented an explanation to support Ofcom's use of 45 per cent when adjusting costs partially out of CRS and noted that for some unregulated services Ofcom had reallocated all of the cost out of CRS.[559] He noted that Mr Heaney's calculation which suggested CRS revenue represented 55 per cent of total Openreach revenue erroneously included LLU ancillary revenue in the total revenue for CRS.[560]

NoA 91.12

2.558. As to the criticisms made by CPW that the significance of Openreach within BT's overall business would decline, Mr Dolling disputed that this was correct. First, he observed that the primary basis for allocating corporate overheads to Openreach was the use of FTEs. These had, in the past, proved relatively stable. Thus, if the past was any guide to the future, there would be no such change. Mr Dolling also took issue with CPW's reliance on analysts' estimates. He believed that analysts would always display a range of views and that any view based on a small sample of analysts' forecasts was inherently unreliable. Mr Dolling contrasted CPW's survey of analysts with BT's own survey of forecasts of BT's financial performance produced by the major investment analysts covering BT. This data, said Mr Dolling, in its most recent iteration showed that Openreach's revenue was not expected to decline at a faster rate than that of the rest of the BT Group.

2.559. As to CPW's argument that cumulo rates should fall as line volumes fell, Mr Dolling noted that a reduction in line volumes had already been reflected in the cost profile of

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[557] BT W/S Dolling I §91(a).
[558] BT W/S Dolling I §91(b).
[559] BT W/S Dolling I §91(c).
[560] BT W/S Dolling I §91(c).

cumulo rates resulting in a £19 million a year reduction.[561] With regard to CPW's argument that the allocation lacked clarity, Mr Dolling provided a useful explanation of the way in which BT allocated costs in the RFS and in the Oak model, comparing that approach with other approaches within BT. He said that for management accounts and RFS, the key allocation basis was the net replacement value of BT's rateable network assets. Mr Dolling stated that it had been a subject of external audit and regulatory scrutiny for several years. Mr Dolling considered that the allocation that underpinned the RFS was more up to date and rigorous than that used within the management accounts. The RFS allocation process had three stages. In the first stage, BT's cumulo rates bill was allocated across all its rateable network assets, including specialized accommodation according to network replacement costs. In the second stage, rateable asset allocations were allocated across BT operating divisions using bases consistent with those used elsewhere in the RFS. These bases were generally asset ownership, but for specialized accommodation it would be space occupied by each division's assets. The third stage spread allocated costs to services. Overall the total proportion of cumulo rates allocated to Openreach in the RFS and the Oak model was about 90 per cent.

W/S Williams

2.560. Mr Williams is a partner in the economic consulting department of Deloitte LLP. His report was concerned with a review and assessment of Ofcom's cost model and an assessment of the reconciliation between the Oak model and the RFS. Mr Williams also addressed aspects of the allocation of duct costs, one of the points raised and then abandoned by CPW during the LLU Appeal.

NoA 91.1

2.561. In §4.3 of his witness statement, Mr Williams identified the 'interrelated models' relied on by Ofcom in relation to its cost allocation. These were the ABC costing model, two Oak allocation models—one for SMPF and MPF, and one for ancillary services—and the regulatory asset value or RAV adjustment model. Mr Williams noted that these models were based on models provided to Ofcom by Openreach. Further, Mr Williams stated that Ofcom had made what he termed a number of adjustments outside the models and he called these 'off model adjustments'; and that Ofcom had developed its own separate pricing models, the Outputs 2003 model, the MPF and SMPF CRS pricing model and the pricing model for ancillary services. In Mr Williams' opinion, the ABC costing model, the Oak allocation models and the RAV adjustment model all work 'consistently' and in the manner he would expect. As to the off model adjustments, Mr Williams concluded only that such adjustments could equally have been made within the original model. With regard to Ofcom's pricing model for MPF and SMPF, Mr Williams concluded that the calculations were 'consistent' with the LLU Statement. As to the pricing model for ancillary services, Mr Williams concluded that it was consistent with the methodology used for the determination of MPF and SMPF prices.

2.562. In §§4.15 to 4.27 of his witness statement, Mr Williams made a number of detailed points about the approach to modelling adopted by regulators in the UK and elsewhere. We will not try to summarize all the points he made. However, in §4.16 he observed that where there was a single regulated entity for a specific service, it was common for regulators to use business models submitted by the regulated company as a 'key input' into the price control models. He also observed that a number of

[561] BT W/S Dolling I §63.

regulators in the UK, such as the ORR, Postcomm, Ofcom and Ofgem, began their price control analysis with a business plan submitted by regulated companies. A regulator tended to generate its own model where the price control model was to be used to set a price for more than one entity. Overall Mr Williams considered that building price control models was a complex process that required a number of inputs and assumptions to be tested and integrated coherently. The most relevant assumptions in his view were forecasts of demand for a company's products, forecasts of a company's revenues, forecasts of company costs, efficiency adjustments and the permitted level of profitability. Mr Williams considered that these parameters were usually developed as a result of a consultation process. Mr Williams said that it was common for the regulated company to provide business models to set out its view on how these key parameters would evolve over time and then for the regulator to challenge such models.

2.563. As to the question whether Ofcom should have adopted an approach different from that of the RFS, Mr Williams considered that to the extent that a different approach was needed to obtain an appropriate forecast of Openreach's costs, then such divergence was necessary. He believed that it would not be possible to derive a forecast for all of the data and drivers used in the RFS, and that some simplification was necessary to enable a forecast of future costs and their allocation. He also thought that Openreach's own view of its future costs, if subjected to sufficient scrutiny, and adjusted and reconciled to the RFS, provided a better starting point for Ofcom's analysis of costs in the period to 2013 than a model that was 'solely based' on the audited regulatory accounting information for the base year. In §4.31 of his report, Mr Williams stated that the modelling approach adopted by Ofcom appeared to be an appropriate reflection of Openreach costs based on his experience and understanding. He himself would have adopted a 'broadly similar approach' to the modelling had he been asked to undertake the exercise. The approach was consistent with that used by other UK economic regulators.

2.564. However, Mr Williams considered that it was important that the Openreach forecast was consistent with the RFS. He was, however, satisfied that the models could be reconciled to the RFS.

Other

2.565. During the course of the LLU Appeal BT stated that the activities of overseas subsidiaries contributed approximately £4 billion revenue in FY08/09, which represented around half of the total BT Global Services turnover for that period, and a fifth of total BT Group turnover.[562]

2.566. At BT's bilateral hearing, Mr Dolling explained the rationale behind using FTEs as the allocation basis for non-property corporate overheads. He said that these costs lacked a direct causal allocation method and then explained that FTE was the best method available; he noted that using net replacement value of assets would lead to more being allocated to Openreach and that the allocation method used was consistent with that used prior to the setting up of Openreach:

> The allocation methodology we had or we use is FTE and that's because most of these functions relate some way to the volume of labour we have. The HR activity, the legal activity, essentially the accounting activity for instance, the payroll, is run centrally by BT Group and charged out as a corporate overhead. There are choices, and I

[562] BT Response to CC questions of 10 February 2010—Q2.

> think the reason that Carphone Warehouse would possibly ask for another choice is, I suggest, that they can probably estimate that on another choice we could get less costs allocated to Openreach. But there again, on the other side, if we allocated perhaps on a replacement costs of asset basis, we could allocate more costs to Openreach. So I guess we've taken the most causal relationship we could find and we've allocated on FTE. I guess the other issue is, even before Openreach was formed it was allocated on FTE. So this one has been a matter of consistency. Also, it was reviewed by KPMG in the report for Ofcom and that was seen to be a reasonable policy and attribution methodology used by many companies around the world.[563]

2.567. Mr Dolling's description of the property part of the corporate overhead suggested that it related to empty office space, rather than office space used by Group functions. He said that the group functions such as treasury etc were allocated a charge based on the square footage used and that this was then allocated back on the basis of FTEs through the Group HQ section of the corporate overhead.[564]

2.568. In relation to whether any corporate overhead for strategic oversight was allocated to overseas subsidiaries, Mr Dolling said that an element was allocated because it was allocated by FTE, and was thus allocated to Global Services which had quite a substantial employee base in the UK.[565] We note that Mr Dolling also confirmed[566] that the FTE basis used was the UK FTE basis so it appears that Global Services does not take on an additional element of the corporate overhead in relation to these overseas FTEs.

2.569. In response to CPW's suggestion that FTEs of finance and HR staff could not be used as a proxy for the independence or otherwise of a business unit (see paragraph 2.477 above), Mr Dolling confirmed that in his witness statement (to which this argument was addressed) he was trying to illustrate that if the original accusation from CPW was to be supported then one would expect Openreach to have a much larger staff to substitute for the functions that the corporate side of BT actually performed on their behalf, and that was not the case; the original comment was purely illustrative.[567]

2.570. As an example of where Openreach benefited from being a part of the BT Group, Mr Dolling suggested that the benefits lay in the efficiencies of scale of corporate functions: HR policy, legal services etc.[568]

2.571. Mr Dolling also confirmed that cumulo rates were set every five years by the VOA and that the end of the current cycle was in April 2010.[569]

2.572. In Mr Dolling's second witness statement, he commented on Sky's reference to the fact that the VOA had now published a draft value for BT's cumulo assessment to apply for the 2010 rating list that would be effective from 1 April 2010. Mr Dolling explained that the draft value was published only in late September 2009, ie several months after the LLU Statement was published.[570] Mr Dolling said that at May 2009, at the time of the LLU Statement, neither the rateable values nor the rate poundage

[563] BT hearing transcript, p46, line 16, to p47, line 3.
[564] BT hearing transcript, p48, lines 1–5.
[565] BT hearing transcript, p50, lines 9–11.
[566] BT hearing transcript, p49, lines 14–15, 'it's considered that the corporate overhead is being driven by the UK based FTE'.
[567] BT hearing transcript, p51, lines 17–22.
[568] BT hearing transcript, p54, lines 14–20.
[569] BT hearing transcript, p57, lines 19–31.
[570] BT W/S Dolling II, §25.

that would apply in 2010/11 would have been known, nor any details of any transition schemes that might apply.[571] His view was that not only did the draft valuation post date the LLU Statement but also that this did not provide a guide to what BT would in fact pay.[572]

Sky's SoI

2.573. Sky's SoI did not address the issue of cost allocation.

Assessment

NoA 91.1

2.574. In §§91.1(a)–(e) of the NoA, CPW made a series of criticisms based in or consequential upon Ofcom's reliance on BT models rather than BT's RFS. The first specific criticism made by CPW was that the numbers in the BT models lacked the level of assurance found in the RFS. This was followed by criticisms of both BT's and Ofcom's reconciliation of the BT models and the degree of confidence that Ofcom could have in BT's figures. During the LLU Appeal, CPW developed its thinking as to the relief it sought under §91. In its Reply I,[573] CPW described itself as 'pragmatic' about Ofcom's failure to use the RFS as a starting point. It adhered to the view that the outcome of the price control process would have been different had Ofcom adopted the RFS. But, CPW continued, the significance of that starting point for the LLU Appeal was that Ofcom's failure should be held clearly in mind in the assessment of Ofcom's subsequent decision making. Subsequently in its Reply II,[574] CPW maintained that position, adding that Ofcom's adoption of the BT models was not best regulatory practice and that it was important for future price controls that this should be recognized. On 18 February 2010 the CC wrote to CPW to ask what relief it sought under §91.1. In response, on 22 February 2010, CPW advised that it did not rely directly on any of the matters raised in §91.1 as giving rise to an adjustment to the price control. Instead CPW asked the CC to comment adversely on the appropriateness of Ofcom's approach. CPW also argued that Ofcom's adoption of the BT models should heighten the intrusiveness of the CC's scrutiny of Ofcom's decision making. We understand this to be a point of general application and not limited only to the question of cost allocations. Throughout this appeal, we have carried out a thorough review of Ofcom's charge control decision and have considered whether the criticisms of it made by CPW demonstrate that Ofcom has erred. Given the thorough nature of our review, we have not found it necessary to adopt a 'heightened scrutiny' of some parts of Ofcom's decision making.

2.575. CPW argued that the benefit of such comment would be found in future price controls. At its bilateral hearing on 5 March 2010, CPW[575] justified its request for an adverse comment by reference to Rules 3(1)(a) and (b) of the 2004 Rules, and by reference to the approach adopted by the CC to transparency in the MCT Determination. In the MCT Determination, the CC commented adversely on the transparency of Ofcom's decision and reasoning even though that lack of transparency might have no bearing on the accuracy of the price control adopted. We remain of the view that transparency in Ofcom's decision making is important for several reasons, not the least of which is in facilitating focused challenges to its

[571]BT W/S Dolling II, §27.
[572]BT W/S Dolling II, §28.
[573]CPW Reply I §122.
[574]CPW Reply II §105.
[575]CPW hearing transcript, p34–38.

decisions and, we hope in consequence, speedier appeals than have hitherto been the norm. However we do not think that the CC's willingness to comment on the transparency of Ofcom's decision making justifies a request for an adverse comment on a specific aspect of the substance of the price control.

2.576. Ofcom objected to CPW's request for an adverse comment. It said, first, that CPW's NoA did not allege a departure from best practice of any matter related to future price controls. Second, the reference made to the CC invited the CC to consider Ofcom's methodology only insofar as it related to the level of the price control. Finally, Ofcom took issue with CPW's argument about the intensity of review.

2.577. The use made by Ofcom of the BT models has proved contentious in a number of ways during the LLU Appeal. Because of its significance as a step in Ofcom's analysis we have set out above a number of observations offered in the pleadings and evidence on the use made of it for cost allocation purposes. We have also reviewed the material submitted to us by Ofcom, CPW and others in relation to the criticisms made by CPW under §91.1. The view that we have reached is that whether Ofcom was right or wrong to adopt the BT models rather than the RFS for these purposes, and whether or not CPW was correct to make the consequential criticisms of Ofcom set out in §91.1, these are not matters that can be said to have precedent value for other price control reviews carried out by Ofcom. The decisions taken by Ofcom to adopt the BT models and the subsequent steps taken by Ofcom to satisfy itself of the reliability of the figures appear to us to be decisions taken by the regulator in the context of this price review and the merits of those decisions are very closely related to their context. Consequently, with no adjustment to the price controls now sought by CPW, we have little more to say about them. In the circumstances, we have not felt it necessary to decide whether or not it would be open to us as a matter of law to comment adversely on Ofcom's approach where no adjustment to the price control is sought.

NoA 91.3

Introduction

2.578. The first issue on which an adjustment to the price control is sought is the basis on which corporate overheads were allocated from the BT Group to Openreach. This is a dispute about methodology. Whilst CPW's understanding of Ofcom's allocation of the BT Group's corporate overheads developed during the course of the LLU Appeal, its dispute with the approach taken by Ofcom did not. Its final position can be summarized thus: taking into account a wider range of measures used in allocating costs than Ofcom relied on would identify a wider range of business activities that can be associated with group activities, and as such would be a better and less 'biased' tool to analyse and allocate what CPW termed 'management time'.

2.579. CPW argued that a wider range of metrics would lead to a better allocation of corporate overheads. The metrics in CPW's assessment were revenues, return on assets and operating costs. Essentially, CPW did not think that Ofcom sufficiently assessed the sensitivity of the results of its cost allocation to competing methods of allocation. In support, CPW argued that Ofcom placed too much weight on an audit opinion of the 2007/08 costs because that opinion was concerned with whether BT had executed its chosen methodology, rather than with the choice of methodology.

2.580. In its Defence, Ofcom relied heavily on the DAM, on the opinion of BT's auditors and on the KPMG review. Taking these in order, the approach adopted in the DAM was that headquarters costs represent a combination of the management by the BT Group of employees within the company and the management of the assets of the company to create a return. The DAM states that the basis of allocation to be used in the RFS is an apportionment that weights salary costs and asset-based returns.[576]

2.581. However, the methodology for the allocation of headquarters costs in the price control differs from that stated in the DAM. The price control uses the number of employees, measured as FTEs for non-property costs and previously allocated accommodation space[577] for group accommodation charges.

2.582. CPW argued that the auditors' opinion in 2007/08 certified only that the RFS were properly prepared in accordance with the detailed cost allocation methodologies. In other words, the 2007/08 audit opinion assessed the execution but not the choice of methodology. Subsequently, in 2008/09 the auditors expressed a 'fairly prepared in accordance with' opinion. However, in any case, the methodology reviewed by the auditors was not that used in the price control, so reassurance from the audit does not extend to the price control.

2.583. Finally, KPMG's review was specifically undertaken with the price control in mind. It assessed the actual methodologies used in the price control. KPMG was unable to conclude that the methods used were the same as in the RFS[578] (see paragraph 2.459). It concluded that FTEs were a reasonable basis for allocating non-property costs. But KPMG was less convinced with the allocation method used for property costs, noting 'We are unclear how the cost of property is relevant to the corporate property overheads incurred by a line of business and suggest that this allocation required additional scrutiny'.[579]

Assessment

2.584. Our conclusion is that Ofcom has not erred as claimed by CPW in §91.3 of its NoA.

2.585. Of the matters relied on by Ofcom, the KPMG report seems the most supportive, but is not an unqualified endorsement.

2.586. For the purposes of the LLU Appeal, the relevance of the method of allocation chosen is that it will bear directly on the amount that CPW must pay for MPF and SMPF services. During the course of the LLU Appeal we have considered whether and to what extent the outcome of the allocation for the price control should determine the method of allocation selected. Our conclusion is that it should be one of the factors taken into account. The purpose of the exercise is an important aspect in deciding whether the method of allocation is appropriate. We recognize that there is more than one way of allocating corporate overheads from the BT Group to Openreach. It is therefore right to say that Ofcom had to choose between different methods. We also recognize that different results follow according to the method adopted. Ofcom argued that having made a decision for good reasons about the method of allocation, the CC should be slow to intervene. We agree, but will nonetheless do so if necessary. On examination, it may prove that one method is clearly preferable to another for the purposes of setting the price control. We have to decide whether, on the evidence and arguments presented by the parties, allocation according to FTE and previously allocated property space is worse than CPW's proposal for allocation by revenues, operating costs and return on assets.

[576]The DAM states that an apportionment can be derived by weighting 'the previously attributed pay costs together with the net book asset values (taking into account the fact that the asset amounts have already had the return on assets and investment percentages applied to them)'.
[577]Our understanding is that this is in proportion to the cost of property occupied directly by business units.
[578]KPMG 'Review of Openreach Allocation Methodologies', 3 November 2008, §3.3.4.
[579]KPMG 'Review of Openreach Allocation Methodologies', 3 November 2008, §3.3.4.

2.587. We consider that the corporate overheads around which the dispute is centred can be broken down as set out in Table 2.8 below.

TABLE 2.8 **Corporate overhead breakdown, 2007/08**

	£m
Corporate overheads—Openreach	
Property	[✂]
Group HQ functions (incl tax, treasury, legal)	[✂]
Group CTO	[✂]
One IT overheads	[✂]
	[✂]

Source: Ofcom Response to Q2(i) CC questions of 10 February 2010.

2.588. The parties[580] have suggested that the consequence in terms of the charge for MPF of adopting Ofcom's approach and not that of CPW is in the region of £0.60 in year 1 (per line per year) and £0.66 in year 2 (per line per year). Of the costs to be allocated, the property costs are less than one-third.

2.589. We accept that a consequence of CPW's argument is that the metric it preferred would reduce the amount of costs allocated to Openreach. CPW argued that the right metric should take into account revenues and non-staff-driven costs associated with group activities as well as return on assets and staff costs. But CPW has not clearly explained why a wider basis is more relevant to these specific costs. For example, it has not explained why an allocation on a basis that includes revenue, non-staff and asset costs is relevant for the allocation of HR costs (which are included within Group HQ functions); nor why allocation on the basis of FTEs is not appropriate for the allocation of IT overheads related to company-wide IT support. KPMG's evidence is supportive of the use of FTEs for Group HQ functions, Group CTO and One IT overheads. While we agree with KPMG that the allocation method used for property costs is less convincing than for other costs, we are not persuaded that overall CPW's approach is better than Ofcom's. Thus, while we acknowledge that the method of allocation is not perfect, we are not satisfied that CPW has established that an alternative method of allocation is better.

2.590. CPW also argued that a wider metric would remove an allocation bias towards Openreach. But we do not think that this has been fully explained or rationalized. We understand CPW's point to be that because Openreach has a high proportion of the BT Group's fixed assets, an allocation based on return on assets inevitably leads to a high allocation of corporate overheads to Openreach. This does not seem to us to be an argument about bias per se, but about the right choice of method of allocation. In any event, return on assets has not been used as a basis of allocation by Ofcom. Further, while CPW has explained why its initial understanding of Ofcom's method directs costs to Openreach, it has not shown that its method would not inappropriately allocate costs to other parts of the BT Group. For example, including revenues as an allocation basis may distort the allocation of costs between business units. This is because revenues earned from the supply of services by operating divisions within the BT Group will reflect not only the value added by that operating division but also the cumulative effect of value added by cumulative supplies within, or indeed outside, the BT Group. Revenues earned at each stage of a supply chain may represent not only the added value of costs at that stage, but of costs incurred at earlier stages.

[580]CPW letter of 23 March 2010 (£0.60 year 1 and £0.66 year 2) and Ofcom letter of 4 March (£0.60 year 1 and £0.70 year 2).

2.591. In our view, CPW has not made its case that there is a better method of allocation than that adopted by Ofcom and has not shown that Ofcom has erred in the method of allocation adopted.

NoA 91.4

Introduction

2.592. The issues relating to overseas businesses have developed during the LLU Appeal. CPW has withdrawn its arguments relating to overseas cost centres. CPW's remaining arguments are concerned only with allocation of corporate overheads to overseas subsidiaries and not with their allocation to overseas cost centres. CPW considered that corporate overheads should be allocated to overseas subsidiaries as well as to UK business units as, it argued, overseas subsidiaries would also benefit from group functions such as tax, legal and treasury operations as well as matters such as wider strategic direction. The amounts in issue were, in CPW's estimation, £0.46 (year 1) and £0.50 (Year 2) per MPF line per year.[581] However, Ofcom's view was that very little of the corporate overheads may in fact be attributable to overseas subsidiaries.

Assessment

2.593. Our conclusion is that Ofcom has not erred as claimed by CPW in §91.4 of its NoA.

2.594. The central issue is the extent to which overseas subsidiaries benefit from services at the BT Group level. Unfortunately there is limited evidence. The only breakdown of corporate overheads is that set out in Table 2.8 (see above), which does not break down into domestic and overseas costs. Ofcom considered that only the £[✂] of Group HQ functions can possibly be relevant to overseas subsidiaries, and most likely only a small part of that. This gives both parties a problem. For CPW, the difficulty is in bringing its challenge, because the services provided to overseas subsidiaries by the BT Group are not recorded in detail in the LLU Statement, and the method by which Ofcom concluded that no allocation of costs should be made from the BT Group to the overseas subsidiaries rests to a considerable extent on Ofcom's judgement. It appears to us that the overseas subsidiaries contribute 20 per cent of group revenues. In such circumstances, it seems likely that at least some amount of management time is devoted to them, though how and at what level of the BT Group (eg central head office or operating division management) is entirely unclear. This points to two difficulties for Ofcom: first, as to the amount of time and expense that it must devote to the identification of the amount of that management time and the level in the organization at which it is incurred; and second, as to the significance of the costs in terms of management time that will be devoted to overseas subsidiaries. The two are related and the question, as it seems to us, is whether Ofcom can be said to have been in error in not pursuing to a conclusion the identification of that amount of management time given what Ofcom may reasonably have anticipated as the likely sums involved. In answering this question, we recognize that it may not be possible to exclude some approximation at this stage of a cost allocation.

2.595. We note Ofcom's observation that overseas companies need to comply with local legislation with regard to legal, tax and accounting requirements and that therefore most, if not substantially all, of the Group HQ functions would relate to UK activities.

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[581]Ofcom assessed the impact of adopting CPW's approach to be £0.40 (year 1) and £0.50 (year 2) per MPF line per year.

The sorts of functions at group level that are likely to be relevant to overseas subsidiaries are those such as strategic input and treasury which would represent only a subset of the £[✂] Group HQ functions category. CPW has estimated that if all the Corporate Overhead transfer charge were to be relevant to overseas subsidiaries, then the misstatement is £0.40–£0.50 per MPF line per year. However, this is not the case given Ofcom's evidence that Property and IT costs are not relevant to overseas subsidiaries. If it were only the £[✂] HQ functions category that was relevant, as seems to be the case based on Ofcom's evidence, then the misstatement is reduced to £0.16–£0.20. Further, BT's and Ofcom's evidence suggests that only a small proportion of the Group HQ functions charge is relevant to overseas subsidiaries and therefore that any misstatement would be less than £0.16–£0.20. It is therefore not clear that any misstatement resulting from non-allocation of overhead to overheads subsidiaries would be significant. At the same time, it is not obvious to us that Ofcom could easily have ascertained the actual sums, or that it could have asked BT to do so in a way that is necessarily proportionate to the amounts involved.

2.596. Given Ofcom's view (with which we concur for the reasons above) that the likely significance of the costs involved is small, and given that there is no obvious method of identifying the precise costs involved, we are not persuaded that CPW's argument that Ofcom made an error in not allocating corporate overheads to overseas subsidiaries has more merit than Ofcom's approach.

NoA 91.5

Introduction

2.597. A similar problem arises in CPW's claim that, because Openreach has its own headquarters, it should have a correspondingly lower allocation of the BT Group corporate overhead costs. CPW estimated that an appropriate allocation would result in around a £0.25 adjustment to MPF prices per line per year.[582]

Assessment

2.598. Our conclusion is that Ofcom has not erred as claimed by CPW in §91.5 of its NoA.

2.599. There is very little information to go on and the approach adopted by Ofcom is to consider Openreach to incur corporate overhead allocation on the same basis as other UK business units. This in turn leads to only limited transparency in Ofcom's decision. CPW's assumption is that because of the necessary separation of Openreach from the rest of the BT Group, Openreach receives little support from the BT Group. However, we have found this problem easier to resolve than that of the overseas subsidiaries on the evidence presented. The clearer position is that whilst being 'functionally separate', Openreach remains an operating division of the BT Group, and it is substantially dependent on the BT Group for certain key functions along with, and in a similar manner to, other BT Group operating divisions.

2.600. We also accept Ofcom's submission (see paragraph 2.524 above) that a common corporate function was envisaged on the creation of Openreach. Whilst the notion of keeping staff separate at a basic level brings into question the ability of Openreach to use shared resources (see Mr Heaney's comments, paragraph 2.478), it is our view that the regulator is content with the use by Openreach of this shared resource and

[582]£0.24 year 1, £0.26 year 2. Ofcom estimated the difference in the parties' approaches to this allocation to result in a difference of £0.10 per MPF line per year.

CPW has not presented evidence to demonstrate that Openreach uses it any less than other business units.

2.601. We note CPW's argument that there was no consistency between Ofcom's claims that benefits derived from the BT Group were minimal in terms of overseas subsidiaries but that account must be taken of the benefits that were derived by the UK operating divisions from the BT Group. However, we do not see merit in this argument as the benefits to overseas subsidiaries have not been demonstrated to be significant (see paragraph 2.595); whereas, as set out above, the benefits derived from the BT Group have not been demonstrated to differ between UK operating divisions.

2.602. While Ofcom's approach may be said to be approximate, we do not believe it has been shown to amount to an error and are therefore not persuaded that Ofcom has erred on this ground.

NoA 91.6

Introduction

2.603. CPW argued that certain costs allocated to Openreach were only tangentially, or not at all, relevant to Openreach since it was not a retail-customer facing business. CPW cited the costs of sponsoring the Olympic Games, as well as costs associated with hospitality, market research, consultancy etc.

Assessment

2.604. Our conclusion is that Ofcom has not erred as claimed by CPW in §91.6 of its NoA.

2.605. In relation to the costs of sponsoring the Olympic Games, our understanding is that these costs relate to the element of sponsorship cost associated with the BT Group and not to specific business units. The costs of hospitality, market research, consultancy etc are costs that cannot be directly attributed to a business unit and are therefore incurred on behalf of the BT Group as a whole. The benefits of such costs are inherently difficult to assess. Ofcom's approach has been binary regarding cost allocation: costs are either included or excluded, and the relative benefits to different business units are not considered.

2.606. Ofcom's view was that Openreach benefited from being associated with the BT Group brand. We accept that Openreach benefits from association with the BT Group and that incurring an element of the costs associated with this is therefore reasonable. Ofcom's approach has been supported by BT, arguing for benefits to Openreach engineers in gaining access to end-customers' properties. We accept CPW's argument that other wholesale providers in other utilities also needed to access homes and businesses and accept that they may have little difficulty doing so. But the conditions in which they do so, and the costs of them doing so, have not been established by CPW. Moreover this is not the only relevant consideration.

2.607. Whilst it appears that it is the BT Group's retail activities that are likely to benefit most from sponsorship and other marketing activities, CPW has not shown that they will be of no value to Openreach. As we cannot conclude that there will be no benefit to Openreach, given the sums involved, which are relatively small, and the difficulty of measurement and allocation—Ofcom and CPW assessed the impact of the disagreement on treatment of these costs to be around £0.10 per MPF line per year[583]—we are not persuaded that CPW's argument that Ofcom made an error in allocating these costs to Openreach has more merit than Ofcom's approach.

NoA 91.7

Introduction

2.608. CPW did not dispute that the cost involved in putting the BT Group logo on the Openreach vans was insignificant. CPW's argument concerned value attribution where the BT Group benefited from Openreach's activities. CPW considered Ofcom's approach to overstate the cost of an MPF line by £0.47 in year 1 and £0.51 in year 2.[584]

2.609. In relation to Northern Ireland, there is general agreement that costs relating to the management of services in Northern Ireland should not be included in the LLU price control.[585]

Assessment

2.610. Our conclusion is that Ofcom has not erred as claimed by CPW in §91.7(a) or §91.7(c) of its NoA.

2.611. We accept Ofcom's submission that Openreach benefited from being associated with the BT Group. Likewise, the BT Group benefits from association with Openreach (see paragraph 2.606 above). Further, we are concerned that CPW may be highlighting just one instance where a business in the BT Group benefits from being a part of the BT Group without looking at the overall position. BT told us that Openreach benefited from economies of scale from being part of the BT Group (see paragraph 2.570 above).

2.612. Ofcom's approach is to allocate costs and not to assess the value of benefits conferred on different parts of the group through their inter-association. We do not therefore find it necessary to conclude as to the value derived either from Openreach or the rest of the BT Group from their association. In our view, it would be wrong to make an adjustment for this one externality in isolation. It may be one of many such externalities. We therefore find no error on the part of Ofcom in not allowing a reduction in costs allocated to Openreach to take account of the use of the BT Group logo on Openreach vans.

2.613. In relation to §91.7(c) of the NoA, there is general agreement that the costs relating to the management of services in Northern Ireland should not be included in the LLU price control and that there has been a misallocation. In Annex C to its Defence (at §39.2), Ofcom stated that: 'As Northern Ireland volumes only make up around 4% of the total number of lines, the cost to Openreach of providing any management services is too small to have any material impact on LLU prices.'

2.614. Whilst we can see that any adjustment to reflect these costs may well be small, we do not see that it follows that, because an adjustment is small it should not be made. As we note in paragraph 2.446 above, in determining the appropriate costs to allocate to Openreach, Ofcom will have needed to balance the benefits of analysing data at a more detailed level than in the BT models against the time and resources

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[583]CPW £0.10 in Y1 and £0.11 in Y2 (letter of 23 March) and Ofcom £0.10 in each year (letter of 4 March).
[584]Ofcom assessed the difference in its approach and CPW's to be £0.40 in Year 1 and £0.50 in Year 2.
[585]Ofcom considered the error resulting from this to be less than £0.10 per MPF line per year.

required to perform a more detailed examination. We consider that, in principle, if the size of an adjustment can be easily and reliably obtained, then there is an argument that an adjustment should be made to ensure that prices reflect costs as accurately as possible. Ofcom's Defence does not suggest that assessing these costs would have been complex; indeed Ofcom has estimated the number of lines used by the business in Northern Ireland and it seems reasonable to expect an estimation of the costs using this information could have been made.

2.615. However, there remains a materiality threshold. We note that Ofcom has estimated the scale of the misallocation to be less than £0.10 per MPF line per year. In our view, the misallocation is not of sufficient importance to vitiate Ofcom's decision on this point in whole or in part. An error of less than £0.10 per MPF line per year amounts to approximately 0.1 per cent of the value of the price of an MPF line per year. This is not a material error.

NoA 91.10

Introduction

2.616. Concerning cumulo rates, CPW's NoA positioned this as an argument regarding transparency of the cumulo rate allocation. Through the course of the LLU Appeal, CPW's understanding of the cumulo rate allocation has been improved by access to Ofcom's models. In so far as they actually have an effect on the price control, CPW's arguments focus on Ofcom's treatment of the effect of future line volume reductions on cumulo rates. CPW estimated the impact of these reductions per MPF line to be £0.18 in Year 1 and £0.26 in Year 2.[586,587]

Assessment

2.617. Our conclusion is that Ofcom has not erred as claimed by CPW in §91.10 of its NoA.

2.618. CPW argued that while Ofcom expected and had forecast a line volume reduction of 7 per cent, it had not adjusted the cumulo rate charge to reflect this. Ofcom explained that cumulo rates were difficult to forecast and that the level of cumulo rates reflected the VOA's view of the future rateable value. That is, it already factored in expected declines in future volumes. Mr Dolling's evidence was that cumulo rates were estimated by the VOA on a five-yearly basis with the current estimate being set until April 2010. It appears to us therefore that Ofcom's reliance on the VOA factoring in volume decline has merit at least to the end of 2009/10.

2.619. In January 2009, there was a change in BT's rateable value, which resulted in BT receiving a retrospective rebate for cumulo rate payments made between 2006/07 and 2008/09. £24 million of this rebate was allocated to Openreach. Of this £24 million, £16 million related to previous years and £8 million related to 2008/09. In forecasting the likely charge in 2009/10 to 2012/13, an adjustment reducing the cumulo rates charge for Openreach by £24 million in each year was made. In response to clarification sought by us, Ofcom explained that in addition to receiving a rebate in January 2009, BT also reassessed the rateable value based on an updated volume forecast which gave rise to an additional £16 million annual reduction. This led to a £24 million (£8 million rateable value reduction plus £16 million volume

[586] Ofcom estimated the difference in CPW's approach compared with its approach to be less than £0.10 per MPF line per year.
[587] CPW said that this impact was assessed on the basis of reducing cumulo rates in line with reductions in copper lines and that no adjustment had been made to reflect the 37 per cent rateable value change.

reduction) annual reduction in the forecasts for years 2009/10 to 2012/13 of which £19 million was attributed to CRS.[588]

2.620. In light of Ofcom's clarification, BT has explained[589] that it does not make a reassessment of the rateable value for its cumulo assessment. It confirmed that only the UK rating authority is able to do this. BT referred [back] to evidence presented in Mr Dolling's second witness statement which explained the basis for the rebate. It is not clear that BT supports Ofcom's view that [a future/an additional] reduction of £16 million has been forecast. However we note that a £24 million reduction was applied in 2009/10 and charges in future years were forecast from this figure. This implies that some future reduction in rateable value has been forecast. The evidence presented to us suggests that the rebate represented more than one year's worth of adjustment. To reflect the likely future decrease in cumulo rates represented by this rebate, assuming a reduction is made on the same basis going forward, would not require a £24 million reduction to the 2009/10 figure, rather an £8 million adjustment (one year's worth). The fact that a larger (£24 million) reduction has been applied suggests that further reductions in rateable value have been forecast for future years. It therefore appears to us that some account has been taken of the likely future volume decline.

2.621. Given the size of adjustment proposed by CPW in relation to line volumes (see paragraph 2.616) and that some, if not all, of the expected future line volume reduction has been factored into the cost forecasts, we do not think that CPW has shown Ofcom to have erred.

2.622. CPW also argued that the VOA had issued a draft cumulo rates revision for 2010 and that this should have been factored into Ofcom's estimates. In our provisional determination, we made the following observations in this regard:

> First, that it was only a draft. Secondly, that a fall in rateable value does not necessarily translate into an equivalent fall in the cumulo rates charge. For example, the poundage set might also be altered. Given the relatively small sums involved, and the imprecision of any adjustment proposed by CPW, we did not think that Ofcom had erred because it failed to act on a draft the consequences of which are uncertain.

2.623. In response to our provisional determination, CPW argued that Ofcom was obliged to base its decisions on the best available information and that this draft was available in January 2009. It also said that the impact of a 37 per cent reduction in rateable value was not small and would impact the price control by £2.50 per line in 2010/11.[590] CPW later said that '37 per cent' was a typographical error and that its submission had meant to read 27 per cent.[591]

2.624. The VOA's Draft 2010 rateable value list, which proposed a reduction of 37 per cent in rateable value, was published in September 2010. That is, after the date of the LLU Statement.[592] Ofcom could not therefore have been expected to include this draft revaluation in its cost forecasts. We are not persuaded that Ofcom has erred by reason of its failure to take account of the statement.

[588]Ofcom letter date 26 July 2010.
[589]Ofcom letter dated 3 August 2010.
[590]CPW response to the LLU provisional determination §41.
[591]Email from Simon Neill (Osborne Clarke) 22 July 2010.
[592]BT reconfirmed this position in its letter to us dated 23 July 2010.

NoA 91.11

Introduction

2.625. CPW has raised a bundle of points concerning the allocation of costs between regulated and unregulated services in Ofcom. The core issue in this part of the LLU Appeal is CPW's challenge to Ofcom's assessment of the capital costs associated with non-regulated services within Openreach. This is a point that CPW did not consider significant during the consultation process. In addition, CPW argued that in any event Ofcom's assessment based purely on operating costs had understated the operating costs of unregulated services. Further, CPW argued that Ofcom could have obtained more accurate data in order to make this adjustment and that in applying the adjustment across CRS a cost rather than revenue basis should have been used.

2.626. CPW initially claimed that the errors in Ofcom's approach to the capital costs associated with non-regulated services, overstated the cost of an MPF line by £0.55 in year 1 and £0.67 in year 2.[593] In response to our provisional determination, CPW reduced this assessment to an overstatement of £0.32 per WLR/MPF line in 2012/13.[594] It also said that the effect of Ofcom attributing the adjustment between the services comprising CRS on the basis of revenues and not costs resulted in an error 'nearer £0.31 per line' than the few pence Ofcom estimated.[595]

Assessment

2.627. Our conclusion is that Ofcom has not erred as claimed by CPW in §91.11 of its NoA.

2.628. We first discuss the smaller elements and then address the arguments presented regarding the capital costs of the unregulated services. Ofcom stated (see paragraph 2.535) that reconciling the adjustment assumed against the RFS was not practical as BT was not required to disclose detailed data on these products as part of the RFS. Whilst it may be possible for Ofcom to request this data, we consider that CPW has not demonstrated that Ofcom was in error in its assessment of the proportionality of making such a request and do not find making an adjustment at an overall level to be inappropriate.

2.629. We see merit in principle in CPW's argument that there was an inconsistency if the assessment of the total amount to be reallocated out of CRS had been made on the basis of costs, but this amount was then allocated across CRS products on the basis of revenues. However, we accept Ofcom's estimate (see paragraph 2.539) that the effect was only a few pence in 2012/13 and we can see that practical considerations may have driven this approach. In response to our provisional determination, CPW said that Ofcom's approach resulted in 'nearer £0.31' per line rather than only a few pence as Ofcom estimated.[596] CPW cited Mr Kelly's second witness statement, which no more than asserted this figure of £0.31. CPW has not put forward reasons to explain why there would be a £0.31 difference in allocation of cost reductions between CRS on the basis of revenues rather than costs. It is for CPW to demonstrate that Ofcom has erred and we are not persuaded on the basis of an assertion alone that an error has been made.

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[593] Ofcom assessed the difference it its approach compared with CPW's as £0.70 in Year 1 and £0.80 in Year 2.
[594] CPW response to the provisional determination §48.
[595] CPW response to the provisional determination §50.
[596] CPW response to provisional determination, §50(a).

2.630. CPW also said that the practical considerations to which we referred (the fact that unit costs were subject to change at the time the adjustment was made) are not significant. It argued that Ofcom could have allocated on the basis of the costs as they stood at the time of the consultation and explained that the final numbers might vary once unit costs were fixed.[597] We consider that it is appropriate for Ofcom to have used its judgement in deciding when and how to make the adjustment between CRS and do not see that it has been shown to be in error.

2.631. As to the level of operating costs assumed by Ofcom, CPW argued that the margin assumed for the non-regulated products had been overstated and that therefore higher costs should be allocated out of CRS. CPW considered a margin of 10 to 15 per cent to be appropriate. Mr Dolling argued that a margin higher than 20 per cent would be a commercial margin for these products. Whilst we note CPW's arguments that these costs used less capital than Openreach on average, we do not see that the margin presented by CPW of 10–15 per cent has been explained adequately. Comparing specific services to the overall business margin of the TalkTalk Group (a retail operator rather than a wholesale provider) is not decisive.

2.632. As to Mr Heaney's comments that 55 per cent of the under-allocation should come from CRS as compared with Ofcom's 45 per cent (see paragraph 2.504*(c)*), Ofcom disagreed, explaining that overall approximately 63 per cent was reallocated from CRS (see paragraph 2.538) including services where it had made a full adjustment of costs from CRS. In our provisional determination we said that there appeared to be a misunderstanding by CPW. In response to our provisional determination, CPW disputed that there was a misunderstanding. It said that its concern with the use of 45 per cent and not 55 per cent was for those costs not entirely allocated away from CRS and not for the overall reallocation from CRS, as our provisional determination had suggested. We accept this clarification and have given the point further consideration. CPW argued that 55 per cent of the allocation for four of the services should be reallocated from CRS, not 45 per cent, since that was the proportion of total revenues that CRS represents of Openreach.[598]

2.633. We were not persuaded by CPW's argument that 55 per cent is the correct proportion for the following reasons:

(a) BT's evidence shows that in calculating 55 per cent as the proportion of CRS revenues in Openreach, CPW has erroneously included revenues related to ancillary services as part of CRS, see paragraph 2.557. It is clear that the calculation proposed by CPW is not correct; and

(b) the use of 45 per cent by Ofcom was to calculate the amount of costs to be reallocated out of CRS; Ofcom calculated this on the basis of proportion of costs and not proportion of revenues (see paragraph 2.538). We are therefore not persuaded that an argument by CPW based on the CRS proportion of Openreach revenues is relevant.

2.634. The most important argument made by CPW was that capital costs associated with the non-regulated services had not been factored into Ofcom's assessment. Ofcom considered that it had factored these in where it had estimated an overall cost adjustment to services and that adjusting again would be double counting. But in our view this does not address the capital cost of services where a general cost assumption has been applied. However, we note Ofcom's view that the capital employed in connection with these services was low and that this was supported by

[597] CPW response to provisional determination, §50(b).
[598] CPW response to provisional determination, §49.

CPW during the Second Consultation (see paragraph 2.537). Ofcom consulted on a range for the adjustment of £49 million to £98 million and the £88 million selected falls towards the top of this range. We agree with Ofcom that the calculation presented by Mr Kelly is likely to be overstated. Mr Kelly calculated the MCE value for the unregulated services using the average proportionate return for Openreach when both sides accept that the MCE for these services is smaller than average. Indeed CPW did not dispute this, noting that the capital intensity of the unregulated services might be lower than for regulated services and claiming that 'quibbles' with the calculation did not undermine the principle that some capital would be associated with these services. In our provisional determination we said that:

> Our view of these complaints is that they boil down to an argument about the materiality of an adjustment to reflect capital costs. CPW's calculation of the adjustment allegedly required (see paragraph 2.626) has been shown to be overstated as the capital employed by these services will be lower than that assumed in the calculation, and Ofcom has already applied a capital adjustment for some of the costs. Given the complexity of even attempting to allocate capital costs to each unregulated service we are not persuaded that CPW's argument that Ofcom made an error in allocating costs between regulated and unregulated services has more merit than Ofcom's approach.

2.635. In response to our provisional determination, CPW accepted that its initial estimate of the adjustment for MCE was overstated. It then proposed a new calculation which resulted in a £0.32 reduction per line for WLR/MPF in 2012/13.[599] Unfortunately, this calculation was presented too late in the appeal process to be subject to the necessary scrutiny by the other parties to the appeal and we have been unable to place any real weight on it.

2.636. Overall, we are not persuaded that CPW has shown Ofcom to have erred in its approach to assessing (and implementing) the costs to be reallocated away from CRS.

NoA 91.12

Introduction

2.637. CPW complained that Ofcom allocated a constant rate of costs to Openreach for the period to 2012/13 notwithstanding CPW's view that Openreach's significance within the BT Group would decline during the price control period and beyond. CPW considered that Ofcom's approach overstated the cost of an MPF line by £0.10 in year 1 and £0.14 in year 2.[600]

2.638. Initially, CPW presented evidence from a number of analysts to suggest that Openreach would grow more slowly than the rest of the BT Group. CPW appeared to accept (see paragraphs 2.510 and 2.511) that this evidence was not compelling but highlighted that the necessary evidence could not be obtained by a third party such as itself. We accept that this is a difficulty that confronts CPW. CPW alleged that Ofcom did not consider whether an adjustment would be necessary to reflect any potential changes in relative size of the business units (see paragraph 2.510 above). Ofcom stated that it considered this point but nonetheless concluded that the proportion of group charges allocated to Openreach should be constant (see paragraph 2.540).

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[599] CPW response to provisional determination, §48.

[600] Ofcom assessed the effect per MPF line per year of adopting its method compared to CPW's to be £0.20 in Year 1 and £0.30 in Year 2.

Assessment

2.639. Our conclusion is that Ofcom has not erred as claimed by CPW in §91.12 of the NoA.

2.640. As set out in paragraphs 2.447 and 2.449 above, Ofcom assessed the level of transfer charges in 2007/08 and then forecast costs to continue at this level until 2012/13. In our view, seemingly the only costs that would be affected by the relative size of Openreach compared with the BT Group would be costs which were taken to be common to Openreach and the rest of the BT Group. We have not seen clear arguments to suggest that costs incurred by the BT Group but which are directly or causally related to Openreach would be inappropriately forecast.

2.641. In terms of the costs that have been treated as common, it is the corporate overheads category of the transfer charges that in particular would be affected. The corporate overhead costs are primarily allocated on the basis of FTEs. Consequently, if the Openreach proportion of the BT Group FTEs was to change dramatically over the period assessed, the overhead allocated may be inappropriate. CPW has not presented evidence to suggest that this will be the case. As to the property element of the corporate overhead, it is allocated in proportion to the accommodation charge directly incurred by Openreach. But, again, no evidence has been presented to persuade us that the Openreach property cost will significantly decline as a proportion of the BT Group property cost.

2.642. In each case, CPW's argument was made on an assessment that Openreach's revenues were likely to grow more slowly than the rest of the BT Group's. CPW has not sought to link changes in revenue growth to either FTEs or property costs, the cost allocation drivers for truly common costs in this case. The matters relied on by CPW to establish either that there will be a decline, or that the decline should result in a diminishing allocation, are not sufficient to persuade us that CPW's argument has more merit than the approach adopted by Ofcom.

Determination in respect of Reference Question 1(iii)

2.643. Our determination of the challenge to Ofcom's cost allocation is that we have found a misallocation of costs related to services in Northern Ireland (NoA §91.7(c); see paragraphs 2.610 to 2.615). Ofcom's assessment of the impact of this misallocation was that it resulted in less than £0.10 additional cost per MPF line per year for Openreach's customers. Our conclusion is that this misallocation is not sufficiently material for us to conclude that Ofcom has erred in its allocation of costs. We therefore find that CPW's challenge under §91 fails.

Reference Question 1(iv): Price Differential

2.644. This section sets out our conclusions as to whether Ofcom erred in the allocation of costs as between MPF on the one hand, and wholesale line rental and SMPF on the other, to provide the basis for decisions on respective price controls for each of those services, for the reasons set out in §§92–100 of the LLU NoA.

2.645. For the reasons given below in paragraphs 2.647 and 2.648, our determination is that Ofcom has not erred in the allocation of costs as claimed by CPW in §§92–100 of the LLU NoA.

Reference Question to answer

2.646. Reference Question 1(iv) states:

> (1) Whether the price controls imposed by Condition FA3(A) on BT have been set at a level which is inappropriate because OFCOM erred in estimating BT's efficient costs in 2012/13 for metallic path facility rental ('MPF'), shared metallic path facility rental ('SMPF') and associated ancillary services ('ancillary services') in one or more of the following respects:
>
> …
>
> (iv) OFCOM erred in the allocation of costs as between MPF on the one hand, and wholesale line rental and SMPF on the other, to provide the basis for decisions on respective price controls for each of those services, for the reasons set out in paragraphs 92 to 100 of the Notice of Appeal.

Assessment

2.647. The reasons for our determination of LLU Reference Question 1(iv) at this stage are the same as those for the WLR determination, given the significant overlap between the price differential elements of the LLU and WLR Appeals.[601] The WLR determination is set out in Appendix C.

2.648. We do not consider that Ofcom set price controls imposed by Condition FA3(A) in an inappropriate manner because it made an error in the allocation of costs as between MPF on the one hand and WLR and SMPF on the other as claimed by CPW in §§92–100 of the NoA. We consider that Ofcom did not make an error in the way it allocated costs for MPF, WLR and SMPF for the reasons set out in the WLR determination, in particular:

- We do not consider that Ofcom erred in the approach and methodology it used to estimate the long-run incremental cost (LRIC) differentials it used to check that the price differentials calculated using an approach based on CCA FAC were at least equivalent to the LRIC differentials, for the same reasons set out in the WLR determination of WLR Reference Question 1.

[601] In January 2010 there was an exchange of correspondence between the parties, the CC and the Tribunal concerning the proposed consolidation of the LLU and WLR Appeals. Ultimately, the Tribunal did not accept that it was necessary or appropriate for the appeals to be consolidated. The Tribunal did, however, state that the CC could, if we considered it appropriate, adopt procedures in the appeals to enable overlapping price control matters to be considered together (letter from the Tribunal to Osborne Clarke dated 29 January 2010).

- We consider that Ofcom gave sufficient weight to allocative and dynamic efficiency factors in adopting its CCA FAC approach to allocating costs for the same reasons set out in the WLR determination of WLR Reference Question 2.

Determination in respect of LLU Reference Question 1(iv)

2.649. For the reasons given above (in paragraphs 2.647 and 2.648), our determination is that Ofcom did not err in the allocation of costs as between MPF on the one hand, and wholesale line rental and SMPF on the other, to provide the basis for decisions on respective price controls for each of those services, as claimed by CPW in §§92–100 of the NoA.

Reference Question 1(v): Inflation

2.650. This section sets out our conclusions as to whether Ofcom erred in its assessment of inflation as claimed by CPW in §101 of the NoA.

2.651. Our determination is that, for the reasons given below, Ofcom erred in its assessment of inflation as claimed by CPW in §101.2 (assumptions used to calculate inflation relevant to wage costs) and parts of §101.5(a) (energy costs) of the NoA.

Reference Question to answer

2.652. Reference Question 1(v) states:

> (1) Whether the price controls imposed by Condition FA3(A) on BT have been set at a level which is inappropriate because OFCOM erred in estimating BT's efficient costs in 2012/13 for metallic path facility rental ('MPF'), shared metallic path facility rental ('SMPF') and associated ancillary services ('ancillary services') in one or more of the following respects:
>
> …
>
> (v) OFCOM erred in its assessment of inflation for the reasons set out in paragraph 101 of the Notice of Appeal.

2.653. §101 of the NoA sets out CPW's arguments as to why Ofcom erred in its particular approach to determining how Openreach's costs would be affected by inflation.

Summary contents of this determination

2.654. This determination is structured as follows:

- First, we consider Ofcom's assessment of inflation in the LLU Statement in paragraphs 2.655 to 2.672.
- Second, we consider CPW's case (paragraphs 2.673 to 2.726), Ofcom's Defence (paragraphs 2.727 to 2.745), and the arguments of the Interveners (paragraphs 2.747 to 2.755).
- Third, we explain our assessment of the issues in dispute, in paragraphs 2.756 to 2.828.
- Fourth, we make our determination in respect of Reference Question 1(v) in paragraph 2.829.

Ofcom's assessment of inflation in the LLU Statement

Purpose of inflation within the price control

2.655. As the price controls for 2009/10 and 2010/11 are determined by Ofcom by reference to forecasts of costs in 2009/10 and 2012/13, it is necessary when forecasting these costs to allow for the impact of inflation on input costs. It is therefore necessary to make a number of assumptions about inflation rates over the four-year period

2009/10 to 2012/13. CPW made a number of complaints about Ofcom's approach to inflation in this regard.

2.656. The method whereby Ofcom took account of the likely effects of inflation on Openreach's costs over the four-year period is set out in the LLU Statement at §§A6.42 to A6.57. These paragraphs set out Ofcom's general approach to inflation and, more specifically, the impact of inflation on pay costs.

2.657. In taking a view on the extent to which input costs would increase with inflation, Ofcom said that this was difficult to assess with certainty[602] and that it therefore used a number of inflation assumptions to assist it in assessing the future increase in input costs.

2.658. Ofcom adopted a two-stage approach to forecasting Openreach's cost inflation:

(a) first, Ofcom estimated the 'underlying rate of inflation' affecting Openreach's input costs which excluded the effect of lower mortgage rates and VAT in 2009/10; and

(b) second, Ofcom determined the relationship between the estimated 'underlying rate of inflation' and inflation in different heads of cost.

2.659. Ofcom explained in the LLU Statement that it had historically used the Retail Price Index (RPI) to forecast cost inflation as it had the advantage of being widely understood and forecast. However, Ofcom considered that whilst using RPI as the basis for forecasting long-term cost inflation remained a valid approach, in this case, in the short term, RPI was not a reasonable proxy to forecast short-term cost inflation for the reasons set out in paragraph 2.664 below.

2.660. Ofcom said that it took account of these weaknesses of RPI and it considered a number of sources of inflation forecasts. It concluded that for the purposes of cost modelling, Openreach's costs would be subject to underlying annual inflation as shown in Table 2.9.

TABLE 2.9 **Ofcom's assumed rate of inflation for Openreach**

				per cent
	2009/10	*2010/11*	*2011/12*	*2012/13*
Assumed rate of inflation for Openreach	0.0	2.5	2.5	2.5

Source: LLU Statement §A6.55.

2.661. Ofcom then considered how this underlying rate of inflation should be applied to different cost categories. Ofcom concluded in the LLU Statement that a long-term estimate of real wage inflation of 1.0 per cent a year (ie 1 per cent above the underlying rate) provided a reasonable basis for modelling pay costs. For holding gains, Ofcom applied a +0.5 per cent rate above the underlying inflation rate. For network capital expenditure, Ofcom applied a +1.0 per cent rate above the underlying inflation rate. Ofcom said that it allowed for a one-off increase in energy costs of 35 per cent before returning to a level consistent with the 2008/09 energy costs increase, in line

[602] LLU Statement §A6.42.

with general inflation assumptions.[603] Ofcom assumed that other input prices would increase at the underlying rate of inflation or would remain unchanged.[604]

Ofcom's determination of the underlying rate of inflation

2.662. Ofcom stated that historically it had used RPI as a reasonable basis for forecasting cost inflation. This had the advantage of being reasonably well understood and widely forecast. While a perfect correlation between the general rate of inflation—as indicated by RPI—and a company's actual rate of inflation was unlikely, RPI had nevertheless been considered to provide a reasonable proxy.[605]

2.663. Ofcom explained that, while the use of RPI as the basis for forecasting cost inflation could remain valid in the longer term, it might have been less appropriate in the short term as the cost movements taken into account to determine RPI did not, at the time of preparing the LLU Statement, provide an appropriate proxy for short-term movements in Openreach's costs. Specifically, the RPI inflation statistic applicable at that time was depressed by two factors which did not have any direct impact on Openreach's costs: the significant falls in mortgage interest rates around that time and the reduction in the rate of VAT in December 2008. Ofcom therefore considered that Openreach's input cost inflation would have been higher than RPI inflation for 2009/10.[606]

2.664. Ofcom referred to the April 2009 edition of HM Treasury's *Forecasts for the UK Economy*. Its forecasts for RPI in 2009 ranged from –3.3 to +1.0 per cent. Ofcom noted that the average forecasts for RPI, RPIX[607] and CPI, as set out in the April forecasts, were as shown in Table 2.10.[608]

TABLE 2.10 **HM Treasury inflation forecasts, April 2009**

	per cent	
	2009	*2010*
RPI	–1.6	2.4
RPIX	0.5	1.9
CPI	0.7	1.6

Source: HM Treasury, *Forecasts for the UK Economy*, April 2009.

2.665. Ofcom also noted that the February 2009 edition of HM Treasury's *Forecasts for the UK Economy* included longer-term projections for RPI. The average of projections for RPI was 3.0 per cent for 2011 and 2012 and 2.8 per cent for 2013.[609]

2.666. Ofcom referred to the Confederation of British Industry's (CBI's) *Economic and Business Outlook*, published in April 2009, which also included forecasts for inflation for 2009 and 2010, as set out in Table 2.11. These forecasts indicated that inflation was expected to increase.[610]

[603]LLU Statement §A6.97. The model applies a 40 per cent one-off increase for 2009/10—this discrepancy is discussed further below (see paragraph 2.717 onwards).
[604]LLU Statement Table A6.4.
[605]LLU Statement §A6.49.
[606]LLU Statement §A6.50.
[607]RPIX is a variant of RPI which excludes mortgage interest payments.
[608]LLU Statement §A6.51.
[609]LLU Statement §A6.52.
[610]LLU Statement §A6.53.

TABLE 2.11 **CBI economic and business forecasts, April 2009**

	2009	*2010*
RPI	–0.9	2.6
RPIX	1.1	1.9
CPI	1.6	1.6

Source: CBI *Economic and Business Outlook*, April 2009.

2.667. Having considered these sources, Ofcom concluded that, for the purposes of its cost modelling, Openreach's costs would be subject to annual inflation, as set out in Table 2.12.

TABLE 2.12 **Assumed rate of inflation for Openreach**

per cent

	2009/10	*2010/11*	*2011/12*	*2012/13*
Assumed rate of inflation for Openreach	0.0	2.5	2.5	2.5

Source: LLU Statement §A6.55.

Applying inflation rates

2.668. Having determined the underlying rate of inflation applying to Openreach, Ofcom then considered how this rate applied to individual cost categories.

2.669. Ofcom considered inflation and the impact on pay costs. It considered that Openreach's long-term estimate of real wage inflation of 1 per cent a year provided a reasonable basis for modelling pay costs and holding gains.[611] Ofcom had noted in the Second Consultation that BT's most recent pay settlement was calculated at RPI+0.5 per cent and explained that in the Second Consultation it considered this to define the low end of the range for long-term increases in pay costs.[612] Ofcom also noted that in March 2009 BT announced a plan to freeze all pay. Ofcom said that while pay rates might stay flat, it would nevertheless expect to see some increase in average pay costs due to grade inflation and that it would expect there to be an element of catch-up in pay rates in subsequent years.[613]

TABLE 2.13 **Ofcom's assumed real pay inflation**

per cent

	2009/10	*2010/11*	*2011/12*	*2012/13*
Real pay inflation	1.0	1.0	1.0	1.0

Source: LLU Statement §A6.66.

2.670. Ofcom also considered the impact of inflation on asset values and Openreach's holding gains. Ofcom said it believed that annual asset inflation based on the average of pay and non-pay inflation provided a reasonable basis for projecting gains. Ofcom's view of the appropriate indexation to apply to asset values (holding

[611] LLU Statement §A6.65.
[612] LLU Statement §A6.59.
[613] LLU Statement §A6.64.

gains) was 0.5 per cent for 2009/10 and 3.0 per cent for each of the three years 2010/11 to 2012/13.[614]

2.671. Ofcom assumed that network-related capital expenditure would increase at the underlying rate of inflation plus 1 per cent.[615]

2.672. Ofcom stated that energy costs would increase by 35 per cent in 2009/10 before returning to a level consistent with the 2008/09 costs increased in line with the general inflation assumption.[616]

CPW's challenge to the assessment of inflation by Ofcom

Overview

2.673. CPW claimed that Ofcom had erred in a number of respects in its particular approach to dealing with inflation and the effects of recent deflation in the economy. The grounds on which CPW challenged Ofcom's assessment of inflation are set out in §101 of its NoA. These are the grounds for which we are required to determine whether Ofcom erred in its assessment of inflation. These grounds are further explained in the witness statements of Mr Heaney, Dr Houpis and Mr Duckworth.[617]

2.674. The reasons relied on by CPW to support the claim that Ofcom erred in its approach to its assessment of inflation can be divided into three groups.

2.675. First, Ofcom should not have applied its revised underlying inflation rate to *all* of Openreach's costs. Instead there are a number of Openreach costs which would continue to reflect movements in RPI. These costs are cumulo rates, accommodation costs, pay costs and bought-in costs. (See paragraphs 2.679 to 2.692 below for more detail.)

2.676. Second, in setting the revised underlying inflation rate, Ofcom made a methodological error by failing to take account of the reversal of the reductions in the VAT rate in December 2008 and the falls in mortgage interest payments during 2008/09. According to CPW, taking these reversals into account would result in Ofcom's underlying inflation indicator being lower than RPI in subsequent years. CPW claimed that Ofcom failed to make this adjustment so that the underlying inflation indicator was effectively inconsistent over time. (See paragraphs 2.693 to 2.701 below for more detail.)

2.677. Third, CPW made a series of criticisms of the approach adopted by Ofcom in applying inflation rates to certain cost categories:

(a) CPW claimed that Ofcom's assumption that wage inflation (for 2009/10) would be 1 per cent above the underlying inflation rate was inconsistent with available evidence. (See paragraphs 2.702 to 2.709 below for more detail.)

(b) CPW claimed that Ofcom had changed certain cost-specific inflation rates (namely the rates applying to so-called 'category C costs') relative to underlying inflation without any justification. (See paragraphs 2.710 and 2.711 below for more detail.)

[614] LLU Statement §A6.110.
[615] Table A6.4 LLU Statement.
[616] LLU Statement §A6.97.
[617] CPW W/S Heaney I §§133–161, CPW W/S Heaney IV §§111–139, CPW W/S Heaney V §§88–95, CPW W/S Houpis II §§58–70, CPW W/S Houpis V §§38–47, CPW W/S Duckworth III.

(c) CPW made a number of claims that Ofcom erred by applying a different approach to inflation in the model from that explained in the LLU Statement. CPW claimed that for a number of asset types and for the energy costs of accommodation, Ofcom applied in its financial modelling a larger percentage increase in 2009/10 and thereafter than was consistent with its explanation in the LLU Statement. CPW also claimed that Ofcom applied a larger percentage increase to energy costs for accommodation in 2009/10 and thereafter in its financial modelling contrary to the explanation provided by Ofcom in the LLU Statement as to how it treated energy costs. (See paragraphs 2.712 to 2.726 below for more detail.)

CPW's pleadings and witness statements

2.678. CPW developed its arguments in various Replies and witness statements.[618] We summarize the key points of CPW's case below, following the categorization set out above in paragraphs 2.673 to 2.677.[619]

(1) Inappropriate application of Ofcom's underlying inflation rate to certain cost categories (NoA §101.1)

2.679. CPW's first criticism of Ofcom's approach to inflation was that certain of Openreach's costs should have been subject to inflation at RPI, not at Ofcom's estimated underlying inflation rate. In §101.1 of the NoA, CPW said that: 'In producing and applying a revised underlying inflation indicator to all costs Ofcom has failed to properly recognise that some costs (such as cumulo rates and wages) will continue to closely reflect movements in RPI notwithstanding the recent unusually low level of reported RPI.'

2.680. CPW said that some individual cost categories would continue to move in accordance with RPI. These costs are cumulo rates, accommodation costs, pay costs[620] and bought-in costs.

2.681. CPW considered that the approach that Ofcom adopted by applying its revised underlying inflation indicator to all costs was wrong. In its Reply I,[621] CPW stated that: 'The assumption in LLU Decision Annex 6 §A6.50 … that all costs can be treated as unaffected by the VAT reduction and mortgage interest changes is therefore manifestly incorrect.'

2.682. CPW set out its understanding of the approach adopted by Ofcom. CPW[622] noted that the methodology of splitting inflation into an underlying rate (such as RPI) and a real inflation rate was the standard approach to forecasting inflation. In the Second Consultation, the underlying inflation rate used by Ofcom was RPI, which was projected at 3 per cent for 2009/10. Since the Second Consultation, the actual RPI inflation rate fell dramatically due to the reasons set out above in paragraph 2.663. In his witness statement, Mr Heaney explained that, in the LLU Statement, Ofcom changed its approach to calculating nominal inflation rates, so that instead of using

[618] See Reply I (§§148–158), Reply II (§§118–125), Reply III (§§17–27) and Reply VI (§20). Also see Witness Statements Heaney I, IV and V; Houpis II and V; and Duckworth III.
[619] For the purposes of facilitating our substantive analysis, we have re-sequenced CPW's arguments as they are presented in the NoA—for example, we assess CPW's case in relation to §101.5(b), which we discuss in paragraphs 2.807 to 2.816 below, before we assess CPW's case in relation to §101.5(a), which we discuss in paragraphs 2.817 to 2.826 below.
[620] The terms 'pay costs', 'salary costs' and 'wages' are used interchangeably by the parties.
[621] CPW Reply I §149.
[622] CPW W/S Heaney I §134.

RPI as the underlying rate, 'Ofcom created a different one'.[623] Mr Heaney explained that his understanding of the reason for this change was that Ofcom felt that the RPI figure was not a suitable basis for determining nominal inflation rates in the short term.[624] Ofcom, he said, appeared to have decided to use a different underlying inflation indicator to estimate costs for 2009/10 that was higher than RPI in 2009/10 to reflect the exclusion of VAT and mortgage interest rate reductions.[625]

2.683. Although Mr Heaney accepted that there was some justification for Ofcom setting an underlying inflation rate that was different from RPI, he said that there were significant flaws with Ofcom's approach.[626] One flaw was that RPI was the appropriate underlying inflation rate for certain cost items.

2.684. CPW[627] said that: 'Ofcom has failed to properly recognise that some costs will continue to closely reflect movements in RPI'. In support, Mr Heaney said: 'It is simply incorrect for Ofcom to assert, as it has, that VAT and mortgage interest has no affect on Openreach's costs'.[628]

2.685. In his first witness statement,[629] Mr Heaney did recognize that there might be cases where, even though a certain cost was linked to RPI, in times of negative RPI, cost reductions would not occur (even though they would be expected). This, Mr Heaney explained, was because it might be difficult to reduce prices in the short term. However, Mr Heaney explained that any excessive real inflation in the short term due to this 'stickiness' would tend to be clawed back in the medium term, reducing real inflation in the following years to offset the excessive real inflation initially.[630]

2.686. CPW identified four items of cost to which it believed Ofcom should have applied the rate of RPI rather than its underlying inflation rate: cumulo rates, accommodation costs, salary costs and bought-in costs. We discuss the evidence raised by CPW for each of these costs below.

Cumulo rates

2.687. Mr Heaney[631] said that he believed cumulo rates were linked to RPI. He said that Ofcom seemed to believe that cumulo rates were linked to RPI when in its Second Consultation it said that 'Costs increase by 3% pa in line with RPI …. Cumulo rates are calculated using government legislation. RPI appears a good approximation for the forecast costs'.

2.688. Mr Heaney considered that Ofcom made a manifest error. He said that constructing a model whereby cumulo rates would be linked to RPI would not have been complex.[632]

Accommodation costs

2.689. In support of RPI being the applicable rate to apply to accommodation costs, Mr Heaney noted that 'Some of our rental agreements at TTG are effectively linked to

[623]CPW W/S Heaney I § 137.
[624]CPW W/S Heaney I §137 & 138.
[625]CPW W/S Heaney I §139.
[626]CPW W/S Heaney I §140.
[627]CPW NoA §101.1.
[628]CPW W/S Heaney I §141.
[629]CPW W/S Heaney I §144.
[630]CPW W/S Heaney I §§145 & 146.
[631]CPW W/S Heaney I §143.
[632]CPW W/S Heaney IV §113.

RPI and it appears that BT's property deal with Telereal which has a 3% annual increase may be linked to RPI'.[633] In a later witness statement,[634] Mr Heaney took a different position and stated: 'In terms of rent costs, I accept Ofcom's points and understand that these are not directly linked to RPI.'[635]

Salary costs

2.690. Mr Heaney said that the link between salary costs and RPI was to be expected since employees' costs of living were reflected in the RPI basket (which included VAT and mortgage interest).[636] Mr Heaney set out the evidence he considered supported the contention that BT's pay costs moved in line with RPI.[637] First, he noted that BT's pay deal with the unions was explicitly linked to RPI. Second, he noted that when BT implemented a pay freeze, it had said that the pay reduction was due in part to lower inflation. This Mr Heaney interpreted to mean that pay inflation was linked to RPI. In support, Mr Heaney quoted a letter from BT to its staff that stated: 'In recent years, BT has awarded pay increases in line, or above the retail price index which tracks the price increase of most consumer goods. This year RPI is expected to go negative which means that prices are actually falling. While this is very unusual, we are living in unusual times'.[638] Third, Mr Heaney noted that linking pay with RPI was a common approach among employers. He quoted John Philpott, Chief Economist at the Chartered Institute of Personnel and Development, who recently commented: 'With eight in 10 employers using RPI inflation as a cost-of-living benchmark when setting pay, and unemployment rising faster than at any time for a generation, the ongoing squeeze on pay is set to continue, particularly in the private sector.'[639]

Consultancy and facility management fees (bought-in services)

2.691. Mr Heaney considered that the underlying costs of bought-in services, such as consulting and facilities management, were primarily driven by pay costs. Therefore, the price of these bought-in services would effectively move in line with RPI. He explained that this was because salary costs, on which the prices of these services were based, also moved in line with RPI.[640]

2.692. In a later witness statement, Mr Heaney[641] accepted that consulting and facilities management fees were linked directly with market rates which reflected a customer's ability and willingness to pay but considered that the relevant question was how market rates were likely to change. Mr Heaney's view was that, absent any better approach, it seemed most appropriate to conclude that they moved in line with RPI.

(2) Ofcom failed to take account of the reversal in VAT and mortgage interest price reductions (NoA §101.3)

2.693. CPW claimed that, in constructing the revised underlying inflation indicator, Ofcom took account of the VAT and mortgage interest price reductions relevant at the time, but did not take account of their future reversal or unwinding. At §101.3 of the NoA CPW said that:

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[633]CPW W/S Heaney I §143(c).
[634]CPW W/S Heaney IV §116.
[635]CPW W/S Heaney IV §116.
[636]CPW W/S Heaney I §142.
[637]CPW W/S Heaney I §141.
[638]CPW W/S Heaney IV §141(b).
[639]CPW W/S Heaney I §141(c).
[640]CPW W/S Heaney I §143(a).
[641]CPW W/S Heaney IV §115.

In creating its new underlying inflation indicator, Ofcom modified RPI to remove the impact of the recent VAT and mortgage interest price reductions (which made the indicator higher than RPI). However, it did not take account of the reversal of these … VAT and mortgage price reductions that will result in Ofcom's new underlying inflation indicator being lower than RPI in subsequent years.

2.694. CPW's understanding of Ofcom's approach was that Ofcom decided, in forecasting Openreach's costs, that it was better to use an inflation indicator that excluded the impact of the reduction in the VAT rate (from 17.5 to 15 per cent) and reductions in mortgage interest rates (resulting from the reduced base rate), which were relevant around that time. The impact of this approach was that the significant falls in VAT and mortgage interest costs (corresponding to 1.5 per cent on overall inflation), which were included in RPI, were excluded from Ofcom's alternative underlying inflation rate. This meant that Ofcom's underlying inflation in 2009/10 was 0 per cent, rather than the forecast RPI rate for 2009/10 which was –1.5 per cent.

2.695. CPW argued that any underlying inflation rate adopted by Ofcom should be used consistently over time. According to Mr Heaney, this meant that the future inflation indicators (ie for years 2010/11 to 2012/13) should also exclude VAT and mortgage interest changes (as has been the case for the year 2009/10).[642] CPW's complaint was that Ofcom had failed to make the necessary adjustment for the three-year period 20010/11 to 2012/13 so that its underlying inflation rate was effectively inconsistent over time.[643]

2.696. In support, Mr Heaney claimed that it was almost certain that the reductions in VAT and mortgage interest that occurred in 2008/09 would be reversed. As evidence to support this view, Mr Heaney cited the Government's stated intention to bring the VAT rate back to 17.5 per cent, forecasts showing a 0.5 per cent rise in inflation in 2010, Bank of England data implying a rise in the base rate by 2.8 to 3.3 per cent in Q2 2012 and HM Treasury forecasts for base rates suggesting a 4.0 per cent rate in 2013.[644]

2.697. According to CPW, Ofcom's projections for the alternative underlying rates for the three-year period 2010/11 to 2012/13 did not show an adjustment to reflect the reversal of VAT and mortgage interest rates. Mr Heaney said that:[645] 'Their underlying inflation indicator in 2009/10 excludes the impact of VAT and mortgage payments but its underlying inflation indicator for all other years includes the impact of VAT and mortgage payments.'

2.698. Mr Heaney proposed a revised underlying inflation indicator for Openreach for the three-year period 2010/11 to 2012/13. These revisions, he said, would reverse out, over two years, Ofcom's upward adjustment to 2009/10 RPI, which resulted from Ofcom excluding VAT and mortgage interest cost reductions.[646] Mr Heaney considered that an adjustment of 1.5 per cent was required, as shown in Table 2.14.

[642] CPW W/S Heaney I §149.
[643] CPW W/S Heaney I §152.
[644] CPW W/S Heaney I §150.
[645] CPW W/S Heaney I §152.
[646] CPW W/S Heaney I §153.

TABLE 2.14 **CPW's proposed underlying inflation indicator assumptions**

				per cent
	2009/10	*2010/11*	*2011/12*	*2012/13*
RPI	–1.5	2.5	2.5	2.5
Adjustments for exclusion of VAT/mortgage price changes	+1.5	–1.0	–0.5	0
Revised Ofcom underlying inflation indicator	0	1.5	2.0	2.5

Source: CPW W/S Heaney I, p52.

2.699. The alternative underlying inflation rate that Ofcom used for 2010/11 to 2012/13 was 2.5 per cent in each year. CPW contended that adjusting for a reversal would result in lower rates for 2010/11. This, according to Mr Heaney, was reinforced by the data available from Ofcom, which showed that its own forecast of RPI in 2010/11 and 2011/12 was 2.5 per cent.[647]

2.700. In its Reply I at §153, CPW noted that neither the LLU Statement nor any of the precursor consultation documents set out a methodology that could explain how Ofcom reached its 2.5 per cent underlying inflation rate for the three-year period 2010/11 to 2012/13, given that it had intentionally set an average rate below RPI. CPW reaffirmed its view that this was not Ofcom's methodology and that Ofcom had failed in its calculations to take account of the reversal of the underlying inflation rate. In support, CPW noted the following:[648]

(a) It was clear from the LLU Statement (citing footnote 62 of Annex 8) that Ofcom had assumed an inflation rate of 2.5 per cent when making calculations that could only be based on RPI.

(b) Two of the spreadsheets included in Ofcom's model showed a figure denoted 'actual RPI' as being –1.5 per cent in 2009/10 and 2.5 per cent in subsequent years. Since –1.5 per cent was the actual RPI figure for that year, it appeared that Ofcom considered 2.5 per cent to be the actual RPI figure for the subsequent years.[649]

2.701. CPW contended that Ofcom had not demonstrated that it had included the reversal in VAT and mortgage interest reductions in setting the underlying inflation rate of inflation for the three-year period 2010/11 to 2012/13.[650]

(3) Ofcom made a number of errors in the way it applied inflation rates to certain cost categories

Wrong assumptions used to calculate inflation relevant to wage costs (NoA §101.2)

2.702. CPW complained that Ofcom's assumption that pay inflation should be +1 per cent in 2009/10 was inconsistent with available evidence. In §101.2 of the NoA, CPW said that: 'Ofcom's assumptions in relation to wage inflation are inconsistent with available evidence leading to a conclusion that there will be wage inflation during a period of economy wide deflation, and when BT has announced a salary freeze and plans to reduce salary costs by 10 per cent'.

[647] CPW W/S Heaney IV §129.
[648] CPW Reply I §154.
[649] CPW is referring here to the excel spreadsheets 'Price calcs' and 'Ancillary pricing'.
[650] CPW Reply I §155.

2.703. This criticism of Ofcom's approach concerned the inflation rate Ofcom applied to the 2009/10 pay costs. In the LLU Statement, Ofcom estimated that Openreach's wage costs would rise by 1 per cent in real terms for each year 2009/10 to 2012/13—ie by 1 per cent above the Openreach underlying inflation rate.[651] In his first witness statement, Mr Heaney considered that the approach of assuming pay inflation of +1 per cent in 2009/10 was inconsistent with the overwhelming evidence to the contrary, notably:[652]

- BT's own pay formula agreed with the unions was based on RPI+0.5 per cent (resulting in –1 per cent pay deflation given that RPI was –1.5 per cent). This, according to Mr Heaney, was recognized and noted by Ofcom in the Second Consultation and the LLU Statement.

- In March 2009, BT implemented a pay freeze implying at worse that salaries would not increase in nominal terms.[653]

- More recently, BT implemented some previous measures such as long-term leave aimed at reducing salary costs by 10 per cent (which according to Mr Heaney would effectively deliver a pay reduction).

2.704. Mr Heaney claimed that Ofcom had not provided a cogent justification as to why it had not used the pay deal that had been negotiated with the unions or the pay freeze as the basis for its forecast.

2.705. In its Defence, Ofcom[654] said that the increase in average pay costs was in part due to grade inflation. In its Reply I, CPW noted[655] that Ofcom made the following assumptions: *(a)* grade inflation would occur; *(b)* BT's representation that a 1 per cent increase in wages was 'likely' could be accepted, and *(c)* such a 1 per cent increase would be caused by grade inflation. According to CPW: '… there was no evidence provided to underpin the assumption that grade inflation will occur. Still less was evidence provided that such grade inflation would be sufficient in extent to warrant a 1% increase, even though BT's most recent pay settlement was calculated at RPI +0.5%.' In his witness statement, Mr Heaney observed that: 'There is no reason to assume grade inflation unless BT is changing the mix of its employees for which no evidence is provided.'[656]

2.706. Mr Heaney[657] made some further relevant observations about grade inflation noting that it is an:

> inherently inefficient way in which to operate a company, since it implies that the balance of the company gets consistently more 'top heavy' every year. In any normal and efficient company, as individuals get promoted …, this would be offset by senior (more expensive) employees leaving the company and junior (less expensive) people joining to maintain a consistent balance. If Openreach is allowing this grade inflation … to occur, then the cost impact of it should be

[651] See LLU Statement, §A6.68.
[652] CPW W/S Heaney I §155.
[653] Mr Heaney provided a newspaper article reporting BT's Chief Executive announcement on BT's pay freeze: 'Managers and executives will still be eligible for any potential performance bonuses, but the company warned they were expected to be 'substantially lower' than in previous years and many staff were unlikely to get anything at all'. CPW W/S Heaney I, Footnote 112.
[654] Ofcom Defence Annex E §24.1.
[655] CPW Reply I §157.
[656] CPW Reply I §157.
[657] CPW W/S Heaney IV §118.

disallowed, since it is clearly not efficient or the behaviour of an efficient operator.

2.707. Mr Heaney recognized that there could be some temporary grade inflation during a recession period but that this should be reversed when the company went back to an efficient balance. In Mr Heaney's view, no allowance should be made for grade inflation in the salary inflation figures (except perhaps as a temporary one that was reversed out in 2010/11).[658]

2.708. Mr Heaney[659] considered that the wage inflation applied by Ofcom was excessive and estimated that for an efficient operator the level of wage inflation should be reduced by, on average, more than 1 per cent a year, estimating the impact of this error on CPW to be about £5 million over the next four years.

2.709. In its bilateral hearing, CPW said that pay inflation assumptions should reflect current market conditions and Openreach's recruitment and retention needs.[660]

Inflation rate applying to category C costs (NoA §101.4)

2.710. At §101.4 of the NoA, CPW said that: 'Ofcom has changed certain cost-specific inflation rates relative to underlying inflation without any justification.'

2.711. This argument concerns the treatment of the so-called 'category C' costs which Ofcom considered would not be affected by inflation such as line cards, IS development costs and wayleaves. In his first witness statement, Mr Heaney said that the approach of assuming zero nominal inflation was flawed and inconsistent with the assumptions used in the Second Consultation where Ofcom implicitly assumed that these costs would rise at 3 per cent less than the RPI.[661] However, in a later witness statement Mr Heaney[662] said that he withdrew this claim stating that: 'Based on discussions with CPW's expert advisors, who have now seen the model, and from Ofcom's Defence document, I am content that Ofcom's approach has no significant error and I withdraw this claim.'

(4) Discrepancies between explanations in the LLU Statement and application in the model: Asset types (NoA §101.5(b))

2.712. CPW claimed that, in its modelling, Ofcom had applied a larger percentage increase to certain asset classes in 2009/10 and thereafter than was stated in the explanation given in the LLU Statement at §A6.110. CPW said that: 'Contrary to the explanation of how Ofcom has treated inflation: for certain asset types at A6.110 of the Decision, it in fact applied a larger percentage increase in 2009/10 and thereafter.'[663]

2.713. In the LLU Statement, at §A6.110, Ofcom stated that in respect of holding gains, it continued to believe that annual asset inflation based on the average of pay and non-pay inflation provided a reasonable basis for forming its projections. Ofcom set out the appropriate indexation it considered should apply to asset values in Table 2.15.

[658] CPW W/S Heaney IV §120.
[659] CPW W/S Heaney IV §122.
[660] CPW Hearing Transcript, p80.
[661] CPW W/S Heaney I §159.
[662] CPW W/S Heaney IV §139.
[663] CPW NoA §101.5(b).

TABLE2.15 **Inflation on holding gains**

				per cent
	2009/10	*2010/11*	*2011/12*	*2012/13*
Holding gains	0.5	3.0	3.0	3.0

Source: LLU Statement §A6.110.

2.714. In his second witness statement, Dr Houpis[664] argued that the model applied different rates of inflation to assets than those set out in the LLU Statement. For future purchases of assets (ie capital expenditure), Dr Houpis claimed that no specific statement was made in either the LLU Statement or the consultation documents as to the applicable inflation rate.[665] However, CPW said that the effective inflation rates applied in the model to forecasting the level of future capital expenditure were 1 per cent in 2009/10 and 3.5 per cent in each of the three years thereafter. These were the same rates applied to wage costs and were different from those applied to holding gains. Dr Houpis noted:[666] 'The price indices used for asset classes other than duct and copper appear to be the same as the ones used for "labour inflation", i.e. 1 per cent higher than the assumption of *general inflation*, rather than 0.5% higher.' Dr Houpis considered that there appeared to be an internal inconsistency in the model, 'Given that both the calculation of holding gains and losses and capital expenditure forecasts should be based on the expected changes in unit costs of the underlying assets'.[667]

2.715. In its Reply II at §124(a), CPW said that the LLU Statement did not contain any reasoning by Ofcom as to the assumptions it used to distinguish inflation rates to be applied to holding gains and those to be applied to capital expenditure. CPW's understanding was that, in respect of holding gains, Ofcom took an average rate as between pay and non-pay inflation (as described above in paragraph 2.670). In respect of capital expenditure, Ofcom said that this was dependent only on pay inflation.[668] CPW noted that the LLU Statement did not contain any mention of the claimed averaging process for arriving at the inflation rate to apply to capital expenditure or any evidence on which it was based. Further, CPW noted that an estimate of the proportion of capital expenditure attributable to Openreach's own labour could be extracted from the model and seemed to be materially less than 50 per cent. This view was supported by Mr Duckworth.[669] Mr Duckworth said that an analysis of the forecasts included in the model demonstrated that, for the capital expenditure 'driven by ops', only [✂] per cent of capital expenditure was capitalized labour, with the remaining [✂] per cent presumably being externally sourced goods and services for which the lower 'general inflation' assumption would be appropriate.[670]

2.716. Mr Duckworth noted[671] that the majority of Openreach's capital expenditure was categorized as 'driven by ops' in the CF Final model. This expenditure was modelled by calculating the labour inputs required for certain activities, such as maintenance and repair of the network or providing new services. A proportion of these labour costs were assumed to be capitalized, ie they provided benefits over a number of

[664]CPW W/S Houpis II §§63 & 64.
[665]CPW W/S Houpis V §45.
[666]CPW W/S Houpis II §68(b).
[667]CPW W/S Houpis V §45.
[668]CPW W/S Duckworth III §10.
[669]CPW W/S Duckworth III §16.
[670]CPW W/S Duckworth III §16.
[671]CPW W/S Duckworth III §7.

years, with the cost being recovered over the period in which these benefits were expected, rather than in the year in which the cost was incurred.

2.717. In order to calculate the total level of capital expenditure, including other non-labour inputs, for each category of capital expenditure, a factor is applied to the estimate of capitalized labour to 'gross up' to the total forecast level of capital expenditure. The estimate of total capital expenditure is therefore dependent on the assumption of 'labour inflation', whereas the inflation rate used in estimating holding gains is an average of the rate for general 'non-labour' inflation and 'labour inflation', as described in Annex 10 of the Second Consultation document at §A10.28.

2.718. CPW noted that, in Ofcom's Defence Annex E at §43, Ofcom defended its modelling approach on the basis that: 'capitalised labour was likely to represent a larger proportion of forecast capital expenditure than would be represented by the costs of tangible assets' and 'this resulted in a weighted average inflation rate (taking account of the underlying rate of inflation and pay inflation) around 0.8% higher than the Openreach underlying rate, translating into a rate of 3.3% in 2010/11'.

Energy costs (NoA §101.5(a))

2.719. Ofcom's model used an inflation assumption in respect of accommodation-related energy costs that such costs would increase 40 per cent in 2009/10 and then at 3 per cent a year in subsequent years. In §101.5(a) of the NoA, CPW said that: 'Contrary to the explanation of how Ofcom has treated inflation: for energy costs at A6.97 of the Decision, it in fact applied a larger percentage increase to energy costs for accommodation in 2009/10 and thereafter'.

2.720. CPW made three complaints about the application of inflation rates on energy costs, which we discuss below.

2009/10

2.721. CPW's first complaint related to the application of the rates for 2009/10. In his second witness statement, Dr Houpis[672] referred to §A6.97 of the LLU Statement which stated: 'Energy costs will increase by 35% in 2009/10 before returning to a level consistent with the 2008/09 costs increased in line with the general inflation assumption'. Dr Houpis[673] noted that, within the model, energy costs related to accommodation appeared to be incorrectly forecast to increase by 40 per cent in 2009/10 and then increase at 3 per cent in subsequent years.

2.722. In its Reply II at §123(a), CPW noted that it was Ofcom's published LLU Statement that represented Ofcom's actual decision, which was that a 35 per cent inflation rate was reasonable. According to CPW, the model (that applied a 40 per cent inflation rate) therefore clearly contained an error and should be corrected. CPW also stated that Ofcom gave no reason why the model should be preferred to Ofcom's published decision or why 40 per cent rather than 35 per cent was the appropriate figure to use.

Subsequent years

2.723. CPW's second and third complaints related to the application of inflation rates on energy costs for subsequent years. In the second complaint, CPW said that Ofcom incorrectly failed to reverse out the 'spike' which it predicted for costs in 2009/10,

[672]CPW W/S Houpis II §64.
[673]CPW W/S Houpis II §68(a).

whereas it had stated in the LLU Statement that prices should return to their previous levels. Dr Houpis also said that the underlying inflation for energy costs in the following years was also modelled incorrectly.[674]

2.724. In the third complaint, CPW said that the LLU Statement did not give an indication as to why Ofcom considered that it was not necessary to reduce its estimate of energy inflation (set at 3 per cent) in line with its reduction of the estimate for underlying inflation (ie excluding the impact of VAT and mortgage interest).[675] This left no explanation for Ofcom's implicit assumption that energy costs would increase at a faster rate than underlying inflation (set by Ofcom at 2.5 per cent[676]). In the absence of any justification for such an approach, CPW said that it would be reasonable to subject energy costs to the same rate as underlying inflation, as indeed Ofcom did in the Second Consultation. Dr Houpis[677] said that one explanation would be that this difference was an oversight when updating the model, rather than a conscious or intentional decision, as the 3 per cent was the figure that was used during the Second Consultation.

2.725. However, having made this third complaint in its NoA, CPW subsequently dropped it.[678]

Impact of errors

2.726. Dr Houpis estimated the impact on the MPF price of CPW's first and second complaints to be as shown in Table 2.16.

TABLE 2.16 **Estimated MPF costs under different energy inflation assumption**

		£
	2009/10	*2012/13*
MPF line rental unit cost under Ofcom's assumptions	87.20	97.62
MPF costs when correcting for energy inflation error	87.15	97.23
Difference	–0.05	–0.39

Source: Frontier Economics calculations based on Ofcom model.*

*Letter from CPW to CC dated 23 March 2010 Table 2.

Ofcom's Defence

Overview

2.727. Ofcom submitted that CPW had raised a number of minor criticisms of Ofcom's approach to inflation and they would result in a modest adjustment to Ofcom's underlying inflation indicator (from 0, 2.5, 2.5, 2.5 per cent to 0, 1.5, 2.0, 2.5 per cent), amounting to a reduction in the average rate applicable over the four-year period of 0.4 per cent a year.[679]

2.728. Ofcom noted that, CPW had accepted that Ofcom's approach on inflation was 'not objectionable as a matter of principle'[680] but CPW had identified various alternative

[674]CPW W/S Houpis V §38.
[675]CPW W/S Houpis V §41.
[676]LLU Statement §A6.55.
[677]CPW W/S Houpis V §41.
[678]Letter from CPW to CC dated 23 March 2010 and CPW hearing transcript, p81, line 18.
[679]Ofcom Defence §47.4.
[680]CPW NoA §101.

attributions and quantifications of its own in support of its preferred inflation indicator, averaging 0.4 per cent a year below Ofcom's estimate.[681]

2.729. Ofcom submitted that CPW's arguments on inflation were a further example of CPW raising detailed and unsupported criticisms of Ofcom's regulatory judgment.[682] Ofcom requested that we confine our review to examining whether there had been any material error, taking due account of Ofcom's status as a specialist regulator and applying a proportionate approach when assessing points of minor significance.

2.730. Ofcom addressed CPW's arguments on inflation at §§90–100A and Annex E to its Defence.

Further consideration of Ofcom's Defence

2.731. Ofcom provided further explanation in its Defence as to how the likely effects of inflation on Openreach's costs were considered when preparing the LLU Statement. This restated Ofcom's view that it did not consider it appropriate to adopt recently published RPI inflation statistics as a proxy for the effects of inflation. The unusual volatility concerning the recent trends and future outlook for RPI inflation were cited as significant considerations and in particular *(a)* the reduction in the standard rate of VAT, and *(b)* the Bank of England's decisions repeatedly to cut base rates (which had the effect of reducing mortgage interest rates). Ofcom stated that, since VAT and mortgage interest did not directly affect Openreach's costs, recent RPI statistics would be unlikely to provide an accurate picture of the true inflation rate applicable to those costs.

2.732. It was against this background that Ofcom applied its two-stage approach to the modelling of the impact of inflation on Openreach's costs (namely, the estimation of underlying rates of inflation and consideration of how these estimates should be applied to different categories of Openreach's costs). Ofcom was required to make a judgment as to the appropriate inflation assumption for Openreach's costs in the future, doing so by reference to such information and evidence as was available.[683]

2.733. In its Defence, Ofcom considered that CPW did not appear to disagree with the fundamental principles of Ofcom's approach.[684] Ofcom then turned to each of the individual grounds raised by CPW in the NoA which we set out below.

(1) Inappropriate application of Ofcom's underlying inflation rate to certain cost categories (NoA §101.1)

2.734. Ofcom submitted that CPW accepted that direct reliance on RPI rates of inflation as proxies for the inflationary pressures to which Openreach would be subject would not have been appropriate, and that adjustments to those RPI rates were therefore justified.

2.735. However, CPW made four criticisms of Ofcom's approach. Ofcom interpreted CPW's main argument as being that Ofcom should have calculated separate assumed rates of RPI inflation, and applied them to various cost categories which were said to be more closely linked to RPI (wage costs, rent costs, consultancy and facilities management costs, and contributions to BT Group's cumulo rates liability).

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[681] Ofcom Defence §52.3.
[682] Ofcom Defence §53.
[683] Ofcom Defence Annex E §7.
[684] Ofcom Defence §93.

2.736. Ofcom[685] disagreed with this argument and stated that it was not required to take such an approach for the following reasons:

(a) In estimating the underlying rates of inflation for Openreach, Ofcom bore in mind that Openreach's costs were to some extent affected by RPI inflation. The fact that two separate rate estimates could have been made, and used for different categories of cost, did not show that Ofcom's approach was wrong.

(b) In any event, CPW had exaggerated the extent to which Openreach's costs were affected by RPI inflation. Although cumulo liabilities were directly affected by the rate of RPI inflation in the September of the previous year, the available evidence did not support CPW's contention that Openreach's wage costs, rent costs or consultancy and facilities management costs would move directly in line with RPI.

2.737. Ofcom submitted[686] that Mr Heaney had overstated the extent to which Openreach's costs were likely to move in line with inflation. Ofcom said that:

(a) Whilst it was true that wage costs may to some extent be influenced by RPI (because current RPI inflation might be cited by trade unions as a benchmark figure in pay negotiations), it was not the case that BT was party to a pay deal with the relevant unions that meant that pay automatically rose or fell directly in line with RPI. BT negotiated a pay settlement with the unions on an annual basis, usually doing so in the early months of each calendar year. For the year 2009/10, BT had imposed a salary freeze (but salaries had not been cut to reflect negative RPI rates). Negotiations were likely to take place early in 2010 in order to agree a new settlement for 2010/11. Any pay increase agreed in those negotiations may or may not reflect RPI. In that regard, Ofcom noted that, since Q2 2006, the seasonally-adjusted average earnings index had been 0.06 per cent above quarterly RPI. However, since Q1 2008, when short-term RPI became volatile, the average earnings index had been 0.09 per cent below RPI. The relationship between RPI and pay was therefore an indirect one.

(b) Mr Heaney was incorrect in stating that consultancy and facilities management fees were driven primarily by RPI-influenced wage costs. Rather, such fees were directly linked with market rates which, in turn, reflected customers' ability and willingness to pay.

(c) Openreach's rent costs were not linked to RPI. In accordance with the terms of the Telereal deal (which covered the vast majority of the properties that BT occupied), rents increased at a 3 per cent nominal rate, irrespective of how RPI was moving. In Ofcom's cost modelling, rent was inflated in line with the annual inflation assumption. Because Ofcom's assumed average underlying rate of inflation over the four-year period was below 3 per cent (0 per cent in 2009/10 and 2.5 per cent thereafter), the assumed rate of rent inflation was significantly lower than the level at which Openreach's rent-related costs would actually increase. According to Ofcom, this illustrated the point that an assumed average inflation rate could never capture perfectly specific price changes across each category. It also illustrated why it would be inappropriate to adjust Ofcom's overall inflation assumption because some costs might be subject to change at a rate below the average rate of inflation (while ignoring those that might be subject to change at a rate in excess of the average rate).

[685] Ofcom Defence §94.
[686] Ofcom Defence Annex E §21.

(2) Ofcom failed to take account of the reversal in VAT and mortgage interest price reductions (NoA §101.3)

2.738. Ofcom submitted that this argument was misguided. It said that, with regard to Ofcom's particular estimates of underlying inflation rates for Openreach's costs, CPW had argued that Ofcom had erred in assuming a 2.5 per cent rate for each of the three years from 2010/11 to 2012/13. In CPW's view, this rate did not adequately reflect the likely effect on RPI of unwinding the recent reductions in VAT and mortgage interest rates.

2.739. However, Ofcom submitted that there was no basis for CPW's allegation that Ofcom had failed to take account of such effects. The 2.5 per cent rate was estimated by Ofcom, not as an average rate of RPI inflation, but as the average underlying rate of inflation for Openreach over the three years in question. In arriving at its estimate, Ofcom took account of the fact that independent forecasts of RPI inflation (which varied widely) were to some extent affected by an anticipation of the unwinding of the recent cuts in mortgage rates and VAT. Ofcom's 2.5 per cent estimate fell well within the range suggested by expert independent forecasts for RPIX over those years (RPIX being a measure of RPI which excludes mortgage interest payments).[687]

2.740. At its bilateral hearing, Ofcom said that its underlying inflation forecast for 2009/10 was 0.5 per cent higher than the forecasts of the Treasury and not the 1.5 per cent claimed by CPW. Ofcom said that the 1.5 per cent figure was a point estimate that reflected an RPI estimate for October 2009 and not for the full year.[688]

(3) Ofcom made a number of errors in the way it applied inflation rates to certain cost categories

Wrong assumptions used to calculate inflation relevant to wage costs (NoA §101.2)

2.741. With regard to Ofcom's expectations in relation to particular categories of cost, CPW contended that Ofcom's assumptions in relation to wage inflation for 2009/10 were inconsistent with BT's own pay formula agreed with the unions, BT's announced salary freeze and measures it was reported to have taken with a view to reducing wage costs by 10 per cent.[689]

2.742. Ofcom rebutted this point, stating that:[690]

(a) BT's salary freeze for 2009/10, implemented at a time of negative RPI, did not imply any kind of cut in salaries. Further, Openreach's wage costs would still be expected to increase in 2009/10 as a result of grade inflation (resulting from the natural progression of existing employees up the applicable pay scales). CPW was simply wrong to assert that wage cost inflation would be 0 per cent even over the present year. In any event, the inflation rate applied to wage costs (of 1 per cent a year above the underlying inflation rate applied to Openreach) was calculated on an average basis over the four-year period until 2012/13.

(b) The measures that BT had recently taken to reduce wage costs (such as adopting policies that allowed staff to take periods of extended leave) did not involve cutting salary rates (for example, by imposing a negative pay settlement).

[687] Ofcom set out further detailed reasoning in Annex E to the Defence. Ofcom Defence Annex E §§26–29.
[688] Ofcom hearing transcript, pp116 & 117.
[689] CPW NoA §101.2 and CPW W/S Heaney I §155.
[690] Ofcom Defence §99.

Accordingly, the potential for such savings to be made was considered by Ofcom as part of its analysis of the efficiency gains targets that should be set for Openreach. To take account of such savings again, when estimating the effect that inflation would have on wage costs, would have been to engage in double counting.

2.743. In its bilateral hearing, Ofcom said that a consideration was the interaction between pay inflation and holding gains.[691] Pay inflation fed into the asset values which created holding gains which was offset against depreciation, so the effect of real pay inflation overall was actually fairly small, as both operating costs and holding gains increased. The net effect on unit costs of allowing for real pay inflation was small.

Wrong inflation rates applied to category C costs (NoA §101.4)

2.744. Ofcom submitted that CPW's allegation that Ofcom applied the wrong inflation rate to category C costs was baseless.[692] Ofcom stated that,[693] in seeking to substantiate that allegation, Mr Heaney had incorrectly claimed that there was a relationship between the specific rates applying to category C costs and the overall underlying rates of inflation at the time of the Second Consultation.

(4) Discrepancies between explanation in the LLU Statement and application in the model

2.745. CPW made a number of complaints relating to errors it alleged Ofcom had made in applying inflation to capital expenditure[694] and to energy costs.[695]

2.746. Ofcom submitted that one of the two alleged 'discrepancies' was simply a misunder-standing on the part of CPW, which had wrongly assumed that the inflation rate used in the model in relation to projected capital expenditure must be the same as the inflation rate used in relation to holding gains. In any event, CPW's complaints about these 'discrepancies' were not accompanied by any reasoned grounds for contend-ing that the approach which Ofcom took in its modelling was wrong in any way. Accordingly, Ofcom concluded that CPW's complaints could not logically show that the price controls set by Ofcom were wrong.[696]

BT's Statement of Intervention

2.747. BT set out its view on inflation at §§70 to 75 of its Statement of Intervention (SoI) and in the witness statement of Mr Chris Esslin-Peard at §§7 to 27. BT said that CPW's complaints in relation to Ofcom's treatment of inflation were unfounded.

2.748. In relation to CPW's complaint that certain of Openreach's costs moved in line with RPI (and not the underlying inflation rate set by Ofcom), BT considered that CPW's understanding was for the most part simply mistaken. BT considered that Ofcom's approach correctly reflected the actuality of Openreach's costs and, in particular, three of the four categories of costs referred to by CPW (wages, rents and supplier costs) did not move in line with RPI.

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691 Ofcom hearing transcript, p123.
692 Ofcom Defence Annex E §30.
693 Ofcom Defence Annex E §31.
694 NoA §101.5(b).
695 NoA §101.5(a).
696 Ofcom Defence §100A. Further discussion on these points is provided in the 'Provisional Assessment' section below.

2.749. Mr Esslin-Peard noted that cumulo rates were the only cost category referred to by CPW that were directly linked to published RPI.[697]

2.750. In relation to accommodation costs, Mr Esslin-Peard noted[698] that BT's principal costs arose under an outsourcing arrangement with Telereal on a sale and leaseback deal. He explained that costs from this source accounted for 95 per cent of Openreach's accommodation costs and that, under the agreement, rents increased by 3 per cent nominal a year.

2.751. In relation to bought-in costs, Mr Esslin-Peard noted:[699] 'Ofcom's overall assessment of 0 per cent inflation reflects the reality which is that some such costs will go up and others down'.

2.752. BT also explained why Openreach's pay bill would increase year on year irrespective of whether a pay freeze was imposed or a pay increase was agreed. BT noted that any anticipation of a reduction in staff numbers was a matter to be accounted for in the assumptions on efficiency gains rather than inflation rates.[700]

2.753. Mr Esslin-Peard noted that BT pay deals were not linked specifically to published RPI but were set in absolute terms as fixed percentage increases. The agreements between BT and the Communications Workers Union (CWU) were BT-wide agreements not specific to Openreach. Mr Esslin-Peard explained that, in addition to the pay deals, there were additional costs incurred by Openreach each year for moving people up within their pay band. He explained that there was a minimum and maximum range to the pay scales and people joined on the minimum and could progress to the maximum over four to five years. According to Mr Esslin-Peard,[701] such rises cost Openreach about a further 1.5 per cent of the pay bill and occurred each year so that even in a year when RPI was negative and BT announced a pay freeze, unit wage costs would increase. Mr Esslin-Peard also noted that the pay freeze announced in March 2009 applied to 2009/10 only. He said that Ofcom's assumption that pay would increase on average at 1 per cent a year in real terms correctly reflected the fact that Openreach's pay costs did not move in line with RPI but were expected to increase in real terms year on year.

2.754. Mr Esslin-Peard[702] also noted the references contained in Mr Heaney's witness statement and in Ofcom's LLU Statement that 'BT's most recent pay settlement was calculated at RPI + 0.5%'. This was said to be a reference back to the Second Consultation. Mr Esslin-Peard said that the original source for this figure was unclear, but noted a statement in a response to the First Consultation that 'BT's current settlement for CWU grades was calculated as RPI+ 0.5%, ie about 3.5%'. Mr Esslin-Peard said that the pay agreement in 2005/06 was 3.5 per cent and so the reference might be to this year.

Sky's SoI

2.755. Sky's SoI did not address the issue of inflation.

[697] BT W/S Esslin-Peard I §8.
[698] BT W/S Esslin-Peard I §21.
[699] BT W/S Esslin-Peard I §26.
[700] BT W/S Esslin-Peard I §19.
[701] BT W/S Esslin-Peard I §14.
[702] BT W/S Esslin-Peard I §15.

Assessment

Introduction

2.756. Reference Question 1(v) requires us to determine whether Ofcom erred in its assessment of inflation for the reasons set out at §101 of the NoA. In reaching our conclusions as to whether Ofcom erred in its assessment of inflation as required by Reference Question 1(v), we have considered CPW's complaint set out in §101 of the NoA, the subsequent pleadings of CPW, Ofcom and BT and the associated witness evidence (including evidence given at bilateral hearings). We have also considered the submissions we have received from the parties commenting on the provisional determination.

2.757. From the Reference Question and CPW's complaint, we identified three distinct groups of complaint, which we explain above in paragraphs 2.675 to 2.677. First, there was a complaint about the approach of applying the revised underlying inflation rate to all costs when, according to CPW, some costs would continue to reflect movements in RPI. Second, there was a complaint about the methodology that Ofcom adopted in determining the underlying inflation rate, in that Ofcom failed, so CPW alleged, to take account of the reversal of the lower VAT and mortgage interest payments over the three-year period from 2010/11 to 2012/13. Third, there was a series of complaints as to Ofcom's approach it adopted in applying inflation rates to certain cost categories.

2.758. We identified seven questions that we considered were pertinent to answering Reference Question 1(v). These corresponded to the reasons CPW set out in the NoA as to why Ofcom erred in its assessment of inflation applying to costs. We set out the relevant paragraph number of the NoA next to each question. We considered that Ofcom would have erred if we found against them on any of these questions. These were:

(1) Had Ofcom erred by applying its revised underlying inflation rate to a number of cost categories (namely, cumulo rates, accommodation costs, salary costs and bought-in costs) when it should have applied RPI? (NoA §101.1)

(2) In calculating the revised underlying inflation rate for the four years from 2009/10 to 2012/13, had Ofcom adopted an inconsistent approach by excluding the effects of changes brought about by lower VAT and mortgage interest payments for the year 2009/10 but not for the subsequent three years, 2010/11 to 2012/13? (NoA §101.3)

(3) Was the inflation rate that Ofcom applied to wage costs (ie 1 per cent above the underlying inflation rate) incorrect because it was inconsistent with evidence that suggested otherwise? (NoA §101.2)

(4) Had Ofcom erred by applying a 0 per cent inflation rate to category C costs for the four years 2009/10 to 2012/13? (NoA §101.4)

(5) Had Ofcom incorrectly applied a higher inflation rate to capital expenditure than to existing assets, contrary to Ofcom's explanation set out in the LLU Statement? (NoA §101.5(b))

(6) Had Ofcom incorrectly applied an inflation rate of 40 per cent to energy costs for 2009/10, contrary to Ofcom's explanation set out in the LLU Statement? (NoA §101.5(a))

(7) Had Ofcom failed to reverse out the spike of 40 per cent for energy costs in 2009/10 in the following three years, as explained in the LLU Statement? (NoA §101.5(a))

2.759. We answer each of these questions in order below.

(1) Ofcom's application of its underlying inflation rate to certain cost categories (NoA §101.1)

2.760. Ofcom said that historically it had benchmarked the rate of cost inflation to RPI. In this case, however, Ofcom took the view that RPI inflation was not a reasonable basis for forecasting Openreach's costs for 2009/10. Ofcom noted, in particular, that the headline rate of inflation measured by RPI for 2009/10 would be lowered by the fall in mortgage payments and temporary VAT reductions. Ofcom therefore estimated an underlying rate of inflation that removed these effects.[703]

2.761. CPW did not dispute Ofcom's approach of estimating a revised underlying inflation rate but complained that Ofcom should not have applied this rate to all costs. In particular, CPW said that four cost categories (namely, cumulo rates, accommodation costs, salary costs and bought-in costs) would continue to follow closely RPI and that RPI would have been a more appropriate index to use for these cost categories.

2.762. For each of these four cost categories, we considered whether the approach Ofcom adopted in applying its underlying inflation rate was wrong because there was clearly more merit in applying a forecast of the RPI inflation rate to these costs.

Cumulo rates

Summary of arguments

2.763. For the purposes of the price control, Ofcom applied its underlying inflation rate to cumulo rates for each of the four years, 2009/10 to 2012/13. For example, Ofcom applied its revised underlying inflation rate of 0 per cent in 2009/10 to cumulo rates for 2009/10. CPW said that Ofcom should have instead used RPI as the appropriate inflation rate to apply to cumulo rates. CPW's justification for this view was that cumulo rates for each relevant year are calculated by applying the RPI figure from the previous September to the current cumulo rates. (For example, actual cumulo rates for 2009 were determined by applying the RPI figure from September 2008.[704]) Ofcom acknowledged that this was how, in practice, cumulo rates were determined.[705] In forecasting the appropriate inflation rate to apply to cumulo rates for 2009/10, Ofcom did not use the RPI figures that were available to Ofcom at the time that it made the LLU Statement (ie the September 2008 inflation rate).

Assessment

2.764. We do not consider that Ofcom erred by applying its underlying inflation rate to cumulo rates.

2.765. We recognize that Ofcom accepts that actual cumulo rates are calculated using the RPI rate from the previous September and that the RPI figure for September 2008

[703] LLU Statement §1.20.
[704] The annual inflation rate in September 2008 was 5 per cent. Source: National Office of Statistics, RP02.
[705] Ofcom hearing transcript, pp61 & 62.

was available to Ofcom at the time of publishing the LLU Statement. However, for the reasons set out below, we are not satisfied that CPW has demonstrated that applying the RPI rate clearly has more merit than applying Ofcom's underlying inflation rate.

2.766. First, if Ofcom's underlying inflation rate is applied to cumulo rates over the four-year glide-path period, the result is that lower overall inflation would apply than would be the case if RPI rates were applied as argued by CPW.

2.767. Ofcom's underlying inflation rate as set out in the LLU Statement is as shown in Table 2.17.

TABLE 2.17 **Ofcom's underlying inflation rate**

per cent

2009/10	*2010/11*	*2011/12*	*2012/13*
0	2.5	2.5	2.5

Source: LLU Statement §A6.55.

2.768. If Ofcom's underlying inflation rate is applied to cumulo rates, the total inflation over the four-year period would be 7.7 per cent. We calculated that if CPW's approach of applying the RPI figures relevant to cumulo rates (ie applying RPI from the previous September) were adopted the total inflation over the four-year period would be around 8.7 per cent.[706]

2.769. Furthermore, applying the glide path between 2009/10 and 2012/13 to cumulo rates inflated by the previous September's RPI rates will result in higher price controls for 2009/10 and 2010/11 than if cumulo rates were inflated by Ofcom's underlying inflation rate. This is because the 2009/10 unit costs are used to set the glide path, and applying the previous September's RPI (of 5 per cent) would result in a higher inflation assumption being applied to 2009/10 cumulo rates than applying Ofcom's underlying inflation rate (of 0 per cent). At its bilateral hearing, CPW agreed with the proposition that Ofcom's approach underestimated inflation in cumulo rates in 2009/10 and over the period to 2012/13 in comparison with using RPI.[707]

2.770. On this basis, we believe that the approach adopted by Ofcom in applying the underlying inflation rate has resulted in similar (and if anything, lower) charges as would be the case if applying the RPI rate.

Accommodation costs

Summary of arguments

2.771. Ofcom has assumed that accommodation costs will increase at the same rate as the underlying inflation rate, therefore inflating accommodation costs using the rates of inflation of 0, 2.5, 2.5 and 2.5 per cent for the four years 2009/10 to 2012/13. CPW's claim was that it was more appropriate to inflate accommodation costs by RPI than by Ofcom's revised underlying inflation rate.

[706] We have calculated this by applying the actual RPI figure in the previous September of 5 per cent to cumulo rates for 2009/10. For the other years we have used CPW's assumptions for RPI (see CPW W/S Heaney I Figure 15). For 2010/11 we used CPW's assumption for 2009/10 of –1.5 per cent which is the actual RPI figure for October 2009. For the remaining two years 2010/11 and 2012/13, we have used the annual inflation rate of 2.5 per cent as representing RPI for the September in the previous year. (See CPW W/S Heaney I Figure 15.)
[707] CPW hearing transcript, p76.

Assessment

2.772. We consider that Ofcom did not err by applying its underlying inflation rate to accommodation costs.

2.773. We noted from Mr Esslin-Peard's first witness statement that Openreach's accommodation costs are increased at 3 per cent a year in accordance with a sale and leaseback agreement between BT and Telereal,[708] regardless of the rate of RPI. We also noted that CPW's witness, Mr Heaney, recognized in his fourth witness statement that BT's actual accommodation costs were not linked to RPI and on this basis considered that Ofcom did not make the error as claimed by CPW.[709]

Salary costs

Summary of arguments

2.774. In the LLU Statement, Ofcom assumed that salary costs would increase by 1 per cent above Ofcom's revised underlying inflation rate for each of the four years from 2009/10 to 2012/13.[710] This means that salary costs would increase by 1 per cent in 2009/10 and by 3.5 per cent for each of the subsequent three years.

2.775. CPW argued that Ofcom was wrong to link salary costs to its revised underlying inflation rate because it was more appropriate to link such costs to RPI as there was a close relationship between RPI and wage settlements. The evidence referred to by CPW to support the contention that BT's pay costs more closely moved in line with RPI is set out in the witness statement of Mr Heaney.[711] Mr Heaney noted that BT's pay deal with the unions was explicitly linked to RPI and that, when BT implemented a pay freeze, it said that the pay reduction was due in part to lower inflation. Mr Heaney also noted that linking pay with RPI was a common approach among employers.

2.776. In its Defence, Ofcom said that, whilst it was true that wage costs might to some extent be influenced by RPI (because current RPI inflation might be cited by trade unions as a benchmark figure in pay negotiations), it was not the case that BT was party to a pay deal with the relevant unions that meant that pay automatically rose or fell directly in line with RPI. We also noted that Mr Esslin-Peard in his witness statement explained that BT's pay deals, including those of Openreach, were not linked specifically to published RPI as suggested by CPW. Mr Esslin-Peard explained that the pay deals were set in absolute terms as fixed percentage increases.

2.777. CPW also made a further and separate complaint about wage inflation under §101.2 of the NoA which we discuss in paragraphs 2.793 to 2.805.

Assessment

2.778. We do not consider that Ofcom has erred by applying its underlying inflation rate to salary costs.

2.779. Although CPW claimed that BT's pay deal with the unions was linked to RPI, that Openreach's pay freeze was said to be due in part to low inflation and that linking salary changes to RPI was common practice, we are not satisfied that CPW has

[708] BT W/S Esslin-Peard I §22.
[709] CPW W/S Heaney IV §116.
[710] LLU Statement Table 4.2.
[711] CPW W/S Heaney I §141.

demonstrated that there is a direct and stable link between Openreach's salary costs and RPI. On this basis, we consider that CPW has not demonstrated its case that its approach of applying RPI clearly has more merit as a basis for forecasting future salary costs than Ofcom's approach of applying its underlying inflation rate.

Bought-in costs

Summary of arguments

2.780. In the LLU Statement, Ofcom assumed that bought-in services would increase at the same rate as its revised underlying inflation rate.

2.781. CPW claimed that certain bought-in costs such as consultancy and facility management costs would move in line with RPI inflation and therefore using RPI would have been a better approach than using the underlying inflation rate.[712] CPW's support for this view was that the costs of providing these services were largely related to the costs of employing and using the services of people (ie wage and accommodation costs) and as such were linked to RPI.

Assessment

2.782. We do not consider that Ofcom has erred by applying its underlying inflation rate to bought-in costs.

2.783. We believe that CPW has failed to produce sufficient evidence to show a clear and stable link between bought-in costs and RPI. Although we agree with CPW that one factor affecting inflation pressures on bought-in costs is salary costs, we are not satisfied that CPW has demonstrated that there is a direct link between RPI and salary costs for the reasons set out above at paragraph 2.779. We also note Ofcom's statement that salary cost was just one of a number of factors that had a bearing on bought-in cost inflation (including a customer's ability and willingness to pay).[713]

Overall assessment of question 1

2.784. For the reasons given in paragraphs 2.760 to 2.783 above, we do not consider that Ofcom has erred in its application of its underlying inflation rate to certain cost categories as claimed by CPW in §101.1 of its NoA.

(2) Treatment of the reversal in VAT and mortgage interest price reductions (NoA §101.3)

Introduction

2.785. Ofcom said that it used a forecast for the underlying rate of inflation of 0 per cent for the year 2009/10. This rate took account of the effect of the reduction in the VAT rate and mortgage payments in 2009. For the following three years, 2010/11 to 2012/13, Ofcom adopted a 2.5 per cent rate for each year.[714]

2.786. CPW said that Ofcom's underlying inflation rate should be consistent over the four years from 2009/10 to 2012/13. CPW claimed that Ofcom made adjustments to

[712] CPW W/S Heaney I §143(a).
[713] Ofcom Defence Annex E §21.2.
[714] Ofcom Defence Annex E §§10 to 15.

inflation rates to exclude VAT and mortgage interest payments from the 2009/10 figures, but then erred by failing to exclude these factors when calculating the underlying inflation rates for the subsequent three years. Therefore, according to CPW, the approach used by Ofcom was inconsistent over time.

2.787. We agree with CPW that Ofcom's approach to setting a revised underlying inflation rate should be consistent over time. This means that, as Ofcom excluded the effects of lower VAT and mortgage interest payments in 2009 on its inflation assumptions in 2009/10, it should then have reversed these assumptions in the subsequent three years.

The arguments of Ofcom and CPW

2.788. CPW argued that the 2.5 per cent figure applied by Ofcom to costs for the three-year period from 2010/11 to 2012/13 was a forecast for RPI and not an underlying inflation rate that took account of the reversals in the VAT and mortgage interest rate changes. CPW noted several places in Ofcom's documentation that suggested that the 2.5 per cent figure was a forecast for RPI. For example, in the LLU Statement at §A6.50 Ofcom stated: 'While the use of RPI as the basis for forecasting cost inflation may remain valid in the longer term, it may be less appropriate in the short term'. Also CPW's witness, Mr Heaney,[715] pointed to footnote 62 of the LLU Statement where Ofcom stated: 'The nominal risk-free rate given here is for years 2–4 of the charge control, when we assume inflation of 2.5% a year. In year 1, our inflation assumption is actually 0%, which would be associated with a nominal risk-free rate of 2.0%, and a pre-tax nominal WACC of 7.6% for Openreach.' Mr Heaney also pointed to two extracts from Ofcom spreadsheets: (price calculations spreadsheets and ancillary pricing spreadsheets) which showed: 'Actual RPI from prior year: 4.2% (2009/10), –1.5% (2010/11), 2.5% (2011/12), 2.5% (2012/13).'

2.789. In its Defence, Ofcom acknowledged that it was necessary to adjust the underlying inflation rate for the three-year period 2010/11 to 2012/13 to take account of the reversal in VAT and mortgage interest rate changes and said that this is what it had done. At §14 of Annex E to its Defence, Ofcom stated:

> Ofcom recognised that, in the same way that Openreach's rate of inflation was likely to be higher than RPI in 2009/10, it might be lower than RPI in subsequent years as the previous distortions to RPI—notably the impact of low mortgage interest rates—unwound in subsequent years. On that basis, Ofcom's estimate of the average underlying inflation rate affecting Openreach in the years 2010/11 to 2012/13 was intentionally set at a level that Ofcom considered was likely to be below the average rate for RPI over that period.

Assessment

2.790. We do not consider that Ofcom erred in its approach to forecasting the underlying inflation rates for the three years 2010/11 to 2012/13 as claimed by CPW in §101.3 of its NoA. We set out our reasoning below. We considered that the pertinent question to decide was whether Ofcom had taken account of the VAT and mortgage interest rate reversals for the years 2010/11 to 2012/13.

[715] CPW W/S Heaney IV §134(b).

2.791. In order to decide whether or not Ofcom took account of the VAT and mortgage interest rate reversals for years 2010/11 to 2012/13, we considered whether Ofcom's underlying inflation rate over the four-year period 2009/10 to 2012/13 was consistent with RPI forecasts for that period. In particular, we considered whether the two overall rates are similar, given CPW's argument that Ofcom should have reversed out the falls in VAT rates and mortgage interest payments over the period of the price controls. To calculate average RPI forecasts, we sought clarification from Ofcom as to the approach it adopted in forecasting inflation for those years. Ofcom said that it had intentionally set the average underlying rate of inflation affecting Openreach in the years 2010/11 to 2012/13 at a level that was likely to be below the average rate of RPI for the period. However, we note that this was not clearly apparent in the LLU Statement. Ofcom provided us with copies of various forecasts of inflation that were available in the time between Ofcom's publication of its Second Consultation in December 2008 and the publication of the LLU Statement in May 2009. These were:[716]

- *Forecasts for the UK economy* (February 2009), published by HM Treasury. *Forecasts for the UK economy* (April 2009), published by HM Treasury.
- *CBI Economic Forecast* (April 2009).
- *Economic & Labour Market Review* (May 2009 Edition), published by the Office for National Statistics.
- *Inflation Report* (May 2009) published by the Bank of England.

2.792. Ofcom's underlying inflation rate over the four-year period 2009/10 to 2012/13 results in a total inflation rate of 7.7 per cent (ie 0, 2.5, 2.5 and 2.5 per cent). Calculating an inflation rate over the same four-year period for RPI using HM Treasury's medium-term forecasts as at February 2009[717] results in total inflation of 7.8 per cent.[718] On this basis, we considered that the underlying inflation rate used by Ofcom did take into account in the years 2010/11 to 2012/13 the reversal of its lower inflation rate in 2009/10 which was set due to falls in the VAT rate and mortgage interest payments. Accordingly, we do not consider that Ofcom has erred as claimed by CPW.

(3) Assumptions used to calculate inflation relevant to wage costs (NoA §101.2)

Summary of arguments

2.793. In the LLU Statement, Ofcom estimated that Openreach's wage costs would rise in each of the four years from 2009/10 to 2012/13 by 1 per cent above the underlying inflation rate.[719] CPW claimed that Ofcom had erred in its approach because applying such a rate for the year 2009/10[720] was inconsistent with the following evidence:

(a) BT's announced pay freeze in March 2009;

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[716] Ofcom email to CC, 22 March 2010.
[717] See *Forecasts for the UK economy* (February 2009), published by HM Treasury.
[718] The forecasts were: 1.3 per cent for 2009, 1.9 per cent for 2010, 3 per cent for 2011, 3 per cent for 2012 and 2.8 per cent for 2013. We used these annual figures to calculate inflation rates for the financial years 2009/10 to 2012/13 and used these figures to calculate the forecast inflation over this period.
[719] LLU Statement Table 4.2.
[720] CPW's complaint at NoA §101.2 was limited to the year 2009/10. See the reference to W/S Heaney at §155 which states: "**Third**, focusing specifically on pay, Ofcom have assume pay inflation of +1% in 2009/10. This is inconsistent with overriding evidence to the contrary…"

(b) the implementation of measures such as long-term leave aimed at reducing salary costs by 10 per cent; and

(c) BT's agreed pay formula is based on RPI+0.5 per cent resulting in a –1 per cent deflation for 2009/10.

2.794. In its Defence, Ofcom said that the announced pay freeze in March 2009 did not imply cuts in salaries and that Openreach's wage costs would still be expected to increase in 2009/10 as a result of grade inflation.[721] Ofcom also said that the inflation rate which it had applied to wage costs (ie 1 per cent over the underlying inflation rate) was calculated on an average basis over the four-year period and that the pay freeze was factored into the calculation of the underlying inflation rate.[722]

Assessment

2.795. We consider that Ofcom has erred in its approach by applying an inflation rate of +1 per cent above the underlying inflation rate to wage costs for the year 2009/10 as claimed by CPW in §101.2 of its NoA. We set out our reasons below.

2.796. We consider that CPW has demonstrated that the rate of +1 per cent above the underlying rate for 2009/10 was too high. We consider that the reasons advanced by Ofcom for applying a +1 per cent rate for 2009/10 do not withstand scrutiny.

2.797. In considering whether Ofcom has erred by applying a rate of +1 per cent above the underlying inflation rate for wage costs for the year 2009/10, we assessed whether Ofcom should have taken into account the factors put forward by CPW in determining the appropriate rate for that year.

2.798. In support of its case, CPW said that BT reached a pay settlement for 2009/10 that was +0.5 per cent above RPI (amounting to about a –1 per cent rate in real terms). We consider that this is not a relevant factor that Ofcom should have taken into account in forecasting the appropriate inflation rate for wage costs for 2009/10. In particular, we were persuaded by BT's witness, Mr Esslin-Peard, who stated that the actual BT pay settlement for 2009/10 was different from that assumed by CPW.[723] In addition, we do not consider that pay settlement figures are necessarily a good indicator of what total pay inflation may be. For example, we might expect pay settlements to reflect agreements on improving performance resulting in lower total pay inflation.

2.799. We also consider that BT's planned 10 per cent cost reduction in staff costs is not a relevant factor that Ofcom should have taken into account in forecasting rates for 2009/10. We consider that it is more appropriate to take account of staff cost reductions within any efficiency assumptions.

2.800. We consider that BT's announced pay freeze in March 2009 was a relevant factor that Ofcom should have taken into account when forecasting the appropriate inflation rate to apply to wage costs for 2009/10. On the basis of this factor, we consider that Ofcom's assumption of a rate of +1 per cent above the underlying inflation rate applying to wage costs (after taking account of efficiency improvements and changes in volumes) in 2009/10 was in principle too high. BT's announcement of a pay freeze

[721] Ofcom Defence Annex E §24.
[722] Ofcom Defence Annex E §§24.1 and 24.2.
[723] See BT W/S Esslin-Peard I §§15 & 16.

would suggest that the appropriate rate should be closer to the underlying inflation rate of 0 per cent for that year.

2.801. Ofcom set out a number of reasons why, in the face of this evidence, it applied a higher inflation rate to wage costs (see paragraph 2.794 above) in 2009/10. We do not consider that any of these reasons support Ofcom's decision to apply a +1 per cent inflation rate for 2009/10.

2.802. First, we note Ofcom's argument that its approach was to calculate an average wage inflation over the four-year period from 2009/10 to 2012/13. In its LLU Statement, Ofcom recognized BT's announced pay freeze but said that, while pay rates may stay flat, it would nevertheless expect there to be an element of catch-up in pay rates in subsequent years. However, this argument does not support setting wage inflation in 2009/10 at +1 per cent rather than at 0 per cent. Given the relevance of a glide path in the price control, which was determined by calculating the cost benchmark estimates for both 2009/10 and 2012/13, we consider that Ofcom should have adopted an approach that determined a specific inflation rate appropriate for the year 2009/10.

2.803. Second, Ofcom sought to justify its application of 1 per cent wage inflation for 2009/10 on the basis that this was reasonable given grade inflation. We are not satisfied that Ofcom has provided any persuasive evidence to support its case that this assumption can be justified by grade inflation. In particular, Ofcom has not provided any evidence to show that the magnitude of grade inflation, to the extent that it would exist, would have as large an effect on salary costs as +1 per cent.

2.804. Third, Ofcom sought to justify its application of 1 per cent wage inflation for 2009/10 on the basis that BT's announced pay freeze was factored into Ofcom's calculation of the underlying rate of inflation. We did not see any evidence to support this contention. Ofcom said that, in calculating its underlying rate of inflation, its intention was to remove from the headline RPI the effect of reductions in 2009 in VAT and mortgage interest rates. Nowhere did Ofcom say that it had factored into its estimate of the underlying rate of inflation the level of inflation in the input markets relevant to Openreach. It then considered how Openreach's pay and other cost categories were likely to move with this measure of the underlying rate of inflation.

2.805. For the reasons given above in paragraphs 2.802 to 2.804, we consider that Ofcom has erred in the way it calculated inflation as claimed by CPW at §101.2 of its NoA. We were not persuaded by Ofcom's reasoning that 'grade inflation' meant that the appropriate assumption should be more than zero (ie positive). We consider that the pay freeze announced by BT in March 2009 was the only relevant evidence presented by the parties to the wage inflation assumption for 2009/10. Absent further evidence on the appropriate wage inflation assumption for 2009/10, we considered that the price controls should be calculated assuming 0 per cent in this year.

(4) Inflation rate applying to category C costs (NoA §101.4)

Summary of arguments

2.806. In the LLU Statement, Ofcom considered that prices for category C costs should be fixed and should stay the same in cash terms over the four-year period 2009/10 to 2012/13. This meant that inflation on category C costs was assumed to be 0 per cent for each of the four years (see paragraph 2.711 above). CPW's complaint was that Ofcom had changed its approach from that adopted in the Second Consultation without justification or explanation and that Ofcom had therefore erred in applying a 0 per cent inflation rate to category C costs for the four-year period. CPW claimed that Ofcom's approach in the Second Consultation was to apply a 0 per cent rate to category C costs on the implicit basis that these costs would rise at 3 per cent less than RPI. According to CPW, this approach should have been applied by Ofcom in the LLU Statement.

Assessment

2.807. We do not consider that Ofcom erred in its approach to applying inflation rates to category C costs as claimed by CPW in §101.4 of its NoA.

2.808. We do not consider that CPW has demonstrated that it was implicit in Ofcom's approach that rates were set at 3 per cent below the underlying inflation rate. In reaching this conclusion, we also note that CPW's witness, Mr Heaney,[724] considered that Ofcom's approach had no significant error and withdrew the earlier claims he made.

(5) Wrong inflation rate applying to capital expenditure (NoA §101.5(b))

Summary of arguments

2.809. For network capital expenditure, Ofcom applied an inflation rate of 1 per cent above the underlying inflation rate (ie 1, 3.5, 3.5, 3.5 per cent for years 2009/10 to 2012/13 respectively). CPW claimed that Ofcom erred in applying this rate and that the application of this rate was different from the explanation that was provided in the LLU Statement. CPW argued that Ofcom should have applied the same inflation rate to capital expenditure as it had applied to holding gains. On holding gains, Ofcom applied a rate of 0.5 per cent above the underlying inflation rate (ie 0.5, 3.0, 3.0, 3.0 per cent for years 2009/10 to 2012/13 respectively). CPW contended that the LLU Statement did not contain any reasoning by Ofcom to support the assumptions it used to distinguish inflation rates to be applied to holding gains and those to be applied to capital expenditure. CPW identified §A6.110 of the LLU Statement where Ofcom said: 'In respect of holding gains going forward, we continue to believe that annual asset inflation based on the average of pay and non-pay inflation provides a reasonable basis for projecting gains'.

2.810. In §40 of Annex E to its Defence, Ofcom explained that §A6.110 of the LLU Statement was expressly concerned with holding gains and that a different rate was applied to capital expenditure so as to take into account the fact that capitalized labour was likely to represent a larger proportion of forecast capital expenditure than would be represented by the costs of tangible assets (holding gains).

Assessment

2.811. We do not consider that Ofcom has erred in its application of an inflation rate of 1 per cent above the underlying inflation rates to capital expenditure as claimed by CPW in §101.5(b) of its NoA. We set out our reasoning below.

2.812. We do not accept CPW's complaint that it is not clear from the LLU Statement that capital expenditure and holding gains attract different inflation rates.

[724] CPW Heaney W/S IV §139.

2.813. First, we consider that it was clear from the LLU Statement that different inflation rates were applied to holding gains and capital expenditure.[725] CPW's argument in this regard is unfounded. In particular, the assumptions applied to network-related capital expenditure, line test and other capital expenditure are set out in LLU Statement at Table A6.4 and assumptions applied to holding gains at §A6.110.

2.814. Second, we consider that CPW has not demonstrated that its approach of applying a lower rate of inflation to capital expenditure clearly has more merit than the approach adopted by Ofcom.

2.815. We considered whether Ofcom was wrong to apply the underlying rate of inflation +1 per cent to network related capital expenditure, particularly when it had applied a lower figure (underlying rate +0.5 per cent) to holding gains. In Annex E to its Defence, Ofcom explained that the inflation rate it applied to holding gains reflected the fact that around half the value of Openreach's existing assets was represented by capitalized labour.[726] Ofcom estimated the impact of inflation of capital expenditure in a similar way, but took account of the fact that capitalized labour was likely to represent a larger proportion of forecast capital expenditure than would be represented by the costs of tangible assets. This resulted in a weighted average inflation rate (taking account of the underlying rate of inflation and pay inflation) around 0.8 per cent higher than the Openreach underlying rate, translating into a rate of 3.3 per cent in 2010/11.[727]

2.816. We sought clarification from Ofcom as to its approach to adjusting the underlying inflation rates for capital expenditure to take account of a higher proportion of capitalized labour. In response to our questions sent to Ofcom on 15 March 2010, Ofcom explained that, since 'Network Assets' were expected to represent around 80 per cent of future capital expenditure, the average rate, in 2009/10 (when the underlying rate was 0 per cent), was 0.8 per cent. In subsequent years, the average rate was around 2.8 per cent. The rate of 3.3 per cent described in the Defence was based on Openreach's proposed inflation rate of 3 per cent.

2.817. CPW said that it had analysed Ofcom's model and concluded that Ofcom was wrong to assume that labour costs formed a greater proportion of capital expenditure than holding gains. Dr Houpis, in his witness statement, said that the proportion of capital expenditure costs that were accounted for by labour costs in the model was less than 50 per cent.[728] In his witness statement, Mr Duckworth said that he was able to extract information from the CF Final Model which showed that labour costs accounted for, on average, around 50 per cent of network capital expenditure.[729]

2.818. Ofcom did not dispute Mr Duckworth's description of its approach or the figures extracted from the model. Ofcom argued that its approach was reasonable as some of the 'non-pay' network capital expenditure (for example, subcontractor costs) would also have some relation to pay costs. We consider that the inflation assumption for network capital expenditure should take account of the fact, first, that around 50 per cent of such costs are pay costs; and second, that pay costs have some further impact on a proportion of the remaining 'non-pay' costs. Taking this into account, we consider that the inflation rate relevant to network capital expenditure would be somewhere between the underlying rate of inflation +0.5 per cent (as CPW argued) and the underlying rate of inflation +1 per cent (as Ofcom argued). We consider that

[725] LLU Statement Tables A6.4 and §A6.110.
[726] Ofcom Defence Annex E §42.
[727] Ofcom Defence §§42 and 43.
[728] CPW W/S Houpis V §46.
[729] CPW W/S Duckworth III §19.

CPW has not demonstrated that Ofcom's approach in applying a rate at the top end of this range is wrong and we do not consider that CPW's approach clearly has more merit than Ofcom's approach. For the reasons given above we do not consider that Ofcom has erred as claimed by CPW at §101.5(b) of the NoA.

(6) and (7) Application of inflation rates to energy costs (NoA 101.5(a))

Summary of arguments

2.819. Ofcom's model applied an inflation rate for accommodation-related energy costs of 40 per cent for 2009/10 and then 3 per cent a year for the subsequent years 2010/11 to 2012/13. CPW's complaint has three parts. First, it said that the rates for 2009/10 had been applied incorrectly because, in the LLU Statement, Ofcom said that the inflation increase to energy costs should be 35 per cent in 2009/10 (question 6). Second, CPW said that Ofcom incorrectly failed to reverse out the 'spike' which it predicted for 2009/10 costs, whereas it had stated in the LLU Statement that prices should return to their previous levels (question 7). Third, CPW said that the rate applied to the three subsequent years 2010/11 to 2012/13 had been applied incorrectly and instead of 3 per cent it should have been set at the same rate as underlying inflation.

2.820. Since the NoA, CPW has dropped its third complaint in relation to energy price inflation in the years 2010/11 to 2012/13. We therefore consider only CPW's first two allegations of error in relation to the application of energy inflation by Ofcom.[730]

Assessment question (6)

2.821. We do not consider that Ofcom has erred by applying a one-off adjustment to energy costs for 2009/10 of 40 per cent as claimed by CPW in §101.5(a) of its NoA.

2.822. We consider that there is a discrepancy between the model which applies a 40 per cent inflation rate and the explanation in the LLU Statement which states that the relevant rate is 35 per cent. CPW contended that Ofcom should have applied the 35 per cent rate in the model as this is the rate set out in the LLU Statement. However, Ofcom said that the error was not with the model but that the explanation in the LLU Statement was wrong—the number referred to should have been 40 per cent. Ofcom said that the error it made was not substantive but was an inaccuracy in drafting.

2.823. We consider that Ofcom did make a mistake in the drafting of the LLU Statement which should have referred to a rate of 40 per cent as used in the model rather than 35 per cent. However, we do not consider that Ofcom has made a substantive error on this point that requires a correction. In reaching this conclusion, we note that CPW did not explain why it thought 40 per cent was the wrong rate to use. Instead, CPW's complaint was based on the fact that the model and the explanation in the LLU Statement were inconsistent and that the latter was the correct one. We consider that CPW has failed to demonstrate that applying a 35 per cent rate clearly has more merit than applying a 40 per cent rate as Ofcom did in its model.

[730] Letter from CPW to CC dated 23 March 2010 and CPW hearing transcript, p81, line 18.

Assessment question (7)

2.824. We consider that Ofcom has erred by failing to reverse out the 40 per cent rise applied to energy prices in 2009/10 in the subsequent three years, as explained in the LLU Statement, as claimed by CPW in §101.5(a) of its NoA.

2.825. CPW noted that Ofcom said in the LLU Statement that the predicted spike in energy prices in 2009/10 would be reversed out in the following three years. §A6.96 and §A6.97 of the LLU Statement stated:

> A6.96 Further, in light of Openreach's description of its purchasing patterns, we do not consider that the 2009/10 cost estimate provides an appropriate base year for forecasting costs forward beyond 2009/10 and have therefore removed the one-off increase from the base year charge for the purpose of estimating energy costs in 2010/11 and beyond. …
>
> A6.97 Energy costs will increase by 35% in 2009/10 before returning to a level consistent with the 2008/09 costs increased in line with the general inflation assumption.

2.826. In our assessment, we reviewed the CF Final Model to determine whether the spike in inflation for energy prices in 2009/10 was reversed out, as set out in the LLU Statement. The following table is taken from the TFR worksheet in which inflation and efficiency assumptions are set out.

TABLE 2.18 **Extract from TFR worksheet**

Accommodation Cost Breakdown	***Inflation***	***Efficiency***	***Unit***	*2007/08*	*2008/09*	*2009/10*	*2010/11*	*2011/12*	*2012/13*
[✄]	[✄]		[✄]	[✄]	[✄]	[✄]	[✄]	[✄]	[✄]
[✄]			[✄]	[✄]	[✄]	[✄]	[✄]	[✄]	[✄]
[✄]	[✄]	[✄]	[✄]	[✄]	[✄]	[✄]	[✄]	[✄]	[✄]
Total Accommodation Costs				**102.76**	**104.7**	**116.4**	**119.3**	**122.4**	**125.6**
						11.2%	2.5%	2.6%	2.6%
	Energy prices inflation					40%	3%	3%	3%

Source: CF Final Model.

2.827. This table shows that the 2010/11 energy costs are calculated by applying a 3 per cent inflation rate to the 2009/10 energy costs that incorporate the 40 per cent inflation spike in energy prices. The same is true for the years 2011/12 and 2012/13 in which a 3 per cent inflation rate is also applied to energy costs of the previous year. It is clear that the 40 per cent inflation spike in energy prices in 2009/10 has not been reversed out such that it should then have returned to a trend rate of inflation applying to energy costs of 3 per cent a year.[731] We also consider that given the nature of the explanation in the LLU Statement, such inconsistency cannot be justified by a mistake in drafting, although this was not explicitly claimed by Ofcom. We therefore consider that CPW has demonstrated that Ofcom has erred in its

[731]We note that CPW argued that in the LLU Statement Ofcom had linked its assumption on the rate of energy cost inflation to its estimate of the underlying rate of inflation (ie it was the underlying rate of inflation + 5 per cent). We do not consider that CPW have demonstrated that this was Ofcom's approach and we consider that the trend rate of inflation applying to energy costs was 3 per cent a year.

application of energy inflation to accommodation costs for the years 2010/11 to 2012/13.

2.828. CPW calculated that correcting for this error would reduce unit costs for MPF in 2012/13 by £0.39.[732]

Determination in respect of Reference Question 1(v)

2.829. For the reasons given above (in paragraphs 2.795 to 2.805 and 2.824 to 2.828), our determination is that Ofcom erred in its assessment of inflation as claimed by CPW in §101.2 (assumptions used to calculate inflation relevant to wage costs) and parts of §101.5(a) (energy costs) of the NoA.

[732] CPW letter to CC of 23 March 2010.

Section 3: Reference Question 2: Ancillary Services

3.1. This section sets out our conclusions as to whether Ofcom erred in specifying the price caps of baskets of ancillary services imposed on BT as claimed by CPW in §§106–113 of the NoA and/or as claimed by CPW in §§114–118 of the NoA.

3.2. For the reasons given below in paragraphs 3.149 to 3.201, our determination is that Ofcom erred in not setting individual price caps on the baskets of ancillary services as claimed by CPW in §§106–113 of the NoA and by not safeguarding against price manipulation within the co-mingling basket as claimed by CPW in §§114–118 of the NoA.

Reference Question to answer

3.3. Reference Question 2 states:

> (2) Whether the price controls imposed on BT are inappropriate because OFCOM erred in specifying the price caps for baskets of ancillary services imposed on BT in one or more of the following respects:
>
> (i) OFCOM erred in setting the individual price caps on the baskets of ancillary services for the reasons set out in paragraphs 106 to 113 of the Notice of Appeal;
>
> (ii) OFCOM failed to provide sufficient or appropriate safeguards to prevent anti-competitive exploitation by BT of its pricing latitude in respect of the baskets of ancillary services for the reasons set out in paragraphs 114 to 118 of the Notice of Appeal.

Summary contents of this determination

3.4. This determination is structured as follows:

- First, we consider how the price control for ancillary services was set in the LLU Statement in paragraphs 3.5 to 3.45.
- Second, we consider CPW's case (paragraphs 3.46 to 3.95), Sky's SoI (paragraphs 3.96 to 3.102), Ofcom's Defence (paragraphs 3.103 to 3.131), and BT's SoI (paragraphs 3.132 to 3.145).
- Third, we explain our assessment of the issues in dispute in paragraphs 3.146 to 3.201.
- Fourth, we make our determination in respect of Reference Question 2 in paragraph 3.202.

Ofcom's treatment of ancillary services in the LLU Statement

Introduction

3.5. We set out below an explanation of Ofcom's treatment of ancillary services in the LLU Statement. We set out our understanding of the reasons for Ofcom controlling the prices of ancillary services. We then explain Ofcom's approach to setting a price control for those ancillary services.

The nature of ancillary services

3.6. Ofcom explained in its Defence how it had used the term 'ancillary services' in the LLU charge control.[1] In summary, ancillary services are those services that relate to the Core Rental Services (CRS) that are of an ancillary nature but which also fall within the markets in which BT has been found to have Significant Market Power (SMP). Ancillary services do not include services which are either optional (such as enhanced care or expedited installation) or which are supplied at bespoke prices.[2]

3.7. Openreach offers over 100 ancillary services which provide it with substantial revenues. In 2008/09 revenue from ancillary services was £329 million.[3]

Ofcom's reasons for controlling prices of ancillary services

3.8. In its Defence,[4] Ofcom explained that it considered it was appropriate to regulate Openreach's prices for ancillary services for, essentially, two reasons. First, Openreach has SMP in respect of the ancillary services that CPs need to buy alongside the CRS. It was necessary to regulate prices of ancillary services to prevent Openreach using its SMP to over-recover its costs of providing those services. Ofcom could prevent this by setting a single price control applying to a single basket containing all ancillary services (ie MPF, SMPF and co-mingling ancillary services). Second, Ofcom said that it was necessary to constrain the ability of Openreach to set prices for ancillary services in a way that might favour BT Retail; for example by unjustifiably lowering prices for services that BT Retail bought or unjustifiably increasing prices for services that BT Retail did not buy.

The approach adopted by Ofcom in setting the price control for ancillary services

Introduction

3.9. In its Defence,[5] Ofcom said it considered that the judgements which it had made in setting the price controls for ancillary services were reasonable in the light of relevant regulatory considerations.

3.10. Ofcom also said that it bore in mind 'the inevitable degree of tension' between a number of policy considerations.[6] These policy considerations were set out in §9 of Ofcom's Defence.

Details of the price control

3.11. Ofcom's decision in relation to the regulation of prices for ancillary services is set out and explained in the LLU Statement in Section 6 and Annex 10. The following provides a summary of this aspect of the price control adopted.

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[1]Ofcom Defence Annex F §1.
[2]LLU Statement §6.5.
[3]LLU Statement §6.4.
[4]Ofcom Defence Annex F §4.
[5]Ofcom Defence Annex F §11.
[6]Ofcom Defence Annex F §9.

3.12. Ancillary services are divided between three baskets:[7,8]

(a) *MPF ancillary services.* These are ancillary services that are required in connection with the use of MPF including new provisions and migrations.

(b) *SMPF ancillary services*. These are ancillary services that are required in connection with the use of SMPF including new provisions and migrations.

(c) *Co-mingling services*. These are services that CPs require if they locate their equipment at Openreach's local exchanges.

3.13. A full table of ancillary services within each basket is set out in Annex 1 of the LLU Statement.

3.14. Ofcom[9] set charge controls for each basket on the following basis:

(a) Each ancillary basket was subject to a separate price control (in the form of an RPI–X control) (see Table 3.1 below for detail).

(b) The control was applied to each basket based on the average price changes across all of these baskets necessary to allow prices to rise to meet the projected costs of providing all services across all baskets.

(c) The control on each basket was separate, but the level of permitted annual increases was the same for each basket.

(d) Price movement within the basket was limited by allowing each service charge to move no more than 10 per cent above or below the overall basket percentage controls. Ofcom termed this an 'inertia clause'.

(e) Five migration services (MPF transfer, MPF new provide, MPF cease, SMPF connection, and SMPF cease) were subject to sub-caps.

3.15. The starting charge for each of the services within the three baskets was that set by Openreach as at 1 April 2009, with three exceptions, where revised charges were set for the first year. The three exceptions were: MPF new provide, MPF transfer[10] and SMPF connection (the 'Key Migration Services').[11] The starting charges for these services were reset in the LLU Statement at: £76 for MPF new provide (previously £99.95); £38 for MPF transfer; and £38 for SMPF connection (previously £34.86).[12] The revised starting charges for the Key Migration Services act as a charge ceiling for the charges in the first year. In the second year, the Key Migration Services will be subject to distinct sub-caps of RPI–0.5 per cent for MPF new provide; RPI+2.5 per cent for MPF transfer; and RPI+2.5 per cent for SMPF connection services.

3.16. The price controls are set as follows.

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[7]LLU Statement §6.4.
[8]In the context of a price control, a 'basket' is a term used to describe the grouping together of a number of services so as to control the combined price of all those services together.
[9]LLU Statement §6.39.
[10]MPF transfer is also referred to as MPF migrations and in the Oak Model as MPF connection.
[11]SMPF connection is referred to as SMPF new provide in the Oak Model.
[12]LLU Statement §6.7.

TABLE 3.1 **Ofcom's price control parameters for ancillary baskets**

	2009/10	*April 2010*
Basket price caps		
MPF ancillary services basket SMPF ancillary services Co-mingling services	3%	RPI+4.5%
Sub-caps		
MPF cease SMPF cease	3%	RPI+4.5%
MPF new provide	New starting price £76	RPI–0.5%
MPF transfer SMPF connections	New starting prices £38	RPI+2.5%

Source: LLU Statement Table 1.3, §§7.51, 7.54 & 7.56.

Scope and design of the control

3.17. In the First Consultation, Ofcom sought views on the design of the controls for the CRS including the ancillary services. The price controls, at that time, took the form of fixed nominal charges for many individual access services. Openreach suggested grouping together each of the CRS into single baskets, together with other products subject to SMP conditions which CPs need to purchase from Openreach in conjunction with the CRS—suggesting separate baskets for MPF, SMPF, WLR and co-mingling each including the relevant rental services together with the related ancillary services. Other respondents to the First Consultation raised concerns about the use of broadly defined baskets because they might allow Openreach to change individual charges in an unpredictable way, and to change the balance of prices in a manner that would, potentially, favour BT's own downstream operations and stifle competition. To protect against this, some CPs proposed that many services should have individual controls.[13]

3.18. Having considered the responses, Ofcom proposed in its Second Consultation that separate controls remained appropriate for the CRS. For ancillary services, Ofcom proposed having three separate ancillary service baskets built around the underlying CRS as follows: MPF ancillary services; SMPF ancillary services; and co-mingling services.[14]

3.19. Ofcom proposed adopting some basic principles when designing the baskets, so that the regulation imposing the charges would:

(a) be easy to understand and straightforward to implement;

(b) contribute to efficiency in service provision; and

(c) ensure that the controls could not be manipulated by Openreach in a way that put other CPs at a disadvantage.[15]

3.20. Ofcom considered that the basket approach had a number of advantages including:

[13]Ofcom Second Consultation §§7.7–7.11.
[14]Ofcom Second Consultation §7.17.
[15]LLU Statement §A10.5.

(a) allowing flexibility so that individual charges could reflect cost and demand changes;

(b) providing incentives for BT to recover common costs efficiently; and

(c) reducing the administrative costs of setting charges given the large number of charges in place. In particular, Ofcom noted that it would be a very major exercise to set individual controls over a large number of services with any confidence that each charge would be set at an appropriate level.[16]

3.21. Ofcom also recognized the dangers with setting baskets that were too wide, especially the risk of Openreach distorting competition by structuring charges to favour BT's downstream operations.[17]

3.22. In response to the Second Consultation, Openreach raised concerns relating to the need for an appropriate level of flexibility and simplicity. Other stakeholders raised concerns over possible manipulation of the absolute and relative charges of services by Openreach to the competitive advantage of BT.

3.23. Having reviewed the responses to the Second Consultation, Ofcom decided to structure the price control around three baskets, as it had proposed in the Second Consultation. In doing so Ofcom recognized that the use of baskets had inherent limitations as well as certain advantages but considered that the proposed three-basket division minimized the incentive for Openreach to favour SMPF over MPF to the competitive advantage of BT. It considered that smaller baskets would substantially reduce the flexibility of Openreach to restructure charges to reflect changes in demand by its customers. Ofcom's reasoning is set out in §§A10.21–A10.24 of the LLU Statement.

3.24. In its Defence, Ofcom said that having decided to permit annual price rises for ancillary services, it then decided to impose additional measures 'to protect against the risk that Openreach might, in making use of its ability to raise prices on ancillary services, do so in a way which might advantage BT Retail.'[18]

3.25. The ancillary services used by BT Retail are largely those included in the SMPF ancillary services basket. BT Retail does not use services included in the co-mingling basket and makes minimal use of services included in the MPF ancillary services basket.

Establishing the level of the price control

3.26. We set out below the relevant features of Ofcom's approach to setting the levels of prices for ancillary services.

Setting a price cap (ensuring prices and costs match)

3.27. In its Defence,[19] Ofcom said that it set annual price caps for ancillary services with the intention of bringing prices into line with costs by the last year of the four-year period ending 2012/13. Accordingly, in 2012/13, Openreach would have been able to

[16] LLU Statement §6.11 and originally in Ofcom Second Consultation at §7.12.
[17] LLU Statement §6.12.
[18] Ofcom Defence §§2.3 & 2.4.
[19] Ofcom Defence §101.

obtain revenues from its supply of ancillary services that were sufficient to cover its costs of providing those services.[20]

3.28. The new price caps permitted prices for ancillary services to rise by around 4.5 per cent a year in real terms (see Table 3.1 above).

3.29. As discussed above in paragraph 3.18, Ofcom considered that the control on each basket should be separate, but, as explained below in paragraph 3.33, the level of permitted annual increases would be the same for each basket, based on the average price changes across all of the three baskets necessary to allow prices to rise to meet the projected costs of providing all services across all baskets. In setting the controls, allowance was also made for: *(a)* the variations in starting prices for three key migration services and individual sub-caps for these; and *(b)* two more key migration charges (discussed in paragraph 3.37 below). Costs comprise operating costs (including depreciation) and a return on capital employed (ROCE). These projections required assumptions to be made as to future volumes of demand for individual services.

3.30. In order to set price caps, Ofcom calculated the projected costs and revenues for each ancillary basket and overall on the basis that prices were to remain at their current level. These were set out in §§6.44 and 6.47 of the LLU Statement.[21]

TABLE 3.2 **Ancillary services**

£ million

	2008/09	*2009/10*	*2010/11*	*2011/12*	*2012/13*
MPF ancillary services total					
Revenue	40	47	47	71	66
Operating cost	43	52	37	38	34
EBITDA	–3	–5	9	33	32
Depreciation	6	6	5	7	8
EBIT	–11	–13	–1	16	25
Mean capital employed	**46**	**49**	**47**	**51**	**48**
SMPF ancillary services total					
Revenue	177	130	132	117	115
Operating cost	208	165	162	141	130
EBITDA	–31	–35	–31	–24	–16
Depreciation	10	11	14	18	20
EBIT	–41	–46	–45	–43	–36
Mean capital employed	**45**	**60**	**71**	**72**	**72**
Co-mingling services total					
Revenue	112	138	152	144	181
Operating cost	126	177	177	155	185
EBITDA	–14	–39	–24	–11	–4
Depreciation	7	10	11	11	13
EBIT	–21	–49	–35	–22	–17
Mean capital employed	**60**	**76**	**77**	**74**	**76**
Total ancillary services					
Revenue	329	315	331	332	362
Operating cost	377	394	376	335	349
EBITDA	–48	–79	–46	–2	–13
Depreciation	23	27	31	37	41
EBIT	–71	–106	–76	–39	–28
Mean capital employed	**151**	**184**	**194**	**196**	**196**

Source: LLU Statement §§6.44 and 6.47.

[20]Ofcom sought to set basket controls to ensure that the weighted average returns for Openreach over all three baskets allowed Openreach to recover its WACC.
[21]These figures were taken from the main part of the LLU Statement and do not agree with those in Annex 10 of the LLU Statement. Ofcom has confirmed that the figures in the main part of the LLU Statement are the correct ones.

Setting equal price caps for each separate basket

3.31. As noted above in paragraph 3.29, the price control on each basket is separate, but the level of permitted annual increases is the same for each basket. This is a key part of CPW's complaint. We set out below how we understand Ofcom reached this decision.

3.32. In the Second Consultation, Ofcom explained that the regulated charges for ancillary services 'should be informed to a significant extent by [Ofcom's] assessment of the efficiently incurred costs of [sic] providing those services'.[22] Ofcom provided a mid-case view of the costs associated with the provision of the three baskets. Ofcom explained that, based on these cost projections, there appeared to be a case for significant increases in the average price of SMPF and co-mingling services, while the prices of MPF ancillary services should fall significantly if they were to align with the underlying costs of provision. However, Ofcom explained that 'at this level of granularity and low levels of capital employed, small changes to cost allocation methodologies can have a significant—and potentially, distorting—impact on the apparent profitability of the services'.[23]

3.33. Ofcom then went on to say[24] that in light of these considerations, and consistent with its intention not to cause undue disruption to the markets, it proposed to set charge controls for each of the three baskets on the basis that:[25]

(a) each basket would be subject to a separate control;

(b) the control to be applied to each basket would be based on the average price changes across all of the three baskets necessary to allow prices to rise to meet the projected costs of providing all services across all baskets; and

(c) the control on each basket would be separate, but the level of permitted annual increases would be the same for each basket.

Resetting three starting prices for key migration services

3.34. In setting the price control for ancillary services, Ofcom also set new starting charges for the three specific Key Migration Services: *MPF Transfer*, *SMPF Connection* and *MPF New Provide*.[26]

3.35. Ofcom had reviewed the individual charges proposed for inclusion within the baskets and considered that they were suitable for use as the starting charges, with the exception of the Key Migration Charges which Ofcom considered were substantially out of alignment with the fully allocated costs.[27]

Preventing BT from manipulating prices within the baskets

3.36. Ofcom also imposed three further controls that restrict how Openreach can set prices for ancillary services.

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[22] Ofcom Second Consultation §7.24.
[23] Ofcom Second Consultation §7.26.
[24] Ofcom Second Consultation §7.27.
[25] Ofcom Defence §6.39.
[26] LLU Statement §7.52.
[27] LLU Statement §7.52.

- *Sub-caps for key migration services*

3.37. Ofcom[28] set sub-caps for five migration services (*MPF Transfer*, *MPF New Provide*, *MPF Cease*, *SMPF Transfer* and *SMPF Cease*) that are required when setting up or switching over a new end-user to MPF or SMPF.

3.38. In the Second Consultation,[29] Ofcom acknowledged that there was a particular sensitivity to the key migration service charges as the charges for these services would have an impact on the cost of obtaining new customers and could act as a barrier to entry. Ofcom also noted that those costs were borne primarily by non-BT CPs. Ofcom therefore proposed applying sub-caps on the five key migration services considering that such caps would limit the potential increases to those charges to the overall limit of the basket whilst at the same time allowing Openreach the flexibility to rebalance all charges within the basket.

3.39. In the LLU Statement, Ofcom[30] confirmed its view that there was a need to impose sub-caps on those key migration services. It said:

> In our view, these sub-caps will ensure that Openreach is unable to raise the costs of the migration charges in such a manner as to discourage or distort competition for new customers. The sub-caps still allow Openreach to trade-off between lower charges for these services (that is below the sub-cap) and increased charges for un-capped services within the basket. For these reasons, we have concluded to adopt these sub-caps.[31]

3.40. The sub-caps are set out above in paragraph 3.16.

- *Inertia clause*

3.41. Ofcom also considered it appropriate to limit Openreach's ability to make changes to the costs of individual ancillary services within a basket from one year to the next. Ofcom introduced an 'inertia clause' preventing Openreach from changing the price of any particular ancillary service by more than 10 per cent above or below the overall basket percentage controls between one year and the next.[32]

3.42. In the Second Consultation, Ofcom proposed the inclusion of an inertia clause where the percentage control restricting individual relative price movement of charges should be between 5 and 10 per cent. Ofcom explained that the aim of the measure was to protect Openreach's customers from the radical restructuring of charges on a year by year basis.[33]

3.43. In the LLU Statement,[34] Ofcom acknowledged the concerns expressed about the potential for Openreach to change substantially and rapidly the charges for services to the detriment of customers but also considered that it would be inappropriate to restrict unduly Openreach's decisions within the baskets (except for the case of certain key migration charges—see paragraphs 3.15 and 3.16 above). For this

[28] LLU Statement §7.51.
[29] Ofcom Second Consultation §7.20.
[30] LLU Statement §A10.32.
[31] LLU Statement §A10.32.
[32] LLU Statement §7.51.
[33] LLU Statement §A10.25.
[34] LLU Statement §A10.27.

reason, Ofcom decided that the inertia clause should be set at the upper end of the percentage range suggested in the Second Consultation, ie 10 per cent.

3.44. Ofcom said: 'In our view that level [ie 10 per cent] should ensure that in any given year Openreach customers will not experience an unpredictable change in a given charge, while allowing Openreach to substantially change the balance over time in response to demand.'[35]

- *New services*

3.45. Ofcom also addressed what would happen if Openreach were to create new ancillary services during the price control which, for example, might replace services within the existing baskets. If Openreach made a material change (including the introduction of a new product or service wholly or substantially in substitution for that existing product or service) to any product or service subject to the charge control, then the existing controls would apply to those new services. This would be subject to any reasonable and appropriate adjustment by Ofcom to take account of the change.[36]

CPW's challenge on ancillary services

Overview

3.46. CPW challenged Ofcom's price control determination on ancillary services in two respects. First, CPW[37] claimed that Ofcom had not set the correct price controls for each of the three baskets of ancillary services in that it had applied equal price caps for each basket meaning that the revenue and costs for each basket would be misaligned. Second, CPW claimed that Ofcom had failed to provide sufficient protection against the potential for exploitation by Openreach of the pricing flexibility allowed in respect of individual services within each of the baskets.[38]

3.47. CPW[39] claimed that the price caps set by Ofcom were anti-competitive because they would artificially favour BT Retail (which used SMPF) over other operators (which were moving to using MPF).

Setting equal price caps for each of the baskets (§§106–113 NoA)

3.48. CPW made a series of criticisms of the approach adopted by Ofcom of setting equal price caps for each of the three ancillary baskets. CPW criticized Ofcom's reasoning in the LLU Statement where Ofcom had stated that it would be too difficult to set separate price caps reliably for each of the baskets. CPW also made specific submissions regarding the commercial impact of Ofcom's approach, which we address below in paragraphs 3.72 and 3.73.

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[35] LLU Statement §A10.28.
[36] LLU Statement §§A10.51–10.54.
[37] The grounds on which CPW challenged Ofcom's price control for ancillary services are set out in §§102–118 of the NoA.
[38] CPW also claimed that Ofcom's use of one-off price adjustments was unjustified (CPW NoA §105). In relation to this point, at its hearing Mr Pickford on behalf of CPW stated: 'Just for clarification, what we said in the pleadings was that we did not see those as price control matters, namely that you had to investigate them at first instance to determine whether the price control was correct or incorrect. What we did say was that if you were with us on any of our other price control points, when it came to the matter of remedy the Competition Commission would have to look again at the relationship between prices now and where you think prices should go and come to a new view about whether one-off cuts would be appropriate in those circumstances. That is a point to which we still hold.' (CPW hearing, 5 March, lines 21–31 and lines 1–2, pp74–75).
[39] CPW NoA §111.

Wrong approach in setting equal price caps

3.49. CPW claimed that Ofcom made an error by applying the same allowable increase for each basket rather than applying an increase that reflected the actual cost of each basket.[40] CPW considered that Ofcom should have set different price controls for different baskets to reflect properly the costs of each basket. In particular, CPW said that different price caps could have been set relatively easily.[41]

3.50. CPW noted[42] that Ofcom had emphasized the importance of aligning prices with costs. According to CPW, Ofcom's decision to set equal price caps for each basket was in the face of Ofcom's own evidence that the divergence between price and cost differed markedly between the baskets, which required different price increases/ decreases to ensure alignment between prices and costs.

3.51. CPW stated that allowing each basket to increase in price by the same amount each year so that overall revenues across all three baskets, taken together, aligned with costs in 2012/13 would mean that some baskets would under-recover (eg SMPF by 14 per cent) and some baskets would over-recover (eg MPF by 33 per cent).[43]

3.52. In Reply I,[44] CPW said that the effect of Ofcom's decision was to misalign prices and costs systemically for ancillary services and 'regulate-in' explicit discrimination between users of MPF and SMPF services in a manner which favoured BT's own downstream operations, and disfavoured those of BT Retail's main competitors, TTG and Sky. This was said to be incompatible with Ofcom's statutory duty to promote effective competition, investment and innovation, and ensure that its actions were non-discriminatory.

3.53. On behalf of CPW, Mr Heaney,[45] in his first witness statement, made a further point to explain why Ofcom's approach and reasoning was seriously flawed. He argued that the impact of Ofcom's approach was a misalignment of prices and costs. He claimed that Ofcom's approach to ancillary services would unnecessarily cause productive inefficiencies. In light of Ofcom's position, CPW argued that it was wholly inadequate for Ofcom not to ensure that the cost projections for each basket were sufficiently reliable that a different price increase/decrease could be set for each basket. CPW contended that this would not have required much additional effort.

Flawed reasoning for not setting separate price caps

3.54. CPW characterized Ofcom's reasoning[46] in support of equal price caps and not bespoke price caps as:[47]

- that the cost projections for each basket were too unreliable to be used to set different price controls for each basket; and
- that setting different price controls for each basket would cause undue disruption.

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[40] CPW W/S Heaney I § 168(a).
[41] CPW NoA §106–113.
[42] CPW NoA §104.1.
[43] CPW NoA §107.
[44] CPW Reply I §160.
[45] CPW W/S Heaney I §173 and §182 where Mr Heaney quoted the following extract from the LLU Statement §5.8: 'We conclude that setting charges equal to CCA FAC is broadly consistent with achieving an efficient outcome in this case'.
[46] LLU Statement §§6.38 & 6.39.
[47] CPW NoA §108.

3.55. CPW considered that both these justifications for setting equal price caps were not sustainable and therefore contested Ofcom's reasoning.

3.56. CPW gave four reasons[48] why it considered that Ofcom's reasoning was 'flawed', for not setting separate price caps on the basis that the method for doing so was too unreliable. CPW said that:

- It was relatively easy to allocate costs between each of the three baskets.
- If Ofcom was able to allocate costs for the three Key Migration Services, then it followed that it should also have been able to allocate costs for each basket.
- Given that costs of ancillary services were substantial—in the order of £400 million per year—and the degree of misalignment substantial, if Ofcom was not confident in its estimate of costs, the correct approach would be to remedy the lack of reliability of the cost estimates.
- Even in the presence of substantial uncertainty, it was still considerably more justifiable to base prices on the best existing estimate than on a level known to be incorrect.

3.57. CPW's case focused on the first two of these points. We consider CPW's arguments as follows:

- in paragraphs 3.58 to 3.64, the alleged ease of allocating costs between each of the three baskets;
- in paragraphs 3.65 to 3.69, Ofcom's ability to manage the projection of costs for the three Key Migration Services; and
- in paragraphs 3.70 to 3.73, arguments concerning 'undue disruption' and the commercial impact of Ofcom's approach.

Ease of allocating costs between each of the three baskets

3.58. CPW contended that it was relatively straightforward to allocate costs reasonably accurately between the three baskets given the types of services in each basket. Cost methodologies would not have a large impact on the costs of each basket. This argument was developed in the witness statements of Mr Heaney and Mr Duckworth.

3.59. Mr Heaney[49] said that cost allocation was relatively straightforward because attributing costs between co-mingling and the other two baskets could be done reasonably accurately, particularly in light of the fact that certain services/resources could be distinguished and identified with ease.

3.60. Another of CPW's witnesses, Mr Duckworth, made the following comments:[50]

- Calculating price controls for each basket would not require costs to be set for each individual product. The Oak model[51] already grouped together products within each ancillary services basket for the purpose of calculating costs (for

[48] CPW NoA §110 and CPW W/S Heaney I §§176–180.
[49] CPW W/S Heaney I §§176–178.
[50] CPW W/S Duckworth I §§5 & 7–14.
[51] Ofcom's financial model which allocates costs to activities/products and calculates unit costs.

example, there were six such groups of costs used to calculate costs for the MPF cost basket).

- The model could easily be used to calculate price caps for each basket. The model process used to estimate the future FAC-CCA costs of the ancillary services was no different from that used for the CRS services, both in terms of calculation of the direct costs of the services and the allocation of the total modelled cost base to one or other services, through FAC.

- Ofcom did not compare the relative levels of fixed and common costs with those for CRS.

- The proportion of fixed and common costs allocated to ancillary services was the result of judgements made about the appropriate recovery mechanisms for these fixed and common costs in developing the Oak model.

- If there was any indication that the allocation methods within the Oak model could have the effect of disproportionately allocating common costs to certain services, rather than being based on the use of a more neutral cost allocation methodology such as an EPMU then the appropriate response by Ofcom would be to investigate why the Oak model was not leading to cost estimates that could be the basis for setting prices efficiently.

3.61. CPW made reference[52] to Ofcom's claim that it would first have had to calculate the costs of each ancillary service within each basket. However, the tables at §6.44 and §A6.257 of the LLU Statement made clear that Ofcom had already calculated total costs for each basket. CPW contended that either Ofcom had already done the bottom-up exercise it said Ofcom would need to do, or it was possible to arrive at costs for each basket without such an exercise. Either way, CPW argued that Ofcom's claim was disingenuous and provided no answer.

3.62. CPW also stated[53] that Ofcom had referred to concerns that 'calculations of the costs of particular ancillary services can be highly sensitive to the cost allocation methodologies and volume forecasts'.[54] However, CPW made the following points:

(a) Ofcom had already calculated total costs for each basket.

(b) The point of Ofcom's three broad baskets was precisely to ensure that they each included services that were not so sensitive to volume forecasts. CPW was not asking for each individual ancillary service to be subject to an individual 'bespoke' price cap. Instead, it asked that the price cap which was already applied to each basket was recalculated so as to align prices with costs across each basket.

(c) Attempting to align prices with costs for each basket mitigated the risk of volumes being substantially mis-estimated.

(d) Ofcom had provided no evidence that allocating common costs in relation to ancillary services was more problematic than it was in relation to rental services and CPW believed that the opposite was the case.

(e) Ofcom had not provided any evidence that ancillary services in general required a greater allocation of common costs than the three ancillary services for which it

[52] CPW Reply I §161(d).
[53] CPW Reply I §161(e).
[54] Ofcom Defence Annex F §20.

implicitly did consider its cost estimates to have been reliable (where it made one-off adjustments).

3.63. CPW said[55] that Ofcom's claim that the disproportionate difficulties of calculating costs for each basket was not reconcilable with an inspection of the Oak model on which Ofcom had relied for the setting of price controls. CPW reiterated the comments made by Mr Duckworth concerning the fact that the Oak model already grouped together products within each ancillary services basket for the purpose of calculating costs. If the allocation methodologies already adopted in the model were not sufficiently robust for the purposes of such baskets, then it was questionable whether the model was fit for purpose generally.

3.64. CPW said[56] that there was no reason why individual errors would be compounded when adding up costs within baskets. Even if every single cost estimate were wrong by +5 per cent, the result would be that the basket was also wrong by (no more than) +5 per cent. Individual errors were likely to cancel each other out.

Ofcom managed to project costs for three Key Migration Services

3.65. CPW[57] contended that Ofcom's reasoning for not setting separate price caps because it did not have sufficient confidence in the cost projections for each basket was illogical, given that Ofcom had sufficient confidence in the cost projections of the Key Migration Services for which it did make one-off adjustments.

3.66. In its Reply I,[58] CPW said that if the cost estimates for individual ancillary services were reliable enough to justify one-off cost reductions, they should have been reliable enough for the purposes of setting price controls across each basket. There was nothing particularly distinctive about the services chosen by Ofcom in terms of whether they were less exposed to common cost attribution.

3.67. CPW's arguments are developed in the first and fourth witness statements of Mr Heaney.

3.68. Mr Heaney[59] noted that Ofcom had previously felt the cost data was reliable enough to be able to set a precise charge for over 25 individual services within these baskets (out of a total of 32 services).

3.69. Mr Heaney[60] said that implicit in Ofcom's case was that the cost structures for the three Key Migration Services were significantly distinctive from those of other products in the baskets. He found this highly implausible because:

- The other major services in the MPF and SMPF ancillary baskets were bulk SMPF migration and mass MPF migration. These two products both involved very similar work to that of the three Key Migration Services (eg manual re-jumpering).

- These five services together accounted for the vast majority of the cost in the basket. This conclusion was consistent with comments made by BT[61] in respect of the service. It was also consistent with analysis of the baskets, which suggested that the three Key Migration Services accounted for over 80 per cent of the total

[55]CPW Reply I §161(g).
[56]CPW Reply I §162(a).
[57]CPW W/S Heaney I §179.
[58]CPW Reply I §161(f).
[59]CPW W/S Heaney I §180.
[60]CPW W/S Heaney IV §141.
[61]Oral comments made by BT in the technical plenary hearing on 12 January with respect to BT's slide 27.

basket revenues: these accounted for revenues in 2012/13 of £170 million and the total basket revenues were £211 million.

Undue disruption

3.70. With regard to Ofcom's claim that setting different price caps would cause 'undue disruption', CPW said[62] that there would be no such additional disruption resulting from setting three different price caps rather than one (assuming both were announced or signalled at the same time). Mr Heaney said that Ofcom's assertion did not make sense.

3.71. In its Reply I,[63] CPW said that the essence of Ofcom's defence was that to have set price controls so that average prices across each of the three baskets equated with costs 'would not have been a proportionate exercise to undertake'.[64] This was how Ofcom explained what it meant by 'undue disruption'—set out below in paragraph 3.124. CPW did not agree and argued that:

- There was no reference to the principle of 'proportionality' in the LLU Statement.[65] There was no attempt to measure the benefits of the exercise against its costs.

- The combined revenues for ancillary services in, for example, 2008/09 were £329 million. Self-evidently, the pricing of services of this order of magnitude demanded careful critical appraisal. Moreover, this £329 million compared with combined revenues in the same period for MPF line rental and SMPF line rental, which were each subject to separate price controls, of £342 million.[66] Ancillary services were therefore equally important, in cost terms, as line rental itself.

Commercial impact

3.72. CPW[67] said that Ofcom referred in the Defence to 'the smallness of the monetary value of CPW's first ground'. CPW said that Ofcom provided no calculations to support this statement. CPW estimated the cost to be over £10 million over the next four years.

3.73. Mr Heaney[68] also touched on the impact of the alleged error. Mr Heaney estimated the commercial impact of unequal 'Xs' on CPW to be about £10 million as follows: he previously estimated that the appropriate X to align prices with costs for MPF in 2012/13 would be RPI–4.6 per cent (compared with the price control of +4.5 per cent)—an annual and compounding excess price on MPF of 9 per cent a year. If the error were over the next price control period, the glide path would remove the 18 per cent error steadily over the following four years. Applying this error on the MPF revenues, which averaged around £50 million a year, would result in a total over-payment over the next four years of around £25 million across the whole industry.

[62] CPW W/S Heaney I §175.
[63] CPW Reply I §161.
[64] Ofcom Defence §106.
[65] LLU Statement §§6.35–6.51.
[66] LLU Statement Tables 4.5 & 4.6 in §§4.29–4.30.
[67] CPW Reply I §161(c).
[68] CPW W/S Heaney IV §142.

Insufficient protection from anti-competitive behaviour (§§114–118 NoA)

3.74. CPW claimed that Ofcom made an error by failing to provide sufficient protection against exploitation by Openreach of the pricing flexibility within baskets.[69] CPW provided two main reasons to support this claim.

3.75. First, CPW claimed that Ofcom had adopted an inadequate approach in determining whether and how to restrict Openreach's pricing flexibility within each basket. Second, CPW said that Ofcom had failed to take obvious proportionate and justifiable steps to protect against the potential for abuse and gaming by BT.

Failure to restrict Openreach's pricing flexibility

3.76. CPW argued that Ofcom had failed to take account of the fact that Openreach had the incentive and ability to use the pricing flexibility permitted by the baskets to manipulate prices to its own commercial advantage by, for instance, increasing the price of services used by external customers such as TTG and reducing those used elsewhere in the BT Group whilst complying with the overall charge control. CPW said that BT had engaged in such anti-competitive conduct in the past.[70]

3.77. Furthermore, CPW said that Ofcom had failed to give proper reasons as to why it gave the level of pricing flexibility it did within each basket. We set out each of CPW's arguments below.

Incentives

3.78. Mr Heaney said that it was reasonable to assume that BT had the incentive to use its pricing flexibility to manipulate prices for its own commercial advantage to maximize its returns to its shareholders.[71]

Ability

3.79. Mr Heaney[72] said that there were a number of ways that BT could manipulate price controls that would result in excessive and/or anti-competitive prices:

- increasing the prices of services used by external customers and offsetting this with reductions in services used by itself;
- increasing the prices of products used for switching between providers to protect downstream retail activities through increasing barriers to entry;
- introducing new services that fell outside the basket that were substitutes for products inside the basket;
- increasing prices on growing volume products and decreasing prices on declining volume products; and
- increasing prices of basic unbundled services and decreasing prices on the more featured products to discourage purchase of the more basic products by effectively margin squeezing.

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[69] CPW NoA §§116 & 117.
[70] CPW W/S Heaney I §§196 & 197.
[71] CPW W/S Heaney I §196.
[72] CPW W/S Heaney I §196.

3.80. In its Reply I,[73] CPW disagreed with Ofcom's argument that because BT was the largest user of SMPF ancillary services that would temper their manipulation of the service charges. BT was a large user of ancillary services, but did not necessarily use the same ones, or in the same proportions, as its competitors.

3.81. CPW said in its Reply I[74] that it did not accept that there was a limit to the extent of BT's ability to engage in price manipulation because of its obligation to comply with the overall basket cap. CPW said that BT was left with significant latitude to exploit the current basket system, and does so.

3.82. At its bilateral hearing,[75] CPW said that it considered there to be prima facie evidence that given flexibility, BT would use this flexibility against the interests of competition. CPW said that there were ample examples where BT had abused the price flexibility that it had to its advantage. The sub-caps and inertia clauses did not prevent or remove existing abuses or prevent future abuses but just slowed the rate at which abuse could increase.

3.83. In relation to BT's point that a general cost orientation obligation limited Openreach's ability to price flexibly within baskets (see paragraph 3.144), Mr Heaney said that these obligations would not prevent abuse because:

(a) in respect of cost orientation, the obligation allows Openreach wide leeway in pricing—for LLU ancillary services the difference between the minimum price ('floor') and maximum price ('ceiling') that Openreach can charge is between 29 and 112 per cent (or more); and

(b) in respect of the no undue discrimination and cost orientation obligations, the cost and effort involved in bringing such a complaint to Ofcom is large and, anyway, in the case of an ancillary service, it is likely that Ofcom would decline to look at the issue on the grounds of administrative priority.

Past conduct

3.84. Mr Heaney gave examples of where BT had in the past used the flexibility inherent in baskets to its advantage and to the disadvantage of competitors and competition.[76] For example, subsequent to publication of the LLU Statement, BT increased the charges for MPF ancillary services by the maximum amount but made no increases at all to SMPF ancillary services.

3.85. Mr Heaney noted that Ofcom was also said to have recognized the potential for manipulation by BT.[77]

3.86. CPW said[78] that examples of gaming by BT were provided by Mr Heaney and Sky also referred to similar examples in its presentation at the plenary hearing on 19 January 2010.[79]

[73]CPW Reply I §168.
[74]CPW Reply I §168(c).
[75]CPW hearing, 5 March 2010, p69, line 8.
[76]CPW W/S Heaney I §197.
[77]CPW W/S Heaney I (§198) was referring to the LLU Statement §6.12.
[78]CPW Reply I §167.
[79]Sky's presentation at the plenary hearing of 19 January, slides 7–8.

Failure to give reasons

3.87. Under the inertia clause, Openreach cannot increase or decrease prices for individual services by more than 10 per cent within a basket. CPW said that nowhere did Ofcom explain why 10 per cent (or any other figure) was required in order to meet the objectives for allowing pricing flexibility (even if these were legitimate). Given the countervailing reason for not allowing any flexibility at all (preventing anti-competitive gaming), this approach was inadequate.

3.88. Mr Heaney[80] said that given the theoretical incentive and the ability of BT to price in an abusive manner as well as BT's demonstrable track record, any degree of pricing latitude required compelling justification.

Failure to take steps to protect against abuse

3.89. Having set out its reasons why Ofcom should have sought to set basket controls to protect against manipulation by BT, CPW further complained that Ofcom should have taken other steps. CPW[81] said that Ofcom failed to take obvious proportionate and justifiable steps to protect against abuse and gaming by Openreach. CPW said that such measures could reasonably include:[82]

- providing clear guidance on whether/when prices for external services could be, on average, priced above those used internally and putting in place simple monitoring procedures to assess whether this was happening;
- providing clear guidance on the relative pricing of similar products that were within single baskets or in different baskets—for example, this could require pricing consistency between services that had an MPF variant and an SMPF variant or the relative pricing of basic and fully featured products which were substitutable;
- making the baskets more comprehensive of all ancillary services (Mr Heaney added that 'event' charges were not included in the baskets); and
- requiring adjustments to current year price caps to reflect over-recovery in previous years when measured against actual volumes of services supplied, as opposed to the weights used in checking compliance (which were based on previous years' volumes).

3.90. Mr Heaney[83] said that Ofcom should have imposed measures that both addressed extant abuse and limited the ability of BT to continue or increase abuse in future. CPW[84] explained at its bilateral hearing that: 'Our point is that the sub-caps and inertia clauses do not prevent or remove existing abuse which we are already seeing, which is what a charge control should do; nor does it [sic] prevent future abuses but just slows the rate at which abuse can increase. They do not go to the issue of addressing it.'

3.91. Mr Heaney[85] said that Ofcom's price control did little to protect against genuine concerns. The steps Ofcom took were very limited:

[80] CPW W/S Heaney I §199.
[81] CPW NoA §117.
[82] CPW W/S Heaney I §202.
[83] CPW W/S Heaney I §199.
[84] CPW hearing, 5 March, p69, lines 3–8.
[85] CPW W/S Heaney I §200.

- The sub-caps on particular individual services still gave BT a large amount of discretion to increase prices.

- The inertia clause gave BT a large discretion in the way it priced as it allowed the relative pricing of different products to change by up to 20 per cent in a year.

3.92. Finally, CPW[86] said that nowhere did Ofcom properly examine how existing unjustified price differentials (as might exist) would be addressed by its price control.

3.93. At its bilateral hearing, CPW[87] said that its proposals for preventing anti-competitive behaviour fell into three categories. One was a set of guidelines. The second was to make sure that all ancillary services were in the basket, otherwise Openreach would create new services outside the basket to escape regulation. The third was a technical point about how services within the basket were weighted.

3.94. CPW thought that it would be relatively simple to prepare guidelines that, broadly, required that, where there were two products that had the same cost, the prices of these products should be the same. There would be a need to look at each product and understand whether the activity was the same, which would require a little care, but Ofcom had that competence.

3.95. CPW[88] said that such guidelines would work alongside the cost orientation obligation, which allowed for a wide range of discretion by Openreach. In addition, Ofcom had tended to intervene only on an ex-post basis once a dispute was brought before it. The purpose of the additional rules would be to make these constraints slightly more concrete or specific and hopefully encourage a slightly greater degree of compliance by Openreach.

Sky's Statement of Intervention

3.96. Sky commented on the price controls set by Ofcom on ancillary services in §§35–37 of its SoI supplemented by §§40–47 of Ms Bushell's first witness statement.

3.97. Sky said that it had adopted CPW's arguments that there should not necessarily be equal price caps for the different baskets of ancillary services and that Ofcom had allowed too much pricing latitude to Openreach.

3.98. Sky made a number of additional points. Sky[89] said that it estimated that ancillary services would account for approximately [✄] per cent of its total expenditure (or £[✄]) on LLU services in 2009/10, and therefore the price of ancillary services had a very significant financial impact on Sky.

3.99. Sky made a number of comments relating to the mechanism in the basket price control that weighted the charges by reference to the volumes of the services supplied in the previous year. It noted that 'one of the key problems with the way the charge controls for ancillary charges work is that compliance with the overall price cap is based on the weighting of particular services purchased in the previous (rather than the current) financial year'.[90] Sky noted that volumes of particular services varied considerably from year to year. It said that this meant that Openreach was able to increase charges by the maximum allowable amount for certain ancillary

[86] CPW NoA §118.
[87] CPW hearing, 5 March 2010, p69, lines 9–18.
[88] CPW hearing 5 March 2010, p71, lines 9–17 & p74, lines 1–12.
[89] Sky W/S Bushell I §40.
[90] Sky W/S Bushell I §43.

services which were increasing in volume. It gave as an example Openreach's increase in the price of bulk MPF migration by 13 per cent in the knowledge that Sky was intending to migrate a significant number of customers to MPF. Sky estimated that the impact of this increased charge would cost Sky an additional £[✂] in 2009/10. Sky did not consider that Openreach had difficulty in predicting the volume of particular ancillary services because CPs were required to give advanced notice to Openreach of their anticipated requirements for particular ancillary services.

3.100. Sky considered that Openreach clearly had an incentive to maximize its profits and exploit any flexibility it was given under the price controls in order to do so.

3.101. With respect to the protection offered by the sub-caps imposed by Ofcom, Sky[91] noted that it also purchased a substantial volume of ancillary services from Openreach which were not subject to a sub-cap. Sky estimated that approximately [✂] per cent of its expenditure on ancillary services in 2009/10 would be on services not subject to a sub-cap (equating to approximately [✂] per cent of Sky's total LLU expenditure).

3.102. Sky[92] also noted that another way that Openreach was able to take advantage of the flexibility allowed under the price controls was by introducing new services outside the scope of the ancillary baskets. Sky said that the current position was that Ofcom would need to amend the price control in order to bring such services within the scope of the control, which, even if Ofcom agreed to do so, would take some time.

Ofcom's Defence

Introduction

3.103. Ofcom did not accept CPW's criticisms and set out the grounds of its defence at §§101–109 and Annex F of the Defence.

3.104. Ofcom's Defence identified the two strands of CPW's complaint against Ofcom's approach to the price control of ancillary services as:

- Ofcom made an error by setting equal price caps for all the baskets and should have instead set separate price caps for each basket.

- Ofcom should have imposed tighter restrictions on Openreach's pricing flexibility within each basket.

3.105. We explain these in turn.

Separate price caps

3.106. Ofcom considered that CPW's main complaint was that Ofcom should have gone further than it did in setting price controls for ancillary services and adopted separate bespoke price caps for each basket. CPW said that Ofcom made an error by setting price caps for all three of the baskets that would allow the overall increase in the costs of providing ancillary services to be shared equally across those baskets.

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[91]Sky SoI §37.7.
[92]Sky SoI §37.9.

Ofcom did not agree. We summarize below Ofcom's main points in defence to the criticisms raised in CPW's NoA.[93]

Ofcom's approach in setting equal price caps

3.107. Ofcom[94] said that it never intended to use the basket mechanism to set separate bespoke price controls in respect of each basket. It said that the purpose of dividing the services between the three baskets was to restrict Openreach's ability to load the permitted overall price rise disproportionately on to ancillary services not relevant to the activities of BT Retail.

3.108. Ofcom[95] said that the approach it took to setting the price caps was to make an assessment of the costs to Openreach of providing ancillary services (as distinct from the CRS), and to permit Openreach to adjust its prices over the course of the four years to 2012/13 in order to bring prices into alignment with those costs. In that way, Openreach would be able to recover its costs of providing LLU-related services from a combination of the revenues it received from providing CRS and ancillary services, and there would be a reasonable distribution of those costs between CRS and ancillary services.

3.109. As a safeguard against Openreach applying the permitted overall price increases to MPF ancillary services and co-mingling services (ie the services which BT Retail does not buy), and not to SMPF ancillary services (which BT Retail does buy), Ofcom established a three-basket structure to ensure that each of the three sets of services would share equally in the burden of permitted price increases or, potentially, the benefit from any price reductions.

3.110. Ofcom argued[96] that there was nothing erroneous or unlawful about this approach. According to Ofcom, CPW was not directly attacking Ofcom's approach of requiring that the burden/benefit of overall cost increases/savings be shared equally across the three groups of services. Rather, Ofcom contended that CPW was arguing that Ofcom should have used the three-basket regulatory mechanism to make adjustments where the existing prices for the services within each basket were misaligned with the true costs of services within that basket.

3.111. Ofcom[97] said that it was not bound by its 'mid-case view' (see paragraph 3.32) set out in the Second Consultation because, as stated in the LLU Statement, Ofcom had concluded that such a view had not been founded on a sufficiently robust basis.

Difficulty in setting individual price controls

3.112. In the LLU Statement, Ofcom[98] had explained that setting bespoke prices was too difficult because the method underlying any controls would be unreliable and the resulting controls would cause undue disruption. In its NoA,[99] CPW said that this reasoning was invalid. Ofcom responded to these arguments in its Defence.

[93] CPW NoA §§102–118.
[94] Ofcom Defence §105.
[95] Ofcom Defence Annex F §16.
[96] Ofcom Defence Annex F §17.
[97] Ofcom Defence Annex F §19.
[98] LLU Statement §§6.36–6.39.
[99] CPW NoA §110.

3.113. Ofcom, in its Defence,[100] claimed that setting separate price controls for each basket of ancillary services would have been an extremely difficult task to attempt and responded to CPW's arguments in the NoA in the following way.

Not straightforward to allocate costs (NoA 110.1(a))

3.114. In its NoA, CPW[101] claimed that allocating costs between ancillary services was relatively straightforward. In its Defence, Ofcom[102] argued that allocating costs was not straightforward. Ofcom said that in order to calculate the costs of the services in a particular basket, it would first have to calculate the costs of each of the ancillary services within that basket, and then add up those costs to produce an overall per-basket figure. Ofcom claimed that the calculations of the costs of particular ancillary services could be highly sensitive to the cost allocation methodologies and volume forecasts. Ofcom said that a high proportion of costs of some ancillary services were accounted for by contributions to common costs (for example, Systems costs accounted for 16 per cent of the cost stack).[103] The precise methodology for allocating particular common costs to, and between, particular ancillary services was not an exact science, but required an exercise of judgement. Accordingly, if small changes to cost allocation methodologies could make a big difference to the product of the costs attributed to a particular service, then the appropriateness of regarding this as a reliable benchmark for regulatory price-capping purposes was weakened significantly.[104]

3.115. Ofcom[105] said that these difficulties were less significant in relation to the three Key Migration Services in respect of which Ofcom set new starting charges. Those three services were ones which were bought in relatively high volumes, and in relation to which contributions to common costs were of less relative significance as the connection services costs were driven largely by engineering direct costs.

3.116. Ofcom[106] said that CPW's assertion that the cost allocation methodologies would not have a large impact on the costs attributed to each basket was simply wrong. Fixed costs formed a high proportion of the costs of many ancillary services (particularly services that are provided only in small volumes), and the particular methodology adopted for allocating common costs between ancillary services can have a very significant impact on the cost figures produced.

3.117. Ofcom further considered that CPW's assertion that 'given the types of services in each basket it is relatively straightforward to allocate costs reasonably accurately between the three baskets' was erroneous.[107] Ofcom considered CPW's assertion to be based on the inaccurate assumption that the costs of each ancillary service could be worked out by looking at the labour time and materials required to perform that particular service. Ofcom said that this ignored the need to take into account the particular difficulties involved in deciding what contribution to common costs each individual service should make.

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[100] Ofcom Defence §106.
[101] CPW NoA §110.1(a).
[102] Ofcom Defence Annex F §§5–8.
[103] Ofcom argued that this was particularly the case with those ancillary services that did not involve a significant use of physical parts or labour by Openreach, and/or were supplied in relatively low volumes. In addition, the cost of that service on a per supply basis (ie the cost per occasion on which the service was performed and charged for) could also be highly sensitive to the volumes of that service purchased annually, which might fluctuate significantly from year to year.
[104] Ofcom Defence Annex F §20.
[105] Ofcom Defence Annex F §8.
[106] Ofcom Defence Annex F §27.
[107] Ofcom Defence Annex F §28.

3.118. At its bilateral hearing,[108] Ofcom explained that its initial approach had been to set a single price control that would apply to the average price for all ancillary services. This was in recognition of the fact that certainly over 50 per cent, and probably closer to 60 per cent, of the costs of providing ancillary services were common. Ofcom recognized, however, concerns about the opportunity this approach would create for Openreach to increase price rises on the services BT Retail used less of and either reduce prices or at least leave constant the ones BT Retail used more of. As a result, Ofcom decided to subdivide the basket to stop the trade-off of charges between elements of the basket.

- *Distinguishing the starting cost for key migration services (NoA 110.1(b))*

3.119. CPW claimed that it was illogical that Ofcom should have sufficient confidence in the cost projections of the Key Migration Services to make one-off adjustments for each of these individual services and yet not have sufficient confidence in the cost projections for each basket to set an overall price cap for each. Ofcom said that it took a proportionate approach by resetting the starting charges for the Key Migration Services that were of particular relevance to the winning of new retail customers downstream. On the basis of its analysis of the fully allocated costs of those services, Ofcom considered that those charges had significantly diverged from costs.

3.120. Ofcom distinguished the treatment of the three Key Migration Services in the following terms:[109]

- The three Key Migration Services were supplied in relatively high volumes and involved a reasonable degree of physical effort, and were therefore relatively insensitive to cost allocation methodologies (since the costs of the three services were not made up predominantly of contributions to common costs).

- Ofcom had strong evidence that prices for the three Key Migration Services had significantly diverged from costs.

- There were particularly strong reasons for resetting charges for the Key Migration Services, given their particular importance in relation to competition. The Key Migration Services had direct counterparts in WLR service charges (the WLR new line charge, and the WLR charge for transfer from MPF). There was therefore a need to ensure an appropriate degree of consistency between charges for MPF ancillary services and charges for counterpart WLR ancillary services. In addition, these were migration service charges which directly impacted on individual line service take-up and, thus, should be set at levels that did not discourage efficient competition.

- At its bilateral hearing, Ofcom said that the potential for over-recovery of the costs of services in MPF ancillary services was related to the pricing of a single service which was specifically addressed by a sub-cap.[110]

Not possible to remedy the lack of reliability of cost estimates (NoA 110.1(c))

3.121. CPW's assertion that the correct approach would be to remedy the lack of reliability of the cost estimates was, in Ofcom's view, based on the false premise that Ofcom's concerns about the unreliability of per-basket cost figures could have been resolved

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[108] Ofcom hearing, 3 March, p99, lines 24–25.
[109] Ofcom Defence Annex F §§29–31.
[110] Ofcom hearing, 3 March, pp106–107, lines 21–31 & 1–6.

by additional evidence-gathering or analysis. Ofcom[111] said that its concerns arose primarily from the fact that prices calculated for many ancillary services were shown to be highly sensitive to the particular cost allocation methodology adopted. That difficulty could not have been removed or resolved by gathering more data. According to Ofcom, there was no uniquely correct method of allocating common costs among services.

Undue disruption

3.122. In its NoA, CPW[112] argued that there would be no additional disruption resulting from setting three different price caps rather than one.

3.123. Ofcom[113] said that an attempt at precise quantification of separate price controls would have been disproportionately difficult to carry out (given that there were more than 100 different types of ancillary services), and would have produced figures that only had an appearance of fine precision and masked a substantial margin of error.

3.124. In its Defence, Ofcom[114] claimed that it had never relied on the desirability of avoiding 'undue disruption' as a principal justification for not bringing Openreach's recovery of costs from each basket into direct proportion with the extent to which that basket was responsible for those overall costs. According to Ofcom, the reference in the LLU Statement of being 'consistent with our aim not to cause undue disruption to the markets' was a reference to the regulatory principle of proportionality. Ofcom explained that it should not use regulatory powers to require that existing prices for services be changed unless such a decision could be justified as being proportionate. The central reason for Ofcom's decision not to subject the baskets to different price caps from one another was the lack of reliable data to enable each basket's relative share of the overall costs of ancillary services to be determined. In view of that lack of reliable data, Ofcom decided that the proportionate course was the less intrusive option of setting new starting charges for the three Key Migration Services, and imposing the various restrictions that Ofcom decided to impose to constrain Openreach's pricing freedom going forwards.

Commercial impact

3.125. Ofcom[115] also said that even if it were the case that Ofcom was required to set a price cap for each basket individually by reference to the cost of that basket, this would not have as material an impact as CPW suggested. That was because CPW and other MPF users also bought co-mingling services—which BT did not. Ofcom stated that Openreach had been under-recovering costs on co-mingling services.

Tighter restrictions on Openreach

3.126. CPW's second main complaint with Ofcom's approach to ancillary baskets was that Ofcom should have imposed tighter restrictions on Openreach's pricing flexibility within each basket (see paragraph 3.76). In its Defence,[116] Ofcom argued that the measures it adopted to control price charges within each basket 'struck a reasonable balance, having regard to the countervailing benefits of allowing Openreach some

[111]Ofcom Defence Annex F §32.
[112]CPW NoA §110.2.
[113]Ofcom Defence Annex F §22.
[114]Ofcom Defence Annex F §§36 & 37.
[115]Ofcom Defence Annex F §42.3.
[116]Ofcom Defence §107.

degree of freedom to determine prices within each basket'. Ofcom said that CPW had not supported its claim that Openreach would be able to alter prices within each basket in a way that would distort competition.

3.127. Ofcom said[117] that it imposed the inertia clause in response to concerns from some industry stakeholders that Openreach might radically alter the balance of charges on a year-by-year basis in order to exploit industry knowledge of a rival's short-term activities (such as a roll-out of particular services). Dramatic changes might also undermine the ability of its customers to plan effectively and make efficient choices. The inertia clause was not intended to stop Openreach making long-term adjustments to relative charges for services within the same basket. Rather, it was intended only to limit the pace of any such adjustments.

3.128. Ofcom said that CPW's concerns about Openreach's ability to damage competitors of BT Retail by significantly rebalancing prices within baskets in ways that were not reflective of the costs of the relevant services were, in any event, exaggerated for the following reasons:[118]

- As BT was the largest user of ancillary services in the SMPF ancillary services basket, BT's own demand tempered manipulation of the service charges.

- Openreach would potentially be putting itself at a disadvantage if it sought to increase charges irrationally.

- Openreach would be putting itself at risk of suffering a loss if it set prices within baskets in a way that deliberately diverged from the costs of those services.

- The price control formula weighted the charges by reference to the volumes (in the previous year) of services supplied. The impact that a charge reduction would have on the basket was therefore weighted by service volumes. This significantly limited Openreach's ability to raise charges substantially on popular services outside the limits of the overall basket.

- The services within the basket remained subject to a cost orientation obligation which meant that Openreach was not able to set individual charges that conflicted with this obligation even if such charges were valid within the basket control.

3.129. At its bilateral hearing, Ofcom[119] said that it had dealt with opportunities for anti-competitive behaviour specifically by creating the basket. In addition, the inertia clause would prevent BT suddenly readjusting all its charges in response to a momentary change in volume, the sub-caps dealt with those services which were particularly important to competition and the strict definition of the services prevented BT moving aspects of the service out of the regulated area. There were also mechanisms for review if new services were created.

3.130. Ofcom[120] also said that BT would not have any flexibility within the SMPF basket to reduce prices for services it used and increase prices for services used by other CPs, because all the services within the SMPF sub-basket were used equally by BT and other CPs when they used SMPF.

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[117] LLU Statement §6.26.
[118] Ofcom Defence Annex F §47.
[119] Ofcom hearing, 3 March, p110, lines 25–31.
[120] Ofcom hearing, 3 March, p110, lines 14–15.

3.131. Ofcom[121] also argued that BT had very little, if any, real ability to deploy flexibility to its own competitive advantage because there were individual charge caps on the Key Migration Services which substantially constrained their increases and the inertia clause limited the change in relative charges between any two services to a maximum of 20 per cent in a given year.

BT's Statement of Intervention

Introduction

3.132. BT[122] said that it regarded Ofcom's decision on ancillary services as problematic and it created a significant risk that BT would not be able fully to recover its efficiently incurred costs. In particular, BT said that it considered Ofcom's structure for baskets unduly restrictive. BT distinguished its own concern from CPW's case which argued for more prescription. In its response to Ofcom's Second Consultation, Openreach[123] argued for a more flexible approach comprising two broad baskets, namely one basket for ancillary services relating to MPF, SMPF and WLR, without any sub-caps or individual constraints, with a separate co-mingling basket.

3.133. BT considered[124] it to be common ground between CPW, Ofcom and BT that the ancillary baskets should be structured so as to enable BT fully to recover its efficiently incurred costs. At its bilateral hearing, BT said[125] that Ofcom should have either allowed a broad enough basket and sufficient flexibility for Openreach to adjust prices such that it recovered its fully allocated cost or alternatively to make starting price adjustments to, in particular, those key volume products that were misaligned, such that over the period of the control it was able to bring those prices in line with fully allocated cost.

3.134. BT said[126] that Openreach had no incentive to price anti-competitively. Openreach was incentivized to treat all its customers equivalently and there were measures in place to ensure that it did so. Moreover, Ofcom had the powers to prevent and deal with such practices. Openreach had its own annual operating plan, budget and targets and its employees were incentivized on Openreach performance.

3.135. BT's main submission on ancillary services related to (1) the difficulty in predicting future demand for services and (2) Openreach's lack of incentive and ability to price flex within baskets. These arguments are expanded in the first witness statement of Mr Shurmer.[127]

Difficulty in predicting future demand

3.136. Mr Shurmer[128] said that CP-driven activities like multiple re-terminations or mass migrations were volatile and difficult to forecast as they were dependent on whether or not the CP undertook the activities it supported. Mr Shurmer said that the take-up of particular products may be particularly difficult to predict at particular points in time. Mr Shurmer said that this difficultly in predicting volumes was significant when seeking to calculate the level of returns at the basket level; a change in the demand for

[121]Ofcom Defence §48.
[122]BT SoI §82.
[123]BT W/S Shurmer I §143 and BT SoI §78.
[124]BT SoI §84.
[125]BT hearing, 5 March, p59, line 33, to p60, line 8.
[126]BT W/S Shurmer I §170.
[127]BT W/S Shurmer I §130–187.
[128]BT W/S Shurmer I §§139–140.

such products against the Ofcom forecast would materially affect the returns at the basket level.

3.137. Mr Shurmer said[129] that it was generally accepted that where new charge controls brought disparate products together, a basket control should enable some prices to increase and others to decrease. The result should, in effect, be neutral within the overarching basket constraint. Within the proposed basket approach, price changes to products that had higher volumes would require larger opposite changes in price to those products with lower volumes.

3.138. At its bilateral hearing, BT said[130] that the combination of the constraints imposed by Ofcom meant that Openreach was not able to make the price adjustments upwards or downwards to get to a position of recovering fully allocated costs for each of those products. BT[131] gave as an example MPF transfer. The same situation applied for SMPF connections.

3.139. BT[132] gave another example that worked in the opposite direction: the price of MPF new provide, which prior to the control was £99.95. Even with a starting price adjustment down to £76, BT said that it would not be possible for Openreach to reduce prices further to fully allocated cost.

3.140. BT[133] said that one of the issues that Openreach faced with ancillary services was that it was very difficult to predict actual sales volumes, and returns at the basket level were highly sensitive to these volumes. If volumes of a product that under-recovered costs were higher than expected, this brought the basket's return down. Conversely, if volumes of a product that over-recovered were higher, this brought the basket's return up. Volume uncertainty would be less of a problem if prices were equal to fully allocated costs. In relation to CPW's contention that the price controls would result in an over-recovery of cost of the MPF basket, BT said that this would depend on what happened to the volumes of products within that basket.

Ability to price flexibly within baskets

3.141. Mr Shurmer[134] said that there was in fact limited pricing flexibility within the MPF and SMPF ancillary baskets in particular, so that the price controls set by Ofcom were more likely to be overly restrictive rather than provide the wide flexibility that CPW suggested. Mr Shurmer[135] noted that there was a higher degree of flexibility in the co-mingling basket because no sub-caps were applied to any of the products within that basket.

3.142. Mr Shurmer[136] explained that the restrictions on price charges within each basket imposed by Ofcom did not afford Openreach the pricing flexibility that CPW suggested. Openreach would, for example, take into account the need for portfolio consistency when making pricing decisions—ie that prices for bulk/mass products which exploited economies of scale needed to be cheaper than singleton products—so, for example, MPF mass migration prices needed to be cheaper than MPF transfer prices. Mr Shurmer considered that the combination of constraints would prevent

[129] BT W/S Shurmer I §146.
[130] BT hearing, 16 March 2010, p60, lines 14–22.
[131] BT hearing, 16 March 2010, line 5, p63, to line 19, p64.
[132] BT hearing, 16 March 2010, line 20, p64, to line 2, p65.
[133] BT W/S Shurmer I §140.
[134] BT W/S Shurmer I §161.
[135] BT W/S Shurmer I footnote 29.
[136] BT W/S Shurmer I §165.

Openreach from aligning prices for key ancillary volume products with costs over the period of the glide path.

3.143. Regarding Openreach's ability to price flexibly within baskets, Mr Shurmer[137] noted the number of additional regulatory and legal restrictions and prohibitions which limited Openreach's ability to price as it saw fit, eg the regulatory obligations found in the respective market reviews conducted by Ofcom. The general cost orientation obligation which applied to LLU products would need to be adhered to as well as the restriction not to unduly discriminate.

3.144. In addition to a general cost orientation obligation which applied to LLU products, Openreach had to adhere to further obligations found in the Wholesale Local Access Review including:

- a requirement to provide network access on reasonable request;
- a requirement not to discriminate unduly against particular persons or against a particular description of persons in relation to matters connected with network access;
- a requirement to publish a reference offer in relation to the provision of network access; and
- a requirement to notify charges and terms and conditions.

Mr Shurmer considered that the extra measures suggested by CPW were therefore unnecessary and disproportionate given the existing regulatory and legal restrictions placed upon Openreach.

3.145. In relation to the examples given by Mr Heaney of BT using the price flexibility inherent in baskets to its advantage and to the disadvantage of its competitors (see paragraph 3.84), BT said the claims were incorrect:[138]

- Two of the services quoted (Backhaul and Right When Tested) were not subject to a charge control at the relevant time, so these were clearly not examples of Openreach using pricing flexibility within baskets to BT's advantage.
- With regard to SMPF ancillary services, contrary to CPW's claim, Openreach had notified a number of price increases to SMPF ancillary services that became effective on 1 November 2009 after the requisite notification periods elapsed.

Assessment

Introduction

3.146. Reference Question 2 asks us to determine whether Ofcom has erred in specifying price caps for ancillary services in two respects. First, we are asked whether Ofcom has erred by setting equal price caps for each basket of ancillary services so that revenues and costs within each basket will be misaligned. Second, we are asked whether Ofcom has erred by failing to provide sufficient or appropriate safeguards to prevent anti-competitive exploitation by BT of the pricing latitude provided for within each ancillary services basket.

[137] BT W/S Shurmer I §172.
[138] BT W/S Shurmer I §177.

3.147. In reaching our conclusions on these two questions, we have considered CPW's complaint set out in §§106–118 of the NoA, the subsequent pleadings of CPW, Ofcom, BT and Sky, supporting witness evidence, evidence given at various hearings and correspondence with the parties. We have also considered the responses received to our provisional determination.

3.148. We consider each of the questions in turn.

Has Ofcom erred by setting equal price caps for each basket of ancillary services?

Introduction

3.149. CPW's first complaint was that Ofcom made an error by applying the same allowable increase for each basket of ancillary services rather than setting a price control that reflected the actual costs of each basket. CPW claimed that Ofcom should have set different price caps for each basket to ensure the costs and revenues for each basket were aligned. CPW said that it would have been relatively straightforward to set different price controls and Ofcom should have done this because the value of ancillary baskets was material. Ofcom said that it was never its intention to set different price caps. The reason it separated ancillary services between baskets was largely to prevent BT from manipulating prices as between services BT Retail uses and services BT Retail does not use. Ofcom said that it would be difficult to set bespoke price caps, because any price caps would be unreliable and would cause undue disruption.

Assessment

3.150. For the reasons set out below, we consider that Ofcom has erred by setting equal price caps for each of the three ancillary baskets, as claimed by CPW.

3.151. First, we are satisfied that CPW has demonstrated that setting equal price caps for each basket of ancillary services, as Ofcom has done, runs the likely risk that costs and revenues for each basket will be misaligned. Second, we are satisfied that CPW's alternative approach of setting individual price controls for each basket clearly has more merit than the approach adopted by Ofcom in its LLU Statement. On the arguments before us in this appeal, we considered that Ofcom should in principle have set different price caps for each ancillary basket to ensure the alignment of costs and revenues within each basket. We also considered that Ofcom could in practice have set different price caps. We were not persuaded by Ofcom's line of reasoning for not setting different price caps; in particular that it was too difficult and would cause undue disruption if it had set such price caps.

3.152. We consider that in principle, CPW's approach of setting different price caps for each basket has more merit than the approach Ofcom adopted of setting equal price caps for the following related reasons:

(a) We consider that with equal price caps it is likely that costs and revenues within each of the three baskets will be misaligned in each of the four years 2009/10 to 2012/13.

(b) We consider that there is a likely risk that such misalignment will disadvantage some CPs compared with other CPs and BT Retail.

(c) We consider that there is a likely risk that such misalignment will result in Openreach over- or under-recovering the total costs allocated to ancillary baskets overall if actual volumes differ from forecast.

(a) Misalignment of costs to revenues

3.153. Ofcom set prices for ancillary services so that by 2012/13 Openreach could expect to recover fully total costs allocated to ancillary services.[139] This was based on a number of assumptions including those for forecasting the volume of demand for individual services. Although Ofcom made changes to starting prices for three Key Migration Services[140] (for which Ofcom considered that there was significant mis-alignment of costs and prices), it did not in setting prices seek to bring revenue and costs for each of the three baskets into line. Ofcom said that its approach for this price control was to set controls on ancillary services to ensure cost recovery overall; the baskets were to prevent potential for anti-competitive behaviour and Ofcom was not required to go further than this.

3.154. According to CPW, Ofcom's approach of setting equal price caps would result in a misalignment between costs and revenues leading to an over-recovery for the provision of MPF ancillary services (ie prices will be above costs) and an under-recovery for the provision of co-mingling and SMPF ancillary services (ie prices will be below costs). We agree with CPW that a misalignment of costs and revenues within each of the three baskets is likely for the price control period with Ofcom's approach for the following reasons.

3.155. We have considered the forecasts of costs for each basket after allowing for changes to starting prices and the price increases allowed by the price controls. We do not have forecasts of revenues.[141] However, the LLU Statement (see Table 3.3 below) contains data for 2008/09 indicating that the difference between revenues and fully allocated costs differed between baskets suggesting that the price increase required to bring costs and revenues into line would be different for each basket.

TABLE 3.3 **Ancillary services, 2008/09**

	MPF ancillary	*SMPF ancillary*	*Co-mingling*
Revenue	40	177	112
Operating costs	43	208	126
EBITDA	–3	–31	–14
Dep incl holding gains	6	10	7
EBIT	–11	–41	–21
ROCE			
Mean capital employed	46	45	60

Source: LLU Statement §6.44.

3.156. In its Defence, Ofcom explained that it recognized that costs and revenues for the Key Migration Services would be significantly misaligned. For this reason, Ofcom made adjustments to the starting prices and set sub-caps for each of these services.[142] However, the table provided by Ofcom and set out below[143] (see Table 3.4) shows that the price control measures Ofcom applied to the Key Migration Services will not be sufficient to fully redress the price misalignment within those

[139]See paragraph 3.27.
[140]See paragraph 3.29.
[141]We have only revenue forecasts assuming that prices remain constant (see LLU Statement after §6.44)—and Ofcom's estimates of the effect of the changes to starting prices for revenues in 2012/13 (see the Ancillaries Model).
[142]Ofcom Defence Annex F §2.5.
[143]Ofcom's response to CC questions of 12 February 2010.

services. In particular, Openreach will, in 2009/10 and 2010/11, continue to earn substantially greater revenues than costs on MPF new provide and generate a loss on MPF transfer and SMPF connection. Currently, these products account for around [✂] per cent[144] of revenue generated from MPF and SMPF ancillary services and they are expected to continue to account for a high proportion of revenue in later years.

TABLE 3.4 **Return**

			£ per unit
	Control	*2009/10*	*2010/11*
MPF new provide	£76 (09/10) RPI–0.5(10/11)	[✂]	[✂]
MPF transfer	£38 (09/10) RPI+2.5(10/11)	[✂]	[✂]
SMPF connection	£38 (09/10) RPI+2.5(10/11)	[✂]	[✂]

Source: Ofcom's response to CC questions of 12 February.

3.157. We have considered the likely effects of these observations for each of three baskets in the relevant price control years, ie 2009/10 and 2010/11:

(a) First, within the MPF basket, MPF transfer accounts for a large proportion of revenues in 2009/10. Table 3.4 above shows that these are loss making.[145] However, in 2010/11, if volumes of MPF new provide increase and MPF transfers fall as forecast, the MPF basket will recover total allocated costs in 2010/11.[146]

(b) Second, within the SMPF basket, SMPF connection accounts for a large proportion of costs/revenues in 2009/10 and 2010/11. The table above suggests that Openreach will not recover the fully allocated costs in 2009/10 and 2010/11 for this service.

(c) Third, within the co-mingling basket, the forecasts given in the LLU Statement suggest that revenues, even after the price increases allowed by the controls, will not recover the fully allocated costs in 2009/10 and 2010/11.

3.158. We also considered how costs and revenues may align for each basket in 2012/13. For this we used Ofcom's cost and revenue projections for 2012/13 which take account of the change in starting prices of the Key Migration Services but not the price increases allowed by the price controls (basket caps of RPI+4.5 per cent and the sub-caps).

TABLE 3.5 **Ancillary services, 2012/2013—forecast revenue and total costs (including return on MCE)**

		£ million in 2012/13	
	MPF ancillary services	*SMPF ancillary services*	*Co-mingling*
Total revenue	66	115	181
Total costs (incl return MCE)	47	157	206

Source: Total revenue = LLU Statement §6.44; Total costs (incl return MCE) = CC analysis (see footnote 145 above for methodology).

[144]Ofcom's response to CC questions of 12 February 2010.
[145]Oak model (ancillary) tab 'activity type cost stack'.
[146]In the LLU Statement, total costs for MPF ancillary services are about £47 million (operating expenditure + depreciation + return on MCE). Revenue at 2008/09 prices is estimated at £47 million. Applying the new starting prices and price caps to revenue figures given in the Oak model and inflation assumptions in the pricing model suggests that revenue will be more than £47 million.

3.159. Table 3.5 above shows that the MPF basket will over-recover costs in 2012/13 (before account is taken of any price increase allowed by the price control). The main factor causing this over-recovery is that Ofcom had assumed a significant increase in the volumes of MPF new provide, the price controls for which, would in 2012/13, still allow Openreach to charge prices in excess of fully allocated costs. If the price controls Ofcom has set, do recover total costs in 2012/13 (as is the intention), it follows that if one basket (ie the MPF ancillary services basket) is over-recovering its fully allocated costs, one or both of the other two baskets (ie the SMPF and co-mingling ancillary services baskets) must then under-recover their fully allocated costs. To illustrate this, Table 3.5 shows that the SMPF basket and the co-mingling basket will both under-recover costs in 2012/13 (before account is taken of any price increases allowed by the price controls).

(b) Potential to disadvantage some CPs relative to other CPs and BT Retail

3.160. A misalignment of costs and revenues has the potential to work to the advantage of some CPs (including BT Retail) and to the disadvantage of other CPs depending on the mix of services those CPs use to provide a given product to a customer. Those CPs using services in the SMPF and co-mingling baskets (both of which will under-recover fully allocated costs in 2012/13) will likely have an advantage over those CPs using services in the MPF basket (that will over-recover fully allocated costs in 2012/13). In particular, we note that the MPF basket and the co-mingling basket are predominately used by competitors of BT Retail. BT said that BT Retail does not use the services included in the co-mingling basket and makes only a limited use of MPF services. BT Retail predominantly uses SMPF ancillary services.

(c) Risks of over/under-recovery of total costs

3.161. The application of equal price caps leading to a misalignment of costs and revenues for each basket creates a greater risk that Openreach may over- or under-recover ancillary service costs overall. This is because equal price caps will not allow Openreach to set charges for services within the baskets to align with their costs so that changes to volumes of demand for different services could have the effect that total costs of ancillary services overall will not be aligned. This is illustrated by the MPF basket. In 2009/10, charges for these services are not expected to recover total costs. The results in the Oak model show that in 2009/10 MPF transfers which are priced below fully allocated costs account for a large proportion of revenue. In 2010/11, however, volumes of MPF transfers are forecast to fall and those for MPF new provide which are priced above fully allocated costs are expected to increase.

3.162. In this context, BT emphasized the risks arising from prices for individual services not being aligned with unit costs. BT explained that the risk of over- or under-recovery of costs due to variation from forecast volumes would not arise if prices were aligned with unit cost where the unit costs of providing a service were not sensitive to volumes. We comment below[147] on Ofcom's arguments on the sensitivity of the cost forecasts to volume.

3.163. Openreach's performance depends on whether demand for different services turns out as forecast. Our understanding is that Openreach has very little influence over this as the demand for services is driven by the investment plans of CPs and on the choices made by end-customers (eg to switch provider).

[147]See paragraph 3.169.

Could Ofcom have set different price caps?

3.164. We have concluded that Ofcom, in practice, could have set different price caps for each ancillary basket so as to align revenues with costs for each basket.[148] In reaching this conclusion, we considered Ofcom's Defence, which set out a number of arguments to explain why setting different price caps would be unreliable and would cause undue disruption.[149] Ofcom's arguments fall into three categories. First, Ofcom argued that cost estimates for individual baskets were unreliable given the sensitivity to the cost allocation method used to allocate common costs between ancillary services. Second, Ofcom said the allocation of costs among different baskets was sensitive to volume projections. Third, Ofcom claimed that setting price controls for individual baskets would cause undue disruption in terms of proportionality. We were not satisfied that these arguments provided sufficient reason to justify why different price caps could not be set for the reasons given below.

Sensitivity to the cost allocation method used to allocate common costs

3.165. Ofcom said in its Defence[150] that a high proportion of the costs of some of the ancillary services are accounted for by contributions to common cost. As a result the cost estimates of an ancillary service could be highly sensitive to the cost allocation method used to allocate common costs between the ancillary services. We are not persuaded that this is a reason for not setting individual price controls for each ancillary basket.

3.166. Ofcom has told us that a significant proportion of the common costs allocated to ancillary services are transfer costs (ie the costs allocated to Openreach by BT Group). We note that this result may be a consequence of the method adopted by Ofcom for allocating transfer charges. In particular, certain costs have been allocated on the basis of full-time equivalent employees (FTEs). Because the costs of providing ancillary services are largely operating costs, an FTE allocation could result in a disproportionate allocation to ancillary services. However, the cost allocation methods applied in allocating costs to ancillary services are the same as used for allocating transfer costs to other products/services.[151] Moreover, we are not persuaded that alternative allocation methods would result in proportionally different allocations of transfer and other common costs *between* ancillary services. We note that Ofcom did not consider the sensitivity of results to alternative allocation methods.[152]

3.167. In addition, based on the information provided, we consider that Ofcom has overstated the problem. In particular, Ofcom told us that common costs accounted for 50 per cent or more of costs of the following ancillary services:[153] MPF new provide, MPF migrations, MPF analogue PC provides, MPF provides including Featurenet, MPF analogue PC rentals, MPF bulk migrations, SMPF new provide, SMPF single migrations and SMPF bulk migrations. We note that the three Key Migration Services (ie MPF new provide, MPF transfer and SMPF connection) that are subject to separate price controls are included in this list. Ofcom said[154] that these services were supplied in relatively high volumes and involved a reasonable degree of physical effort, and so were relatively insensitive to cost allocation methodologies (since the

[148] We recognize that had Ofcom set separate price caps for each basket so as to align the costs and revenues of each basket, to achieve this objective it might also have needed to set the sub-caps and inertia clause at different levels from those in the Decision.
[149] See paragraph 3.112.
[150] Ofcom Defence Annex F §§5–6.
[151] BT hearing, 16 March, p68, lines 16–32.
[152] In its response to CC questions of 15 March 2010.
[153] Ofcom hearing, 3 March, p99, lines 24 & 25.
[154] Ofcom Defence Annex F §29.

costs of the three services were not made up predominantly of contributions to common costs). Ofcom later clarified that although the costs for these Key Migration Services were sensitive to the cost allocation methodology, this was not so great as to preclude the setting of individual price caps.[155]

3.168. In addition, we note that the results given in the Oak model show that for many of the other services, the volumes, allocated costs and revenues are small or zero. Nevertheless, because the list includes those for which sub-caps have been set, these services account for a large proportion of the SMPF and MPF baskets. However, we note again that Ofcom was in fact able to set sub-caps for the Key Migration Services based on the results of the model.

Sensitivity to volume projections

3.169. Ofcom said in its Defence[156] that for ancillary services that did not involve a significant use of physical parts or labour by Openreach, and/or were supplied in relatively low volumes, the cost of that service on a 'per supply' basis (ie the cost per occasion on which the service was performed and charged for) could be highly sensitive to the volumes of that service purchased annually. These volumes may fluctuate significantly from year to year. We are not persuaded that the sensitivity to volume projection of unit costs is as great a problem as Ofcom argued it was, for the following reasons.

3.170. Ofcom[157] told us that sensitivity to volume projections was an issue for LLU cease, SMPF single migrations, MPF transfers, and MPF and SMPF bulk migrations. In particular, the volumes for these services were said to be low or fluctuating over the period to 2012/13. However, we have noted that the results from the Oak model suggest that the costs of MPF and SMPF bulk migrations will be zero or very small during the price control period.

3.171. Ofcom also said that unit cost estimates for MPF transfers were relatively insensitive to volume forecasts. More generally, Ofcom said that forecasting volumes was not an issue for the products for which individual price caps were set. These services were said to account for a large proportion of the costs of the SMPF and MPF baskets.

3.172. We note that in setting price controls, uncertainty about future volumes can be a problem if the estimates of unit costs are sensitive to volume forecasts. However, results from the Oak model (see Table 3.6 below) suggest that the unit costs for the products listed by Ofcom are not particularly sensitive to the volumes.[158] This suggests that the uncertainty about future volumes is a problem because prices were not aligned with unit costs and not because of the sensitivity of unit costs to volumes.

[155]Ofcom response to CC questions of 15 March 2010.
[156]Ofcom Defence Annex F§6.
[157]Ofcom response to CC questions of 12 February 2010 and Ofcom response to CC letter 8 March 2010.
[158]The most sensitive is LLU cease.

TABLE 3.6 **Results from Oak model**

	2009/10	*2010/11*	*2011/12*	*2012/13*
LLU cease				
Total cost (£m)	[✂]	[✂]	[✂]	[✂]
Vol	[✂]	[✂]	[✂]	[✂]
Unit cost (£)	[✂]	[✂]	[✂]	[✂]
SMPF single migration				
Total cost (£m)	[✂]	[✂]	[✂]	[✂]
Vol	[✂]	[✂]	[✂]	[✂]
Unit cost (£)	[✂]	[✂]	[✂]	[✂]
MFP transfers/migrations				
Total cost (£m)	[✂]	[✂]	[✂]	[✂]
Vol	[✂]	[✂]	[✂]	[✂]
Unit cost (£)	[✂]	[✂]	[✂]	[✂]

Source: Oak model.

3.173. On the basis of our assessment above, we consider that Ofcom has overstated the potential problems arising from the uncertainty about future volume of demand for some services.

'Undue disruption'

3.174. We considered Ofcom's arguments that setting different price caps would cause 'undue disruption' as defined by Ofcom in its Defence (see paragraph 3.125 above). We do not accept Ofcom's claim that it would have been disproportionate to have set different price caps. In paragraphs 3.164 to 3.173 above, we explain why we consider that Ofcom could have set individual price controls for each ancillary basket based on the information available to Ofcom at the time of the LLU Statement. We consider that the benefits of setting the correct price controls for ancillary baskets far outweighed the likely effort and difficulties that would have been faced by Ofcom from doing so. We have therefore reached the view that setting individual price caps would not have caused 'undue disruption'.

Did Ofcom fail to provide sufficient or appropriate safeguards to prevent anti-competitive exploitation by BT of its pricing latitude?

Introduction

3.175. CPW's second complaint is that Ofcom erred by failing to provide sufficient or appropriate safeguards to prevent anti-competitive exploitation by BT of the pricing latitude provided for within each basket. CPW complained that Ofcom's approach in setting price caps on the basis of baskets and controls within those baskets gives Openreach an amount of pricing flexibility that could and would likely lead it to price services in accordance with its own anti-competitive objectives. CPW said that Ofcom then failed to take steps to protect against this abuse and gaming by BT. In its NoA, CPW listed a number of measures that it said Ofcom could and should have legitimately and proportionately taken. In its Defence, Ofcom argued that BT had very little, if any, real ability to deploy pricing flexibility within each ancillary basket to its own competitive advantage. BT in its SoI noted the difficulty in predicting future demand for ancillary services such that it would be difficult to manipulate prices in the way suggested by CPW.

3.176. We considered that there were three aspects of CPW's case:

(a) First, Openreach had the ability to take advantage of the pricing flexibility within each of the ancillary baskets for its own anti-competitive objectives.

(b) Second, Openreach had the incentive to manipulate prices within each of the ancillary services baskets to the commercial advantage of BT.

(c) Third, as a result, Ofcom should have adopted greater safeguards.

3.177. We consider first whether, on the basis of the arguments before us in this appeal, Openreach would have the ability to manipulate prices in the way that CPW describes to BT's commercial advantage. Only if we conclude that it may have this ability do we need to go on to consider whether it would have the incentive to do so, and if so whether Ofcom should have put in place further protection to prevent this happening.

Assessment

3.178. We consider that Ofcom erred by failing to provide sufficient safeguards to prevent Openreach from manipulating prices to its commercial advantage in one respect, as claimed by CPW; namely, that Ofcom failed to provide safeguards to prevent Openreach from achieving higher average price increases by increasing prices by more on growing volume products within the co-mingling basket. We do not consider that Ofcom made any other error in the way it allowed for pricing flexibility within each of the ancillary baskets, as claimed by CPW in §§114–118 of the NoA.

3.179. We first consider the extent of the pricing flexibility that is allowed within the baskets before considering whether Openreach can use this flexibility to its commercial advantage.

Extent of the pricing flexibility

3.180. The flexibility that baskets provide, compared with separate price caps for each service, is the ability within baskets to increase the price of one or more services by more than the overall price increase allowed by the basket price cap and to decrease other prices in order to stay within the price controls. CPW said that using baskets, as against setting individual charge controls on each service, was frequently used for relatively less important services since it was considered that it would result in a disproportionate administrative burden to be able reliably to set individual charge controls. CPW also said that, there was a clear risk that a basket type of arrangement provided BT with a large degree of flexibility to alter prices which it could exploit in a manner that was anti-competitive and welfare damaging.[159]

3.181. In support of CPW's complaint that Openreach has the ability to manipulate prices, Mr Heaney[160] argued that there were a number of forms of manipulation that could result in excessive pricing and/or pricing that would have anti-competitive effects. The main ones were said to be:

(a) increasing the prices of services used by external customers and offsetting this with reductions in services used by BT Retail;

(b) increasing prices of products used for switching between providers to protect its downstream retail activities through increasing barriers to switching;

[159] CPW W/S Heaney I §165.
[160] CPW W/S Heaney I §196.

(c) introducing new services that fell outside the basket that substitute for products inside the basket;

(d) increasing prices on growing volume products and decreasing prices of declining volume products—this tactic could allow BT to over-inflate prices and gain excess returns whilst remaining within the price cap; and

(e) increasing prices of basic unbundled services and decreasing prices on the more featured products to discourage purchase of the more basic products by effectively margin squeezing.

3.182. Mr Heaney presented examples of price discrimination by Openreach in support of his case.

3.183. Ofcom argued that[161] BT had very little, if any, real ability to deploy that flexibility to its own competitive advantage. It gave four reasons for this:

- The flexibility only existed within each of the three baskets, ie within sets of services that BT Retail did or did not require.
- There were individual charge caps on the key migrations charges of MPF and SMPF connections and the new line provide charges which substantially constrain their increases.
- The inertia clause limits the change in relative charges between any two services to a maximum of 20 per cent in a given year.
- The baskets were weighted by service volumes so that BT could not substantially raise prices for popular services beyond the overall basket control.

3.184. The price controls set by Ofcom give Openreach a degree of pricing flexibility within each of the ancillary baskets to price individual services within the baskets at higher or lower prices than the overall price cap for each of the baskets (see paragraph 3.180 above). This flexibility is constrained by a number of factors (described in paragraph 3.14 above).

3.185. We consider that CPW's complaint that Openreach has the ability to take advantage of the pricing flexibility within each basket for its own anti-competitive objectives has two aspects. First, CPW claims that Openreach is able to manipulate prices within baskets to the commercial advantage of BT Retail. Second, CPW claims that Openreach is able to manipulate prices within baskets to gain excess returns by achieving higher average price increases over the basket than suggested by the price cap, whilst complying with the price control.

Ability to manipulate prices within baskets to the commercial advantage of BT Retail

3.186. We are not satisfied that CPW has demonstrated that Ofcom has failed to prevent Openreach from being able to manipulate prices within each of the baskets to the advantage of BT Retail.

3.187. We recognize that the basket approach gives Openreach a certain amount of flexibility over the prices it can charge for each service within the baskets. However, the only opportunity for Openreach to use this pricing flexibility to favour BT Retail advan-

[161] Ofcom Defence Annex F §48.

tage is within the SMPF basket. This is because the SMPF basket is the only basket that contains services that are bought in significant amounts by both BT Retail and other CPs.[162] The services included in the MPF and co-mingling baskets are not used to any significant extent by BT Retail, so the opportunity to price discriminate within those baskets is minimal.

3.188. We consider that the controls set within the SMPF basket are sufficient to prevent Openreach from pricing to the commercial advantage of BT Retail. First, Openreach's ability to increase prices for individual services within the SMPF basket above the overall price cap rate is constrained by the imposition of separate sub-caps on SMPF cease and SMPF connections which account for a large proportion of revenues in this basket (around [✂] to [✂] per cent). We consider that the inertia clause does provide some protection but that this protection is limited because over two years it would be possible to adjust relative prices of two services within a basket by up to 45 per cent.

3.189. In its response to our provisional determination, CPW said that there was a need for safeguards to prevent discrimination in favour of BT Retail within the SMPF basket since BT Retail will use the services within the basket to a differing degree to other CPs allowing material scope for manipulation notwithstanding the constraints that we identified. CPW has not provided any evidence or analysis to support this claim. CPW has not demonstrated that BT Retail will use services within the SMPF basket to a differing degree to other CPs. BT told us that BT Retail and other CPs will make use of the same services.[163] We are therefore not minded to change our view from that set out in our provisional determination.

3.190. In its response to our provisional determination, CPW also said that there is the potential for discriminatory pricing between baskets, for example, inconsistency between *MPF Connection* and *SMPF Connection* or between *MPF New Provide* and *WLR New Provide*. CPW contends that measures to address this are still necessary. We consider that CPW has failed to substantiate these claims. We consider that the constraints identified within the SMPF and MPF ancillary service baskets would restrict Openreach's ability to discriminate in the way alleged by CPW. We also note that any action by Openreach to discriminate in favour of BT Retail by increasing prices by the maximum allowed by the basket caps for the MPF and co-mingling baskets and keeping prices in the SMPF basket at current levels would have a cost to Openreach. This is because a significant percentage of the SMPF basket revenues are generated from provision to other rival CPs [164] We therefore do not consider that Openreach would have the incentive to adopt such an approach even if CPW had demonstrated that Openreach has such an ability.

Ability to manipulate prices within a basket to achieve higher average price increases

3.191. We are satisfied that CPW has demonstrated that Ofcom erred by giving Openreach the pricing flexibility within the co-mingling basket such that it is possible for it to increase prices on growing volume products and decrease prices on declining volume products and so gain excess returns whilst complying with the price control. We consider that the pricing flexibility provided to increase prices by more for products that are increasing in volume, in the co-mingling basket, may give Openreach the ability to achieve higher average price increases than would have been possible

[162] Paragraph 3.130.
[163] BT hearing, 16 March, p82, lines 16–22.
[164] Ofcom assumed that 32% of SMPF lines would in 2009/10 be non-BT lines and 25% in 2012/13 (see LLU decision, Annex 7, Table A7.1).

had the changes in prices been weighted by current year revenues. We consider that for the MPF basket and SMPF basket Openreach would not have this opportunity. We set out our reasons below.

3.192. In his first witness statement, Mr Heaney said that Openreach could manipulate price controls by increasing prices on growing volume products and decreasing prices on declining volume products leading to excessive prices. Mr Heaney said that this tactic could allow Openreach to over-inflate prices and gain excess returns whilst remaining within the price cap.[165]

3.193. In the price control formulae applying to each basket, the percentage change in the price for each product is weighted by the revenue generated by the product in the previous year divided by total revenue generated by all products in the basket in the previous year.

3.194. As Openreach will be informed in advance of CPs' migration plans, it has the ability to anticipate which services will increase by the most in volume. We recognize that when prices are weighted by revenues or volumes in the previous year, regulated businesses, in principle, may be able to 'beat' the price cap by imposing larger price increases for products that are increasing in volume or revenue relative to other products in the basket.

3.195. We considered whether Openreach would be able to manipulate prices in this way for each of the three ancillary baskets. As part of this assessment, we considered the financial information contained within the Oak model.

MPF basket and SMPF basket

3.196. We consider that the price controls set for both the MPF basket and the SMPF basket will not give Openreach the ability to act in the way described by Mr Heaney (as set out above in paragraph 3.181). This is because any price increases are limited by a combination of:

(a) The overall price cap on each of the baskets. For both the MPF and SMPF basket this is 3 per cent for 2009/10 and RPI + 4.5 per cent for 2010/11.

(b) The sub-caps applied to the Key Migration Services. Within the MPF basket, sub-caps apply to MPF cease, MPF new provide and MPF transfer. Within the SMPF basket sub-caps apply to SMPF cease and SMPF connect. These Key Migration Services account for a large proportion of the revenues generated within the MPF basket and the SMPF basket and are expected to continue to do so.

(c) The inertia clause that limits price rises for individual services within a basket (see paragraphs 3.41 to 3.44).

3.197. Using the financial information on the MPF and SMPF ancillary baskets in the Oak model, we estimate that Openreach would not be able to achieve higher average price increases than would have been possible had these been weighted by the current year volumes. We noted Ofcom's comments[166] that the data in the model is highly aggregated and that we had not allowed for changes in starting prices other than for the three Key Migration Services for which Ofcom set new starting prices. However, the predominant factor restricting Openreach's ability to charge excessive

[165] CPW W/S Heaney I §196(d).
[166] See Ofcom letter to CC dated 14 June 2010.

prices is the application of the separate sub-caps on the Key Migration Services that account for a large proportion of the revenues.

Co-mingling basket

3.198. We consider that the price controls set within the co-mingling basket will allow Openreach to achieve higher average price increases in the way described by Mr Heaney. Although there is an overall price cap for the co-mingling basket (set at 3 per cent for 2009/10 and RPI+4.5 per cent for 2010/11) and an inertia clause applies to price changes to individual services within that basket, there are no sub-caps for separate services within the co-mingling basket. Without any sub-caps we consider that Openreach may be able to increase prices on growing volume products and decrease prices on declining volume products to achieve higher average price increases across the basket than would have been possible had the changes in prices been weighted by current revenue. The ability to do this would tend to favour BT Retail over other CPs as BT Retail does not make use of services included in the co-mingling basket.

3.199. Both Ofcom and BT drew attention to the general cost orientation obligation that applies to Openreach. BT drew attention to a number of other obligations, including, in particular, a requirement not to unduly discriminate. In our view, these obligations do not eliminate the potential problems within the co-mingling basket. We agree with CPW's contention that the obligation allows Openreach wide leeway in pricing (see paragraph 3.83*(a)* above) that in this instance the cost orientation obligation allows for a very wide range of possible prices. We also agree that ex post enforcement may not be effective because it relies upon problems being identified and the costs of enforcement to Ofcom and affected parties may be disproportionate to the benefits such that it is not worth pursuing a claim. In addition, with regard to the non-discrimination obligation, we consider that the lack of directly comparable products would also present an additional difficulty for enforcement.

3.200. As part of our assessment of CPW's arguments, we have also considered whether Openreach would have the incentive to manipulate prices within the co-mingling basket in this way. Mr Heaney said that it was reasonable to assume that BT had the incentive to use the pricing flexibility allowed by baskets to manipulate prices for its own commercial advantage to maximize its returns to its shareholders. For instance, it could increase the price of services used by external customers and reduce those used internally whilst complying with the overall charge control. We consider that Openreach would have such an incentive.

3.201. In the NoA, CPW listed a number of measures that it said Ofcom could and should have legitimately and proportionately taken to safeguard against anti-competitive pricing by Openreach. The suggested measure relevant to Openreach's ability to charge excessive prices by manipulating prices within the co-mingling basket was to require price changes to be corrected based on actual year volume (rather than the previous year volume). We consider that this approach would, in principle, protect against Openreach being able to charge excessive prices in the way described above.

Determination in respect of Reference Question 2

3.202. For the reasons given above (in paragraphs 3.150 to 3.199), our determination is that Ofcom erred in not setting individual price caps on the baskets of ancillary services as claimed by CPW in §§106–113 of the NoA and by not safeguarding against price manipulation within the co-mingling basket as claimed by CPW in §§114–118 of the NoA.

Section 4: Reference Question 3: Glide Path

4.1. This section sets out our conclusions as to whether Ofcom erred in setting the glide path for MPF and SMPF and/or certain ancillary services as claimed by CPW in §§119–125 and §§127–129 of the NoA.

4.2. For the reasons given below in paragraphs 4.69 to 4.81, 4.85 to 4.92 and 4.94 to 4.96, our determination is that Ofcom has not erred in setting the glide path as claimed by CPW in §§119–125 of the NoA. For the reasons set out in paragraph 4.100, we have not reached a conclusion on the arguments presented in §§127–129 of the NoA.

Reference Question to answer

4.3. Reference Question 3 states:

> Whether OFCOM erred in setting the glide path for MPF and SMPF and/or by making certain one-off adjustments to the prices of certain ancillary services for the reasons set out in paragraphs 119 to 125 and 127 to 129 of the Notice of Appeal?

4.4. We note that, in its reply to Ofcom's unamended Defence dated 22 January 2010 (Reply I), CPW did not advance its arguments on the path of prices as substantive grounds of appeal in their own right. However, CPW considered that these arguments would still go to the question of remedy if the CC agreed with CPW's other substantive points on the price of rental and ancillary services, and if it decided that there should be a resultant material change in those prices.[1]

Summary contents of this determination

4.5. This determination is structured as follows:

(a) first, we set out Ofcom's approach to setting the glide path for MPF and SMPF as set out in the LLU Statement (see paragraphs 4.6 to 4.21);

(b) second, we consider CPW's case (paragraphs 4.22 to 4.35), Ofcom's Defence (paragraphs 4.36 to 4.55) and the arguments of the Interveners (paragraphs 4.56 to 4.60);

(c) third, we explain our assessment of the issues in dispute (see paragraphs 4.61 to 4.100); and

(d) fourth, we make our determination in respect of Reference Question 3, in paragraph 4.101.

[1] CPW Reply I §170.

Ofcom's assessment of the glide path in the LLU Statement

MPF and SMPF rental

4.6. In the LLU Statement (at §§7.4–7.15), Ofcom explained that it had set the new price controls for MPF and SMPF on the basis that prices should move towards the underlying fully allocated cost (FAC) in 2012/13 and move by reference to a glide path.[2]

4.7. The approach to the glide path was consistent with that set out in Ofcom's Second Consultation, in which Ofcom stated:

> The final combination of 2009/10 charge and subsequent indexation in 2010/11 would be determined such that—if an equivalent annual indexation were to apply until 2012/13—it would deliver a price that equals our final assessment of the projected efficient fully allocated cost of each service in the final year.[3]

4.8. Ofcom noted that, in general, it favoured glide paths because they smoothed changes and avoided distortions in the market, and because they placed stronger cost efficiency incentives on regulated companies. Moreover, Ofcom considered that applying a methodology consistent with previous practice would give investors confidence in the predictability of the regulatory regime in the future.[4]

4.9. Ofcom said that, in the simplest form of glide path, prices would increase at a constant real annual rate. However, in theory, the rate of change could change each year and a glide path did not necessarily rule out, for example, a relatively higher or lower increase in the opening year of any control.[5]

4.10. Ofcom's FAC CCA unit cost calculations were as follows:

TABLE 4.1 **Ofcom's unit cost estimates for MPF and SMPF**

£

Year	*2009/10*	*2010/11*	*2011/12*	*2012/13*
MPF	87.20	90.41	95.42	97.62
SMPF	13.18	13.63	14.64	15.22

Source: LLU Statement Table 7.5.

Use of a nominal glide path

4.11. Ofcom then set prices with reference to a glide path. Previously, Ofcom had linked the price control to RPI, in the form of an RPI–X adjustment applied to a starting charge over a number of years.[6] Ofcom had to determine which RPI figure to use. Ofcom noted that although there were limitations to the relevance of RPI data as a measure of input cost pressure facing Openreach, the index had generally provided a reasonable basis on which to consider movements in costs. Further, to the extent that it might lead to an inconsistent or distorted measure of inflation in a particular year, the impact of these distortions might be expected to even out over a long

[2] LLU Statement §7.15.
[3] LLU Statement §7.4.
[4] LLU Statement §5.9.
[5] LLU Statement §5.10.
[6] LLU Statement §7.22.

control period.[7] Given the short control period in this case, Ofcom considered that distortions or lags in the RPI data could have implications for the charges set in each specific year. In particular, Ofcom did not consider that the October 2009 RPI statistic[8] was likely to provide a relevant measure of the cost pressures facing Openreach in 2010/11 as:[9]

(a) It considered that the statistic was distorted. Ofcom's view was that the October 2009 RPI statistic was depressed by factors that did not have any direct impact on Openreach's costs (significant falls in mortgage interest and the VAT reduction in December 2008); Openreach's input cost inflation would therefore be higher than RPI inflation in October 2009.

(b) The statistic referred to the wrong time period. The volatility of RPI at the end of 2009 meant that (even if comparable to Openreach's input costs) it would not be comparable with Openreach's input costs over the time of the price control as underlying inflation was likely to increase between 2009 and 2010.

4.12. Ofcom noted that the published RPI statistic for October 2008 was +4.2 per cent and that in October 2009 it was expected to be around –1.5 per cent. Ofcom considered that a price control based on a constant X being applied to both RPI statistics would result in a large increase in 2009/10 followed by a small increase—or even reduction—in prices in 2010/11, resulting in an erratic glide path that had more to do with the timing and basis of RPI statistics than movements in Openreach's underlying costs.[10] To effect a smooth nominal glide path, Ofcom noted that it was not possible to adjust the published RPI statistic and that it was therefore necessary to adjust the X.[11]

MPF: use of a mid-point between smooth and fully accelerated glide path in year 1

4.13. Ofcom noted that, whilst some responses to its Second Consultation were in favour of a smooth glide path, others favoured more gradual changes or an immediate move to the cost standard.[12] Ofcom stated that there was a strong case for a four-year glide path approach, though it noted that for MPF the use of a two-year glide path would result in a fairly similar result given Ofcom's final FAC CCA estimate.[13] Ofcom considered that there was a case for a price path that involved a larger increase in the MPF charge in the first year because it would reduce the potential distortion to the choice between MPF and WLR+SMPF.[14]

4.14. In determining the MPF charge, Ofcom then considered what a four-year glide path would look like based on its estimate of 2012/13 costs and the expected rate of RPI inflation over the period. Informed by this, it then determined the appropriate starting charge for MPF in 2009/10 giving weight to alternative methods for determining the starting charge by selecting a value close to the middle of the smooth glide path and the case for full cost recovery.[15] The FAC per MPF unit in 2009/10 was £87.20 (see Table 4.1), and the price on the basis of a smooth nominal glide path would have been £85.41 (based on the starting price from 2008/09 of £81.69). Therefore, taking

[7] LLU Statement §7.25.
[8] ie the annual inflation as measured by RPI.
[9] LLU Statement §7.27.
[10] LLU Statement §7.28.
[11] LLU Statement §§7.29 & 7.30.
[12] LLU Statement §5.11.
[13] LLU Statement §A5.33.
[14] LLU Statement §5.12.
[15] LLU Statement §7.31.

the mid-point between the cost and the smooth price resulted in a price of £86.40 (see Appendix E).

4.15. Having established the 2009/10 starting charge, Ofcom then determined the appropriate glide path over the remaining three years. Ofcom's analysis suggested that an increase of approximately 1.5 per cent a year would be required to allow prices to move towards full cost recovery by 2012/13. In order to deliver this increase in 2010/11, Ofcom adjusted the X to allow for the expected difference between the reported October 2009 RPI and the actual RPI in 2010/11. The difference of approximately 4 per cent meant that Ofcom considered an X of 5.5 per cent to be appropriate for 2010/11. Ofcom stated that, in effect, if inflation were to rise in line with Ofcom's expectations (ie if October 2009 RPI inflation was –1.5 per cent), the MPF price would increase by around 4 per cent from £86.40 to around £90.00.[16] (See Appendix E.)

SMPF

4.16. A similar approach was adopted for setting SMPF prices, although, unlike in the case of MPF prices, Ofcom did not consider it necessary to adjust the 2009/10 charges implied by the four-year glide path in 2009/10 to align them more closely with costs because the absolute difference between the current level of SMPF charges and the estimate of 2012/13 cost was small.[17,18]

Ancillary services—adjustments to starting charge

4.17. Ofcom stated that the starting charges for the services within the baskets were those set by Openreach at 1 April 2009 with three exceptions.[19] The exceptions were the starting charges for MPF new provide, MPF transfer and SMPF connection.[20]

4.18. Ofcom noted that its analysis suggested that the charges for MPF new provide, MPF transfer and SMPF connection were substantially out of alignment with FAC. It considered it necessary to consider the relationship between this charge on the promotion of new LLU services compared with the WLR new provide charge. The MPF charge, at the time of the LLU Statement, was £99.95, which Ofcom noted was substantially above FAC (around £42 in 2012/13), while the MPF transfer and SMPF connection charge of £34.86, at the time of the LLU Statement, were below FAC (around £50 in 2012/13).[21] Therefore, Ofcom proposed a one-off initial adjustment to MPF new provide and for MPF and SMPF connections.[22]

4.19. The starting charge for MPF new provide was set at £76.00 and for MPF and SMPF connections was set at £38.00.[23,24]

4.20. These revised starting charges for MPF new provide, MPF transfer and SMPF connection were to act as a ceiling on the charges in the first year.[25] The changes to

[16]LLU Statement §§7.32–7.35.
[17]LLU Statement §7.36.
[18]We note that for SMPF a 2 per cent reduction from the starting charge is required by 2012/13 to align prices and costs, whereas for MPF a 20 per cent increase is required over the same time frame.
[19]ie starting charges are 2008/09 prices unless stated.
[20]LLU Statement §7.52.
[21]LLU Statement Annex §A10.34.
[22]LLU Statement Annex §A10.35.
[23]LLU Statement §7.54.
[24]We note that MPF connections and MPF transfers are used interchangeably by Ofcom in the LLU Statement and also by CPW (see paragraph 4.33).
[25]LLU Statement §7.52.

these charges still required the normal notification period. Ofcom also proposed distinct second year sub-caps for the three charges: RPI –0.5 per cent for MPF new provide; and RPI +2.5 per cent for the MPF transfer and SMPF connection service.[26]

4.21. Appendix F sets out the approach Ofcom took to setting the glide path for ancillary service baskets.[27]

CPW's challenge on the glide path

4.22. In the NoA, CPW argued that:

(a) Ofcom generally adopted a smooth glide path for a number of reasons, which were generally seen to outweigh any detriments that flowed from prices being unaligned to costs for longer. However, in this price determination, Ofcom had deviated from its general principles without sound justification.[28] There was no compelling basis for departing from a smooth real glide path.[29]

(b) The approach that Ofcom had adopted to the glide path on core rental services (CRS) was unclear. Had the approach set out in the LLU Statement been adopted, the price would have been about £85.09 (in 2009/10 prices) and not the £86.40 that Ofcom chose. It was not clear whether this error arose because Ofcom had failed to reflect the change in inflation from the Second Consultation.

(c) Ofcom departed particularly starkly from a smooth real glide path in the LLU Statement by making one-off adjustments to three ancillary services. The net impact of these adjustments was an increase in revenue to BT. Ofcom wholly failed to consult on the use of one-off adjustments to the glide path.[30] These one-off adjustments were both collectively and individually inappropriate as:[31]

(i) The cost estimates on which Ofcom relied were the same estimates which it concluded were insufficiently robust to justify price caps for each basket, which reflected the underlying divergence between cost and price.

(ii) Ofcom had provided no evidence that there was any economic efficiency resulting from making a one-off adjustment.

(iii) The costs with which Ofcom had claimed to align its prices appeared to be incorrect for a number of reasons (which we explore below).

(iv) There was no evidence presented that (relative to other cost differences which had been remedied by glide paths) the difference justified the underlying premise for the one-off adjustments.

CPW arguments in more detail

4.23. CPW's NoA is supported by the first witness statement of Mr Heaney.[32] We outline below CPW's arguments in more detail.

[26] LLU Statement §§7.55 & 7.56.
[27] Letter from Ofcom to the CC dated 13 January 2010.
[28] CPW NoA §§120–122.
[29] CPW NoA §126.
[30] CPW NoA §§127 & 128.
[31] CPW NoA §129.
[32] CPW W/S Heaney I §§203–220.

Deviating from a smooth real glide path

4.24. CPW considered the standard/default option for glide paths to be the use of a smooth glide path. CPW set out its view of why generally Ofcom adopted this approach, suggesting that a smooth glide path:[33]

(a) was less disruptive for both BT and wholesale customers, since there were no large sudden changes in revenue (for BT) or costs (for customers);

(b) increased cost minimization incentives, since the benefits to regulated undertakings of reducing costs (increasing profits) were not immediately removed through price matching with costs in subsequent periods; and

(c) provided greater consistency and certainty generally across all of Ofcom's regulated sectors, since it was the method used by Ofcom in all but exceptional cases.

4.25. CPW argued that these advantages were generally seen to outweigh any detriments that flowed from prices being unaligned to costs for longer.[34] CPW argued that there were two main circumstances where it might be appropriate to deviate from a smooth glide path:[35]

(a) First, if there were cost-recovery or possible anti-competitive effects, due to prices/revenues being significantly out of line with costs. CPW argued that this could occur in two circumstances:[36]

(i) if prices were above stand-alone cost (SAC), the prices would potentially be excessive and/or anti-competitive; or

(ii) if prices were below LRIC and/or overall common costs were not recovered, there could be a disincentive to invest and/or the prices could be anti-competitive.

(b) Second, where other static (productive and allocative) and/or dynamic efficiencies could be improved by using an accelerated or slowed glide path.[37]

4.26. CPW argued that the first set of circumstances did not give way, in this case, for prices to be set above the glide path for cost-recovery reasons as the MPF rental price was already substantially above LRIC, and CRS overall covered all incremental and common costs. Further, CPW said that, given that there was over-recovery on CRS prices without any price rises, there might be a case for prices being lower than the smooth glide path.[38]

4.27. CPW argued that Ofcom seemed only to consider the need to avoid productive inefficiency resulting from the price difference between MPF and WLR and MPF and WLR+SMPF being less than the LRIC between the services. CPW said that Ofcom had effectively ignored other relevant economic efficiency considerations (dynamic

[33] CPW NoA §120.
[34] CPW NoA §121.
[35] CPW W/S Heaney I §212.
[36] CPW W/S Heaney I §213.
[37] CPW W/S Heaney I §214.
[38] CPW W/S Heaney I §215.

and allocative) and argued that if these efficiencies had been considered then a need for a smooth or possibly slowed glide path would have been recognized.[39]

4.28. CPW also argued that, given the short price control period and the significant costs of switching between WLR and MPF or WLR+SMPF and MPF, it was unlikely that the impact of using an accelerated glide path (a £2.12 higher price) would reduce the 'inefficient' migration of lines to MPF and that, therefore, the impact of using the accelerated glide path on reducing productive inefficiency was likely to be very small.[40]

4.29. CPW argued that, in this case, Ofcom had deviated from a smooth real glide path and had increased prices faster than a smooth glide path would imply in two areas: MPF rental and certain ancillary services (both MPF and SMPF).[41]

Inflation rate used

4.30. CPW argued that Ofcom used the wrong RPI inflation rate in assessing the mid-point between the 2009/10 price implied by a smooth real glide path and the CCA FAC cost in 2009/10. CPW argued that Ofcom used 3 per cent as the RPI inflation rate in each year (from the Second Consultation) and not the more accurate forecasts for RPI of –1.5 per cent in 2009/10 and 2.5 per cent in each year thereafter. It considered that correcting for this error would result in a cost of £85.09 per MPF line in 2009/10.[42]

4.31. CPW's calculation of the 2009/10 price under the two inflation forecasts is set out below.

TABLE 4.2 **CPW's assessment of the 2009/10 price using different RPI assumptions**

£

Price	*Using old RPI figures*	*Correct RPI figures*
Using smooth real glide path	85.41	82.97
Using CCA FAC in 2009/10	87.20	87.20
Middle of the two approaches	86.31	85.09
Actual price	86.40	

Source: CPW W/S Heaney I Figure 17.

Ancillary baskets

4.32. As well as noting its general disagreement with the use of an accelerated glide path for certain ancillary services (see paragraph 4.29), CPW also highlighted a number of specific issues with the use of one-off adjustments to the prices for ancillary services. These are listed in paragraph 4.22*(c)* above. The specific issues referred to in paragraph 4.22*(c)*(iii) above were set out in Mr Heaney's first witness statement, as explained below.

[39]CPW W/S Heaney I §§216 & 218.
[40]CPW W/S Heaney I §219.
[41]CPW W/S Heaney I §207.
[42]CPW W/S Heaney I §§208 & 209.

4.33. Ofcom claimed that the cost of MPF connection was £50 and the cost of SMPF connection would be £50 in 2012/13. However, CPW said that these costs appeared incorrect for of the following reasons:[43]

(a) The total basket costs and revenues indicated that the MPF transfer cost in 2012/13 would be £28 (assuming that the price:cost ratio for these services was the same as the average for the basket).

(b) The costs of MPF connection[44] were less than SMPF connection—for instance, in the RFS for 2008, the FAC difference was about £1.50, and this difference was likely to widen due to scale economies as the volume of MPF connections increased.

4.34. The MPF new provide cost was lower than the MPF connection cost. Given that MPF new provide constituted some installation activities (eg new drop wire to home) and certain activities in the exchange, whilst MPF new provide (transfer)[45] included only the activities in the exchange, this suggested that the MPF transfer cost was too high.

4.35. Mr Heaney also noted that Ofcom did not seem to have taken account of inflation in setting a glide path that was smooth in real terms as he expected to see a lower nominal price increase in 2009/10 than in other years due to the lower RPI in 2009/10.[46]

Ofcom's Defence

Overview

4.36. Ofcom's detailed response to CPW's arguments was set out in Annex G to the Defence. Ofcom highlighted two key points.

4.37. First, Ofcom responded to CPW's complaint that a non-smooth glide path had been used. Ofcom argued that the adoption of a constant X for each of the two years of the price control period would not have produced a smooth transition towards the projected 2012/13 prices. It considered that the high degree of volatility in RPI inflation (particularly between October 2008 and October 2009) would have produced a 'highly erratic' rate of change in terms of the actual prices payable for the services in question. Ofcom considered that CPW's preferred method would have produced a spurious 'smoothness' in terms of the rate of X. Rather, Ofcom preferred to consider the likely actual progression of prices over the two-year period of the controls.[47]

4.38. Second, Ofcom considered its approach to setting new starting prices (one-off adjustments) to MPF new provide, MPF transfer and SMPF connection to have been reasonable, proportionate and pragmatic. It considered there to have been ample justification for the decision to reset the prices of these services.[48]

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[43] CPW W/S Heaney I §190.
[44] This was denoted 'MPF transfer' in the NoA.
[45] We note that Mr Heaney's witness statement described this as 'new provide'. This appears to be a typographical error. The NoA referred to MPF transfer.
[46] CPW W/S Heaney I §194.
[47] Ofcom Defence §113.
[48] Ofcom Defence §114.

Deviation from smooth real glide path

Use of a mid-point between smooth and fully accelerated glide path in year 1

4.39. Ofcom noted that it had to make a judgement as to how quickly, and in what increments, the necessary price changes should be implemented. It considered there to be no 'right answer', stating that on the one had there were obvious advantages in bringing to an end relatively quickly the situation in which Openreach's MPF charges were failing to recover costs. On the other hand, there were advantages to introducing rises gradually over a number of years, providing the market with time to adjust to the new prices.[49] Ofcom stated that, arguably, it would have been reasonable for it to have brought prices into line with costs in 2009/10. However, this was not the option it chose and, instead, it had opted for the use of a glide path to 2012/13.[50]

4.40. Ofcom said that, in the Second Consultation, it considered a range of £85 to £91 per MPF line in 2009/10, the low end being the price to arrive at parity with FAC in 2012/13 and the high end to arrive at parity with FAC in 2009/10.[51] Ofcom's chosen price of £86.40 for MPF lines in 2009/10 was towards the lower end of this consultation range and lower than the figure that would have been produced had Ofcom drawn a glide path using the customary RPI+X approach (using the RPI statistic for October of the previous calendar year).[52]

4.41. Ofcom's Defence stated 'CPW expressly agrees which [sic] Ofcom's judgement that a graduated approach over 4 years was appropriate'.[53] It also cited CPW's NoA, in which CPW recognized that there were a number of different options for the glide path. Ofcom said that, in these statements, CPW had acknowledged Ofcom's discretion with regard to both the form and structure of the glide path.

Use of a nominal glide path

4.42. Ofcom's Defence highlighted[54] that following its customary approach would have resulted in an erratic glide path that had more to do with the timing and basis of the October RPI statistics than movements in Openreach's underlying costs. Ofcom considered this to be particularly significant given the short duration of the control, which meant that short-term fluctuations would not even out over a longer period.

4.43. Ofcom decided to smooth out the impact of a large swing in RPI inflation between October 2008 and October 2009, and the erratic movement of inflation more generally, by estimating an average rate of RPI across the four years to 2012/13 and using that average as a proxy for RPI inflation over those four years. Ofcom's estimate of that average was 2.5 per cent.[55]

4.44. Ofcom's adjustment was such that the charge control for 2010/11 was set at a level that would represent a price increase that was consistent with contributing to a reasonably smooth increase in prices over the three years to 2012/13 in 'actual' terms.[56]

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[49] Ofcom Defence Annex G §4.
[50] Ofcom Defence Annex G §5.
[51] Ofcom Defence Annex G §7.
[52] Ofcom Defence Annex G §8.1.
[53] Ofcom Defence Annex G §18.
[54] Ofcom Defence Annex G §14.
[55] Ofcom Defence Annex G §15.
[56] Ofcom Defence Annex G §8.2.

4.45. Ofcom stressed that 'simply adopting the customary approach to glide paths would cause nominal prices for CRS to move erratically'. Ofcom explained that, if a constant real rate of increase in each year had been adopted, the gap between prices and costs could narrow significantly at the beginning of the four-year period, only to widen thereafter. Ofcom considered such an outcome to be in contrast to the rationale for using glide paths, in that the result would not be a smooth gradual transition to new price levels. Ofcom said that, for this reason, it 'considered it appropriate to depart from the customary approach of allowing equal real term increases in prices each year, and instead constructed a glide path in a way that nominal (ie actual) prices would increase on a relatively smooth straight line'. It considered such an approach reasonable in the circumstances and one that met the objectives highlighted by CPW in §120 of the NoA.[57]

Inflation rate used

4.46. Ofcom argued that there was no error in its calculation.[58] It used 2.5 per cent as the average RPI across the four-year period.

Ancillary services—glide path adjustments to year 1 charge

Overview

4.47. Ofcom's Defence noted that it had made adjustments to the 2009/10 charges[59] for three specific ancillary services within the three-basket structure, in order to align charges and revenues for those services more closely to costs. In the case of two of the services (MPF transfer and SMPF connection), the charge in 2009/10 increased by around 9 per cent compared with the previous year. In the case of the other service (MPF new provide), the charge in 2009/10 decreased by around 24 per cent, going from £99.95 down to £76.00.[60]

4.48. Ofcom's rationale for these adjustments was as follows:[61]

(a) The need to avoid substantial mis-alignment between the costs of these services and the revenues derived from them. If the mis-alignment was not addressed, then there would be a collective loss of £46 million on MPF and SMPF connections in 2012/13 and an over-recovery of £35 million in MPF new provide. Ofcom considered that the gap needed to be closed and that there was clearly a case for narrowing the gap quickly provided that this could be done without causing undue market disruption.

(b) The need to ensure competitive consistency with the equivalent WLR service charges also favoured the need for a reasonably rapid adjustment of charges.

(c) It was appropriate to achieve the necessary realignment of the prices for these services in a way that was consistent with the new basket mechanism for controlling prices for ancillary services. To have used separate glide paths for increasing/decreasing the prices for each ancillary service, whilst these were also subject to the charge controls imposed by the basket, would have led to a disproportionately complex charge control regime. This was particularly so

[57] Ofcom Defence Annex G §20.
[58] Ofcom Defence Annex G §21.
[59] We note that Ofcom made adjustments to the starting (ie 2008/09) prices for these three services and then used these new starting prices as price caps for the 2009/10 charge control.
[60] Ofcom Defence Annex G §23.
[61] Ofcom Defence Annex G §24.

because of the significant contribution made by the three services to overall revenues and volumes for all ancillary services; and, therefore, the glide path for these services would significantly impact the path of ancillary services generally. In contrast, making one-off adjustments to the prices for the three services in 2009/10 enabled the prices for those services in that year to serve as appropriate starting charges for those services.

4.49. Ofcom considered that it had exercised its judgement reasonably in determining that the one-off adjustments were appropriate. It argued that the fact that, arguably, it could also have been reasonable to have taken an alternative approach did not show that there was an error in the approach it adopted.

Specific complaints

4.50. Ofcom's Defence argued that CPW had not substantiated its assertion that one-off adjustments would lead to an increase in Openreach's revenue. Ofcom noted that prices for two of the three services were increased by the one-off adjustments but the price for the third was decreased. Ofcom argued that the extent to which Openreach received increased revenue or not was not in itself relevant. Ofcom's view was that a comparison with cost was relevant and that, in 2009/10, revenues for these services would still have been below cost. Ofcom also noted that, if individual starting charges had not been applied, the control for all the baskets would have been 1.4 per cent higher (ie 5.9 per cent rather than 4.5 per cent).[62]

4.51. Ofcom disagreed with CPW's argument that the cost estimates on which Ofcom relied (to make the one-off adjustments) were the same estimates which were insufficiently robust to set individual price caps for each basket.[63] Ofcom considered the estimates of the costs of the three services to be more reliable than the estimates of the costs of each of the three baskets as it considered the three services to be key migration services and their costs to be less sensitive to the choice of cost allocation methodology. Ofcom referred to its defence of CPW's grounds of appeal on ancillary services.[64]

4.52. In response to CPW's challenge that Ofcom had not provided evidence that there was any economic efficiency resulting from making one-off adjustments,[65] Ofcom argued that CPW accepted that there were good reasons why prices/revenues should be brought into alignment with costs. Ofcom therefore considered that CPW's complaint was only really about the rate at which, and the structure by which, the realignment was achieved.[66] Ofcom considered that its rationale for these adjustments described above (see paragraphs 4.47 to 4.49) demonstrated that its use of one-off adjustments was reasonable and appropriate.

4.53. With respect to CPW's challenge at NoA §129.3 (see paragraph 4.32), Ofcom considered that there were no errors in its calculations and that the errors were with CPW's calculations. Ofcom argued that:[67]

(a) CPW was wrong in its assertion that the cost of MPF transfer in 2012/13 was £28. CPW derived the figure using an assumption that the price:cost ratio for an individual service was the same as a set of services. However, there was no

[62] Ofcom Defence Annex G §27.
[63] Ofcom Defence Annex G §29.
[64] Ofcom Defence Annex G §29.
[65] CPW NoA §129.2.
[66] Ofcom Defence Annex G §30.
[67] Ofcom Defence Annex G §31.

justification for this assumption. Ofcom's assessment of the service cost was derived directly from the cost model.

(b) CPW was correct that the FAC of SMPF connection was around £1.50 cheaper than the cost of MPF connection. This difference was recognized in Openreach's RFS and in Ofcom's modelling. In alleging that Ofcom made an error, CPW relied on a statement in the LLU Statement which said that the FAC of MPF transfer and SMPF connection would be 'around £50 in 2012/13'. Ofcom argued that it was unreasonable and erroneous for CPW to allege that, by use of the approximation 'around' in explaining a broader point, Ofcom must have calculated the levels of the one-off adjustment on the basis that the costs of MPF transfer and SMPF connection were exactly the same.

(c) The point CPW appeared to have made at NoA §129.3 was that MPF new provide should cost more than MPF connection because a supply of MPF new provide included activities outside the exchange, such as the installation of dropwire. Ofcom argued that if this was what CPW was seeking to argue, then it was misguided because it was the MPF rental charge that included the cost of installing and maintaining dropwire. Further, and in any event, Ofcom did not find it surprising that MPF new provide cost less than MPF connection. Ofcom noted that the activities paid for through the charge for MPF connection were likely to include more exchange activity than the activities paid for through the charge for MPF new provide, because MPF connection required Openreach engineers to cut and re-jumper tie cables from one service provider to another. This activity was not required for the purposes of setting up a new line.

4.54. Ofcom disagreed with CPW's view that, even if the cost of MPF connection was £50 in 2012/13, this would not have justified a one-off adjustment. It considered that the one-off adjustments represented a reasonable regulatory judgement by Ofcom as to how to structure the charge control mechanism to bring charges for ancillary services into line with costs over a four-year period.[68]

4.55. Ofcom noted the suggestion in CPW's NoA that the cost of MPF connection in 2008/09 was around £44. Ofcom said that it was not clear whether CPW was in fact intending to refer to this cost in 2009/10, the first year of the price control. In any event, Ofcom considered that, in the context of a service costing £44 to provide, it was difficult to see on what realistic basis CPW could allege that a below-cost charge of £38[69] was unreasonable.[70]

Interveners

4.56. BT addressed the arguments regarding the glide path in its SoI,[71] supported by the first witness statement of Mr Shurmer.[72] Sky did not comment on the glide path arguments in its SoI.

BT SoI

4.57. BT argued that 'In essence, CPW objects to BT being granted an immediate uplift in prices which is larger than would take effect under a smooth glide path'.[73] BT con-

[68]Ofcom Defence Annex G §32.
[69]£38 is the new starting charge Ofcom adopted for MPF and SMPF connections.
[70]Ofcom Defence Annex G §33.
[71]BT SoI §§89–95.
[72]BT W/S Shurmer I §§55–59.
[73]BT SoI §90.

sidered that Ofcom had provided a comprehensive response to CPW's arguments in its Defence.

Use of a mid-point between smooth and fully accelerated glide path in year 1

4.58. BT noted that the MPF rental price had last been set by Ofcom in 2005, based on 2004/05 costs projected to 2005/06. BT argued that the pre-May 2009 price ceiling was based on limited, historic cost information and was only envisaged to apply for a short period. The same price ceiling had been in effect since 1 January 2006.[74] Mr Shurmer added that it was not right to consider the 2009/10 prices as a continuation from the previous price cap. Had the previous prices been based on estimates of 2008/09 costs, then the normal conditions for a glide path would have been in place and it might have been exceptional not to use a smooth glide path.[75]

4.59. BT argued that 'One could understand an argument that Ofcom should have imposed a smooth glide path starting with existing prices, if those prices had been in line with costs. However, they were not.'[76] Mr Shurmer considered it 'common regulatory practice' to make starting adjustments to services before placing them within an RPI–X type charge control where, for whatever reason, prices may have become misaligned from costs.[77]

Ancillary services—glide path/one-off adjustments

4.60. BT considered that the same argument applied to ancillary services, ie that it was entirely reasonable for Ofcom to have made one-off adjustments to the prices of certain ancillary services with immediate effect. BT highlighted that the prices of the affected ancillary services were (and continued to be) far out of line with costs, and, in one instance, the adjustment involved a significant reduction in the price of the service.[78]

Assessment

4.61. We assess each of the three main arguments within CPW's NoA below.

MPF and SMPF rental: deviation from smooth real glide path

4.62. All parties were agreed on the use of a four-year glide path. CPW argued for a smooth real glide path on the basis that it was the default approach and Ofcom had not justified sufficiently its use of an accelerated glide path or a smooth nominal glide path.

4.63. In year 1 of the price control for MPF rental, Ofcom had used the mid-point between a smooth and fully accelerated glide path. Ofcom had set smooth nominal glide paths for MPF, SMPF and the ancillary baskets. We consider the glide path for ancillary baskets in paragraphs 4.97 to 4.100 below.

4.64. We assessed CPW's arguments for a smooth real glide path in two parts:

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[74] BT SoI §92.
[75] BT W/S Shurmer I §58.
[76] BT SoI §93.
[77] BT W/S Shurmer I §59.
[78] BT SoI §94.

(a) Ofcom's use of a mid-point between smooth and fully-accelerated glide path in year 1 (2009/10) for the price control for MPF rental; and

(b) Ofcom's use of a nominal glide path for MPF and SMPF rental.

MPF rental: use of a mid-point between smooth and fully accelerated glide path in year 1

4.65. Ofcom argued for (and set) charges in the first year for MPF on the basis of a mid-point between a smooth and fully-accelerated glide path, to align prices more quickly with costs than would otherwise be the case. As noted in paragraph 4.13, Ofcom considered that such an adjustment would reduce potential distortion to the choice between LLU products. Table 4.3 summarizes Ofcom's calculation.

TABLE 4.3 **Cost and price per MPF unit in year 1 of the price control**

	2009/10
Cost	**87.20**
Price—smooth glide path	85.41
Halfway between cost and smooth	86.31
Price set by Ofcom—adjusted glide path*	**86.40**

Source: Ofcom's 'Price calcs.xls' model.

*Halfway point rounded to divide by 12 for even monthly payments.

4.66. CPW argued that the price charged for MPF was already above LRIC and that CRS as a whole covered incremental and common costs. CPW said that, therefore, there was no need to accelerate the realignment of prices and costs. CPW considered that if dynamic and allocative efficiencies had been considered (and not just productive efficiency), then the need for a smooth (or possibly slowed) glide path would have been noted, particularly when considered in combination with an excessive overall cost recovery. CPW said that, if there was any justification for deviation from a smooth glide path, it was for prices below the smooth glide path (a slowed glide path) rather than for an accelerated path as selected by Ofcom.

4.67. CPW also said that, given the short period relevant to the start of the glide path and the significant costs of switching between LLU products, it was unlikely that the impact of using an accelerated glide path would have reduced the 'inefficient' migration of lines to MPF.

4.68. The cost per MPF line in 2009/10 was £87.20. The MPF charge implied by a smooth glide path was £85.41, while the MPF charge set by Ofcom using the accelerated glide path was £86.40. Therefore, the impact of using an accelerated glide path was £0.99 in year 1 (see Table 4.3).

Assessment

4.69. Our determination is that Ofcom has not erred as claimed by CPW in §§119–122 and §125 of the NoA.

4.70. Openreach is currently under-recovering its fully allocated costs in the provision of MPF. We recognize that simply applying a smooth nominal glide path with no acceleration in year 1 would have increased prices by 4.55 per cent, and the acceleration adds an additional 1.2 per cent. Aligning price with unit cost in year 1 would have resulted in an increase of 6.75 per cent.

4.71. We recognize CPW's argument that CRS are not, as a whole, significantly under-recovering. However, given that Ofcom is regulating MPF as a separate product, we do not believe that the recovery from CRS as a whole should preclude Ofcom from bringing product prices into line with costs. If there is an issue that revenues from CRS are too high in comparison with costs, we do not see that this necessarily means that the MPF glide path is incorrect. It could be that an accelerated reduction in prices on other CRS is also needed.

4.72. CPW argued that Ofcom's productive efficiency concerns would not be met by the accelerated glide path given the relatively short-term nature of the adjustment. CPW stated that allocative and dynamic efficiency considerations would point away from an accelerated glide path. We recognize that Ofcom's productive efficiency arguments are not going to be particularly relevant as small short-term changes to the differential are unlikely to influence choices between LLU products on a year by year basis.

4.73. As noted in paragraph 4.70, we recognize that Ofcom has not aligned unit price with unit cost in year 1. Rather, the acceleration applied by Ofcom in year 1 is a step towards aligning fully prices with costs in year 4, 2012/13. In circumstances where prices need to increase, there is a case for balancing the benefits of bringing prices into line with costs, for preserving incentive properties and the ability of customers to adjust to this increase. The speed and scale of the acceleration does not appear to be unreasonable, as CPW has not made an argument that it cannot adjust to this increased price in year 1. Indeed, CPW's view that productive efficiency concerns would not be met supports a view that customers in the market would be able to adjust to the year 1 change.

4.74. We therefore do not consider that CPW has shown that the method adopted by Ofcom is inconsistent with the objectives of using a glide path.

4.75. In addition, whilst we agree with CPW that a smooth glide path is Ofcom's default approach, we consider it appropriate for Ofcom to move away from this approach where there is good reason. We note that there may be a number of reasons why a starting price is below cost. In this case there is no suggestion from the parties that Openreach's costs are higher than previously allowed prices through negligence on Openreach's behalf. Further, we note BT's comments in relation to the historic basis for the starting prices, highlighting that prices may have been misaligned from costs for some time and that the 2009/10 price control should not be seen as an automatic continuation of the prior price control.

4.76. In its response to the provisional determination, CPW commented on the following statement in our provisional determination:

> We agree that the starting price was based on historic estimates of cost and that, as these estimates may have been out of line with costs for some time, an adjustment to correct for these errors may be necessary. We place weight on this argument and consider that reasonable adjustments in a new price control can be justifiable.[79]

4.77. CPW[80] had interpreted this as meaning that we believed, in this case, that it would be appropriate for Ofcom to make an adjustment in the current price control to compensate for under-recovery in a previous price control. This is not what we had con-

[79]CC provisional determination, paragraph 75.
[80]CPW Response to the provisional determination pp32&33.

cluded with this statement and we believe we should clarify this point. Accordingly, we believe there has not been an adjustment *between* different price control periods.

4.78. In this case, the starting price used for setting the MPF line rental glide path was the actual price in 2008/09. This was below the efficient cost benchmarks estimated for the price control period 2009/10 to 2012/13. BT submitted that the price for MPF line rental for 2008/09 had been determined by a price control that had been based on estimates of costs for 2004/05 projected to 2005/06 and not revised since. The circumstances of the current price control are therefore different from a normal four-year price control review where the prices for 2008/09 would have been based on forecasts of costs for 2008/09 and not estimates of costs for 2004/05. For these reasons we consider that Ofcom had good reasons for departing from a smooth glide path in accelerating the convergences to cost.

4.79. We do not consider that the use of a smooth four-year glide path in the past precludes Ofcom from accelerating its glide path now if it has good reasons for this.

4.80. We note that in making an adjustment to the year 1 MPF price it would have been more consistent of Ofcom to have made a similar adjustment to the SMPF price, as these prices are also out of line with costs, and potentially for the same reason (ie out-of-date data being used to set initial prices). However, this inconsistency has not been raised in this appeal, and so we do not form a view on it.

4.81. For the reasons given above, our determination is that Ofcom has not erred as claimed by CPW in §§119–122 and §125 of the NoA.

MPF and SMPF rental: Use of a nominal glide path

4.82. CPW argued for the use of a smooth real glide path. Mr Heaney noted that he expected to see a lower nominal price increase in 2009/10 than in other years (see paragraph 4.34).

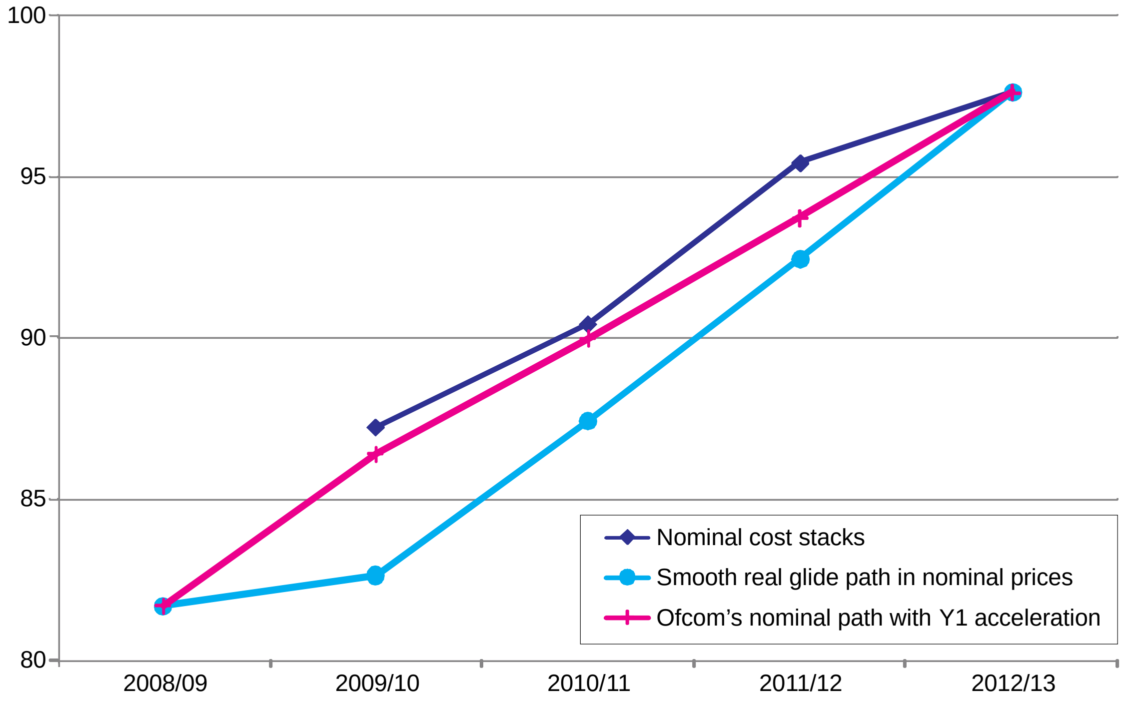
4.83. Ofcom's approach was to assess a smooth[81] glide path in nominal terms and to set X such that this path was delivered given expected RPI inflation (see Appendix E).

4.84. Figure 4.1 below shows the glide path set by Ofcom in nominal terms compared with the glide path that could have been set based on a smooth real glide path between the starting price and 2012/13. The cost of providing services each year is also shown.

[81]Smooth except for the year 1 acceleration which we have assessed above (paragraph 4.81). In this section (paragraphs 4.82–4.92) we refer to the glide path as 'smooth' as we are not considering the year 1 acceleration in this section.

FIGURE 4.1

The likely MPF price path if a smooth real glide path had been used compared with smooth nominal



Source: CC based on Ofcom data.

Assessment

4.85. Our determination is that Ofcom has not erred as claimed by CPW in §120 of the NoA.

4.86. As explained in paragraph 4.12, Ofcom wanted to set a glide path that was not distorted by the relatively low expected RPI in October 2009, a figure that it considered had no relevance to the costs of providing LLU services. Ofcom's objectives in setting a glide path were to ensure a smooth gradual transition to new price levels, to avoid distortions in the market and to place stronger cost efficiency incentives on regulated companies. We do not see that the use of a smooth nominal glide path causes any concerns when considered against these objectives.

4.87. CPW agreed with the use of a smooth glide path. It did not explain why it considered it necessary for this smoothing to be at a real rather than nominal level.

4.88. We note that RPI is an exogenous factor over which Openreach has no control. We consider that Ofcom has discretion in setting a glide path. Ofcom aimed to provide a means by which prices gradually aligned with costs, and a smooth nominal glide path achieves this aim. Whilst previously Ofcom has set a smooth glide path on a real basis, we do not believe that this constrains it from doing differently in this case. Previously, RPI inflation has been relatively steady and a smooth real glide path has resulted in smooth nominal prices.

4.89. Ofcom has implemented a smooth nominal glide path approach in response to unusual distortions in the RPI statistics. Without this change in approach it is likely that prices would have increased by a small percentage in the first year with much more substantial increases in the following years (see Figure 1) and the movement in prices would not have been justified by movements in costs.

4.90. In its response to the provisional determination, CPW[82] suggested that its preferred approach might be a constant real increase based on RPI or Ofcom's underlying rate of inflation. The effect of CPW's proposal that the glide path should be based on constant real increase in charges would be to delay the increase in MPF line rental (and price increases for SMPF ancillary services and commingling services baskets) and reduction in SMPF prices (and price reductions for the MPF ancillary services basket). In particular, price increases in 2009/10 would be at least 2.5 percentage points lower than those in the following years.

4.91. Our view is that Ofcom's aim was to provide a means by which prices gradually aligned with costs, and a smooth nominal glide path achieves this aim. CPW's case for its approach is that a glide path based on the real rate of inflation would better reflect the underlying pressure on BT's costs. We do not accept this. Whilst Ofcom assumed that some BT input costs will move in line with its underlying rate of inflation, it made different assumptions for others. For example, some costs are assumed to remain constant in nominal terms. We conclude that CPW has not demonstrated that its approach has more merit than Ofcom's approach.

4.92. For the reasons given above, our determination is that Ofcom has not erred as claimed by CPW in §120 of the NoA**.**

Inflation rate used

4.93. CPW said that Ofcom had used the wrong rate of inflation in assessing the mid-point between the price implied by a smooth real glide path and the unit cost estimate in 2009/10 (see paragraph 4.30). CPW was unclear as to what Ofcom had done but said that it appeared that Ofcom had used inflation rates which were estimated at the time of the Second Consultation rather than more recent estimates from the time of the LLU Statement (see paragraph 4.22*(b)*).

Assessment

4.94. In paragraph 4.92 we found no error with Ofcom's use of a smooth nominal glide path. We therefore consider that the rate of RPI inflation applicable in each of the individual years is not relevant to the determination of the year 1 price control as Ofcom has estimated the glide path on the basis of the nominal increase required per year to 2012/13. It has then set the 2009/10 price control in nominal terms. We note that for year 2, Ofcom has calculated how much of the nominal increase will be delivered by RPI in 2010/11 based on the prior year's October RPI statistic, with the remainder of the increase being delivered through X (see Appendix E). We note that CPW does not contest the use of –1.5 per cent as the October 2009 RPI statistic.

4.95. We therefore find no error with the rate used.

4.96. For the reasons given above, our determination is that Ofcom has not erred as claimed by CPW in §§123 and 124 of the NoA.

[82] CPW Response to provisional determination §§106–108.

One-off adjustments to ancillary services

4.97. CPW's arguments with regard to the glide path for ancillary services have some overlap with its arguments in relation to the glide path for MPF rental, where it argued for a smooth real glide path.

4.98. In the case of the glide path for ancillary services, CPW was concerned with the use of one-off adjustments to the starting prices. CPW also expressed concern with the cost estimates underlying the ancillary services glide path and the application of cost estimates in setting a glide path.

4.99. We note that CPW's arguments were presented prior to it having had access to the models used by Ofcom and that CPW has not responded in detail to Ofcom's Defence.

Assessment

4.100. In response to our letter of 18 June 2010 concerning the implementation of our provisional determination, CPW said that: 'Whereas CPW had challenged the one-off adjustments [to ancillary services] in its NoA (at §§127–129), in the interests of simplicity at this late stage, CPW is content that the one-off adjustments that Ofcom has made should remain unchanged.'[83] Given this, we have not formed a conclusion on the arguments presented by CPW in §§127–129 of the NoA.

Determination in respect of Reference Question 3

4.101. For the reasons given above in paragraphs 4.69 to 4.81, 4.85 to 4.92 and 4.94 to 4.96, our determination is that Ofcom has not erred as claimed by CPW in §§119–125 of the NoA. As noted in paragraph 4.100, we have not concluded on the arguments in relation to the baskets for ancillary services.

[83] See §10 of CPW's response to our letter. CPW also said that: 'If the one-off adjustments that Ofcom has made should remain undisturbed for the SMPF connection, MPF transfer and MPF new provide services in particular, then the glidepath will need recalculating.' We consider this issue in our determination of Reference Question 4.

Section 5: Reference question 4: Remedies

Introduction

5.1 We determined that Ofcom had erred in relation to the matters alleged in Reference Questions 1(i), 1(v) and 2.

5.2 We must therefore include in our determination answers to the questions set out in Reference Question 4 which states:

> Having regard to the fulfilment by the Tribunal of its duties under section 195 of the 2003 Act 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) In so far as is reasonably practicable, a determination as to any consequential adjustments to the level of the price controls,
>
> indicating:
>
> *(a)* What price controls should have been set in Ofcom's Statement had Ofcom not erred in the manner identified; and
>
> *(b)* If the price controls set in Ofcom's Statement have during the elapsed period of the price control been at an inappropriate level and on the assumption that it may, having regard to the criteria in section 88 of the 2003 Act, be lawful and appropriate to adjust the price control applicable during the unelapsed period, what adjustments to that part of the price control should be made, if any.

5.3 Accordingly, we address those questions below, adopting the following structure for this part of our determination:

(a) For each of the errors we identified, we set out guidance as to how the errors should be corrected, thereby addressing Reference Question 4(i): see paragraphs 5.246 to 5.324 below. Our determination of this question is set out at paragraph 5.324.

(b) We then consider how the price control should be adjusted, addressing Reference Question 4(ii). We consider Reference Questions 4(ii) and 4(ii)(a) in paragraphs 5.329 to 5.360 and then 4(ii)(b) from paragraph 5.361. Our determination of Reference Question 4 (ii) and Reference Question 4 (ii)(a) is set out at paragraphs 5.356 to 5.360. Our determination of Reference Question 4(ii)(b) is set out at paragraphs 5.399 to 5.401.

5.4 In arriving at our determination of these questions, we note that we must be content that our remedies satisfy the statutory tests, in particular those under sections 47 and 88 of the 2003 Act.

5.5 When referring to the error not to set individual price caps for the three ancillary services baskets to align revenues with costs in 2012/13 in each of the ancillary services baskets we use the shorthand the 'AB price cap error'. When referring to the error of failing to sufficiently safeguard against Openreach's ability to charge excessive prices by manipulating prices in the co-mingling basket we refer to the 'co-mingling error'. We refer to both errors together as the 'ancillary basket errors'.

5.6 When referring to the adjustment to the unelapsed period to correct for any overcharge in the elapsed period we refer to 'the elapsed period adjustment'.

Our process for considering remedies

5.7 We provisionally determined that Ofcom had erred in relation to Reference Questions 1(i), 1(v) and 2. We sought initial submissions from the parties on the basis of our provisional determination and held a remedies hearing on 14 July 2010 at which all parties were invited to present their views. We aimed to understand the parties' positions to help us to answer Reference Question 4.

5.8 We wrote to the parties on 18 June 2010 inviting submissions on remedies and on certain particular points. We also said that we considered the timeliness of implementation to be an important factor in assessing the suitability of any remedy.[1] A copy of the annex to this letter (the annex concerned issues relevant to Reference Question 4) is set out in Appendix G.

5.9 In following clarification by telephone, we asked Ofcom to provide modelling to show how our provisional determination would be implemented, on which the other parties could later comment (the initial modelling).

5.10 The parties' initial submissions in response to our letter of 18 June 2010 were received on 2 July 2010, with advance copies of their presentations addressing each other's initial submissions on 9 July 2010. All parties were therefore aware of each other's position concerning remedies prior to the remedies hearing.

5.11 We wrote to the Tribunal on 12 July 2010 setting out how we intended to answer Reference Question 4. We said that we would provide the following to the Tribunal:

(a) the price control Ofcom should have set had it not erred in the manner identified;

(b) the correction to the unelapsed period[2] of the price control (forward looking only); and

(c) the correction to the unelapsed period of the price control to take account of errors in the elapsed period (the 'elapsed period adjustment').

The Tribunal responded on 15 July 2010 stating that it was content with our proposed approach.

5.12 At the remedies hearing on 14 July 2010, the parties were asked to present their views on remedies and to explain how and why they took different views from one another. The parties were requested to discuss their positions among themselves to identify clearly areas of agreement and of disagreement.

5.13 Following the remedies hearing, CPW agreed to circulate its modelling of its proposed remedy to enable the other parties and ourselves to understand better this remedy. Ofcom agreed to revise its modelling to reflect our clarification of the

[1]Paragraph 4.6, second sentence, of the CC letter to parties, 18 June 2010.
[2]By 'unelapsed period' we mean the date from the Tribunal's decision disposing of the LLU Appeal to 31 March 2011 (the end of the price control).

provisional determination which we set out in our letter of 15 July 2010. Our letter stated that:

(a) all modelling should assume wage inflation as 0 per cent in 2009/10;

(b) with regard to energy inflation, we requested that trend energy inflation should be assumed to be 3 per cent a year, including in 2009/10, for the purpose of modelling remedies;

(c) for the purpose of modelling remedies, expenditure on EvoTAMs should not be treated as an implementation cost of efficiency improvements;

(d) with regard to efficiency, a 3.7 per cent rate of improvement in efficiency should be applied to Openreach's total costs, net of all implementation expenses including leaver costs, for each year from 2009/10; and

(e) that an explanation should be provided as to how any new capital expenditure numbers derived through the modelling exercise should affect the Regulated Asset Value (RAV) model.

5.14 The parties had the opportunity to comment on this revised modelling. We clarified our understanding of particular points made in response to this. We then reviewed all the submissions made (including presentations, hearing transcripts and subsequent correspondence) and assessed the most appropriate remedy proposal.

5.15 We wrote to the parties on 6 August 2010 setting out a suggested remedy for the ancillary services basket and requesting the parties' comments on this. A copy of this suggested remedy is set out in Appendix H. We also raised the possibility of applying no remedy for this error. No party was of the view that the ancillary basket errors should not be remedied, although BT submitted that our suggested remedy for the AB price cap error was imperfect and its imposition was therefore not justified and our suggested remedy for the co-mingling error was not necessary.

The parties' submissions

5.16 We summarize the salient points of each party's submissions with regard to each error identified in the provisional determination below. We note that the parties made a number of comments in response to the provisional determination which we have considered carefully in reaching our final determination. As our final determination largely reflects that of the provisional determination, we consider that although the parties' comments on remedies were based on their review of the provisional determination they remain appropriate to the final determination. The parties also made several general comments in relation to our role in determining remedies, the elapsed period adjustment, the time available for any remedy, the option of remittal and the appropriate way of dealing with those calculations that would be dependent upon the timing of the Tribunal's judgment.

The parties' general comments

CPW

5.17 CPW said that it shared our view[3] that the timeliness of implementation was an important factor in assessing the suitability of any remedy. CPW stated that it had therefore focused on proposed remedies which could be implemented quickly and without the need for remittal to Ofcom. It accepted that such remedies might not be 'perfect' if time were no object, but considered this to be practical and necessary to dispose this appeal in a timely and effective manner. CPW said 'This will maximize the effectiveness of the proposed remedies themselves, and it will also serve to clarify the position for all parties going forwards in a short timeframe'.[4]

5.18 CPW considered that there was sufficient information available to us to enable us to reach a conclusion on what adjustments would be required to the price control, and viewed it as highly desirable that we should do so. Further, it said that there were compelling practical concerns which would favour us making appropriate adjustments even if the information available were in some minor respects approximate or imperfect.[5]

Ofcom

5.19 Ofcom considered that given the short time remaining of the LLU charge control, we should determine the adjustments necessitated by our provisional determination rather than remitting the determination of these to Ofcom.[6]

5.20 At the remedies hearing Ofcom further said that it would prefer us not to remit the remedies to Ofcom, as it had already started work on the next LLU charge control. As the current charge control expires in March 2011 it was important to resolve the question of remedies speedily.[7]

5.21 Ofcom added that if an issue were remitted to Ofcom, Ofcom was unlikely to be able to put a remedy in place before the end of the charge control.[8]

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[3]As set out in the Annex to our letter to the parties of 18 June 2010 where we state: 'We consider the timeliness of implementation to be an important factor in assessing the suitability of any remedy.'
[4]CPW letter to CC dated 2 July 2010 §3.
[5]CPW letter to CC dated 2 July 2010 §5.
[6]Ofcom letter to CC dated 2 July 2010 §4.
[7]LLU Remedies Hearing Transcript, p29, line 31ff.
[8]LLU remedies hearing, p50, line 5ff.

BT

5.22 BT, in its presentation for the remedies hearing, said that 'any remedy for the first error on LLU Ancillaries (equal price caps) should be remitted to Ofcom'.[9]

Sky

5.23 Sky agreed with us that 'the timeliness of implementation was an important factor in assessing the suitability of any remedy'.[10] It noted that the price controls subject to this appeal were due to expire on 31 March 2011 and that as a result by the time the appeal had been concluded, there may be less than six months of the control left. Sky stressed its view that this meant remedies must be simple to implement and that Ofcom must be given clear guidance. It expressed concern that a remittal to Ofcom would result in a further consultation exercise which would add further delay.[11] Sky considered it appropriate for us to exercise our power in this case, rather than remitting the matter to Ofcom to determine the adjustments to be made, in order to ensure the timely implementation of remedies.[12]

Reference question 1(i)—efficiency

5.24 We found that Ofcom had erred with respect to its assessment of the rate of efficiency savings. Our determination was made after taking into account responses to our provisional determination; see paragraphs 2.230 to 2.237 of the efficiency section.

Summary of CPW's submissions

- *Initial modelling (before the remedies hearing)*

5.25 CPW proposed an approach to making efficiency adjustments which it said focused on adjusting the outputs of Ofcom's modelling alone, without multiple and detailed amendments to the inputs.[13] It said that this was because we had indicated that we were looking to focus on outputs.

5.26 It stated the benefits of its approach as:[14]

(a) ensuring the efficiency gains that we had found to be appropriate in the provisional determination were achieved exactly, without the need to estimate the effective impact of changes to the input assumptions;

(b) it applied equally to all categories without requiring judgement as to which costs were subject to efficiency gains; and

(c) it was simple and quick to implement.

5.27 CPW's approach was to forecast the cash costs of the Openreach business on the basis of no efficiency improvement, setting 'the costs associated with efficiency gains to zero (e.g. leaver costs and evoTAM costs)', and applying the corrected efficiency adjustments of 3.7 per cent to the cash cost outputs of this forecast. It proposed that

[9] BT presentation for remedies hearing, p3.
[10] Sky letter to CC dated 2 July 2010 §2.1.
[11] Sky letter to CC dated 2 July 2010 §2.
[12] Sky letter to CC dated 2 July 2010 §8.
[13] CPW letter to CC dated 2 July 2010 Annex §3.
[14] CPW letter to CC dated 2 July 2010 Annex §4.

these revised cash costs then be run through the relevant elements of the models ie the CF model, the RAV model and the Oak model in turn.[15]

5.28 CPW considered that the 3.7 per cent efficiency improvement should be applied to the cost data from the base year 2007/08 onwards, ie that 3.7 per cent should apply to 2008/09 as well, such that our efficiency rate was applied to five years. CPW noted that we only specified the rate of efficiency improvement from 2009/10 but said it considered that 2008/09 costs should also be adjusted because the KPMG efficiency review was expressed as an annual rate over a five-year period.[16]

5.29 CPW stated that the capital expenditure related to evoTAMs above the level of costs in the base year and the leaver payments should be excluded from the model as these were costs of making efficiency gains when starting from an estimate of the gross efficiency improvement.[17]

5.30 At the remedies hearing CPW said that it could not understand why Ofcom was not proposing to update the RAV model with the revised capital expenditure forecast, particularly as Ofcom thought the revised inflation assumptions should feed through into the RAV model.[18]

- *Revised modelling (following the remedies hearing)*

5.31 Following clarification from us (see paragraph 5.13), CPW circulated its version of the modelling. This reflected our provisional determination that the revised efficiency assumption should only be applied to the four years 2009/10–2012/13 and the costs for 2008/09 should remain unadjusted from the Ofcom estimates. CPW explained that its modelling approach applied 3.7 per cent to all cost categories as the provisional determination did not set out where and how efficiency savings would be made. It described this as a 'neutral approach'. CPW said since this method did not require identification of where efficiency savings should be made, there was no need for any explicit identification or estimation of implementation costs in the costs stacks to be used in the price control. However, CPW said that implementation costs 'may need to be identified in order to remove them to calculate baseline cash costs'.[19]

5.32 CPW's illustrative example of its approach is set out in Table 5.1 below.

[15]CPW letter to CC dated 2 July 2010 Annex §§5 & 9
[16]CPW letter to CC dated 2 July 2010 Annex §10.
[17]CPW letter to CC dated 2 July 2010 Annex §11.
[18]LLU remedies hearing p12, line 29 to p13, line 6: Mr Heaney.
[19]Frontier Economics, July 2010, p4 *Implementing the Provisional Determination on Efficiency*.

TABLE 5.1 **CPW's illustrative approach to modelling the provisional determination findings on efficiency**

	2008/9	*2009/10*	*2010/11*	*2011/12*	*2012/13*
Continuing costs from previous year		100.0	97.3	95.6	93.1
Impact of price and volume changes		2.0	3.0	2.0	3.0
Base line costs (assuming zero Efficiency gains from previous year)		102.0	100.3	97.6	96.1
Continuing costs with efficiency gain	100.0	97.3	95.6	93.1	91.7
Implementation costs		0.9	0.9	0.9	0.9
Total costs		98.2	96.6	94.0	92.6
Gross efficiency gain		4.7	4.6	4.5	4.4
as percentage of base line (%)		*4.6*	*4.6*	*4.6*	*4.6*
Net efficiency gain		3.8	3.7	3.6	3.6
as percentage of base line (%)		*3.7*	*3.7*	*3.7*	*3.7*

Source: Frontier Economics, *Implementing the Provisional Determination on Efficiency*, p3.

5.33 CPW said that Ofcom's approach was based on adjusting the gross efficiency gain on compressible costs to ensure that the input gross efficiency gains result in the required net efficiency gain. It considered that implicit in Ofcom's approach was a requirement to make assumptions about how efficiency savings are to be made, in particular through reductions in fault rates and through average task time. CPW noted that its approach and Ofcom's initial modelling[20] resulted in the same position at the end of the four-year period.[21]

5.34 CPW's concerns with Ofcom's initial modelling were that:[22]

(a) some of the implementation costs were the result of 'catch up' efficiency gains rather than movements in the level of efficient costs over time. These catch-up costs should not form part of the assessment of efficient costs;

(b) Ofcom's modelling approach only explicitly models a relatively small number of methods of achieving efficiency gains and ignored other methods. This could result in distortions in the outputs from the model when attempting to meet an efficiency target which had been set taking into account all sources of efficiency; and

(c) it was unnecessarily complicated as it required assumptions as to how efficiency gains would be made, for which there was no evidence.

5.35 CPW stated that some implementation costs such as leaver payments were modelled such that setting the efficiency gain to zero should automatically remove costs of achieving efficiency gains in the model. CPW said that other cost inputs which were not modelled dynamically also included an element of implementation cost that would not be removed if the efficiency gain was set to zero.[23]

5.36 CPW pointed to expenditure on evoTAMS and argued that this should be excluded in calculating the baseline cost. CPW's rationale for this was that the level of capital expenditure and resulting charges for 'testing' in the FAC accounts show significant increases from 2007/09 to 2012/13, which did not appear to be consistent with maintenance of the existing capability particularly when the number of lines was decreasing. CPW considered that for LLU services (MPF and SMPF) there were no offsetting cost reductions and hence the increased cost and implied capability 'can

[20]As set out on the slide entitled *Illustration of different approaches to modelling net efficiency and treatment of implementation costs* from Ofcom's slide pack presented at the Remedies hearing, 14 July 2010
[21]Frontier Economics, July 2010, p4 *Implementing the Provisional Determination on Efficiency*.
[22]Frontier Economics, July 2010, p5 *Implementing the Provisional Determination on Efficiency*.
[23]Frontier Economics, July 2010, p9 *Implementing the Provisional Determination on Efficiency*, Annex.

only reasonably be interpreted as being for the purposes of delivering the services more efficiently'.[24]

- *Response to Ofcom's modelling*

5.37 In response to Ofcom's revised modelling (its models of 21 July 2010 (provided after the remedies hearing)), CPW raised the following issues:[25]

(a) the base line against which Ofcom measured efficiency included one-off costs relating to efficiency gains in 2008/09 which would not recur;

(b) Ofcom's adjustments to the capital expenditure input to the RAV model did not appear to reflect fully the efficiency assumptions made in the provisional determination;

(c) Ofcom's calculation estimated the level of leaver costs based upon its previous assumptions on efficiency gains, rather than on the assumptions made in the provisional determination; and

(d) Ofcom appeared to target a net efficiency rate for operational expenditure only, rather than for total cash costs including capital expenditure.

5.38 CPW argued that including a non-continuing cost (the leaver cost) in the cost base resulted in a distortion to the net efficiency gains that Ofcom's approach measures. It said that in the simple case where Openreach made no gross efficiency gains, Ofcom's metric would show a net efficiency improvement in the first year simply because the one-off leaver costs would not be repeated. It considered that this result failed to implement the provisional determination and allowed Openreach partially to meet the efficiency target in the first year without making any genuine efficiency gains.[26]

5.39 CPW said that the capital expenditure forecast included in the RAV model was inconsistent with that in the CF model. CPW considered the most plausible explanation for this to be a 'modelling oversight by Ofcom, with Ofcom failing to update the RAV model spreadsheet to take account of changes in the cost forecast that were made to reflect revised inflation, volume and efficiency assumptions'.[27] CPW considered the capital expenditure forecasts in the RAV model to be those from an earlier consultation phase (prior to the Second Consultation), around June 2008. CPW said that the model submitted by Openreach prior to the Second Consultation assumed a gross efficiency gain of 1 per cent (on compressible costs) a year and CPW therefore assumed that this was the underlying efficiency assumption in the RAV model. CPW said that the exact assumptions in the model had not been made available.[28]

5.40 CPW said that Ofcom had accepted that the RAV model inputs should be made consistent with the provisional determination. CPW understood the provisional determination to require a 3.7 per cent net efficiency assumption to be applied to all

[24] Frontier Economics, July 2010, p5 *Implementing the Provisional Determination on Efficiency*.
[25] Frontier Economics, July 2010, 'Comments on Ofcom's proposed approach to implementing the provisional determination on efficiency', p1.
[26] Frontier Economics, July 2010 'Comments on Ofcom's proposed approach to implementing the provisional determination on efficiency', p2.
[27] Frontier Economics, July 2010 'Comments on Ofcom's proposed approach to implementing the provisional determination on efficiency', p3.
[28] Frontier Economics, July 2010 'Comments on Ofcom's proposed approach to implementing the provisional determination on efficiency', pp3&4.

costs including capital expenditure. It therefore considered that the RAV model should be linked to the output of the revised CF model to ensure consistency with the provisional determination on efficiency and inflation.[29]

5.41 CPW argued that Ofcom's proposal for adjusting the RAV model did not directly link the RAV and CF models and therefore the two models were not fully consistent with one another. CPW said that Ofcom's proposal applied an 'ad hoc (and non-transparent) adjustment to the RAV model' to take account of the difference between the efficiency assumption set out in the LLU Statement and that in the provisional determination. CPW noted that the efficiency assumption in the LLU Statement was a decline from 4 per cent in 2009/10, to 2 per cent in 2012/13. It said that Ofcom's approach did not implement the findings of the provisional determination, rather the incorrect 1 per cent gross (on compressible) assumption adjusted upwards for the difference between 3.7 per cent net and the 4 per cent falling to 2 per cent gross on compressible costs assumption. It argued that this resulted in an effective level of efficiency below the provisional determination target. See Table 5.2 below.

TABLE 5.2 **CPW's assessment of the Impact of Ofcom's adjustment on effective efficiency for RAV inputs**

per cent

	2009/10	*2010/11*	*2011/12*	*2012/13*
Gross efficiency assumption in RAV model	1.0	1.0	1.0	1.0
Ofcom's ad hoc adjustment (index)	99.4	100.6	95.7	93.1
Gross efficiency assumption after adjustment	1.6	–0.2	5.8	3.7
Efficiency target (as per Ofcom)	4.5	1.9	6.9	4.6

Source: Frontier Economics, July 2010 'Comments on Ofcom's proposed approach to implementing the provisional determination on efficiency', p5.

5.42 CPW noted that Ofcom's revised modelling did not appear to have adjusted the capital expenditure forecast for the wage inflation findings in the provisional determination, although the inflation input had been changed in the model used to estimate the related holding gains.[30]

5.43 CPW argued that unless Ofcom could demonstrate that there was a compelling reason to maintain the inconsistency between the capital expenditure forecast in the RAV model and the assumptions used elsewhere in the model suite, its approach of linking the RAV model to the CF model was the appropriate one.[31]

5.44 CPW accepted that setting leaver costs at a fixed level in the model removed a feedback loop in the modelling that would otherwise exist due to the inter-dependency between the gross efficiency gain required and the level of leaver costs. However, CPW argued that Ofcom had set the level of leaver costs in the model based on Ofcom's previous assumption and not on the basis of the provisional determination. It said that these previous assumptions differed both in level and profile from the determined efficiency assumptions. CPW noted that its proposed approach did not require the explicit modelling of these costs and so was much simpler. It said that if Ofcom were to adopt the approach of attempting to model the costs of implementation explicitly then a more reasonable and neutral assumption would be that the leaver costs remain broadly constant over time at a level consistent with the overall level of efficiency in the provisional determination. CPW considered

[29] Frontier Economics, July 2010 'Comments on Ofcom's proposed approach to implementing the provisional determination on efficiency', p4.
[30] Frontier Economics, July 2010 'Comments on Ofcom's proposed approach to implementing the provisional determination on efficiency', p5.
[31] Frontier Economics, July 2010 'Comments on Ofcom's proposed approach to implementing the provisional determination on efficiency', p6.

that using assumptions that were incorrect and inconsistent with the assumptions used elsewhere in the model was likely to lead to inaccuracies in the results.[32]

5.45 CPW noted Ofcom's apparent acceptance of the need to apply efficiency gains to capital expenditure but said Ofcom's proposed approach appeared to use only operating expenditure when calculating the necessary gross efficiency input required to deliver the target level if net efficiency. CPW stated that the provisional determination referred to a net efficiency gain to be applied to all costs by which CPW interpreted it to mean all cash costs ie both operational expenditure and capital expenditure, CPW considered it unclear to what extent this general error infected Ofcom's approach.[33]

Summary of Ofcom's submissions

- *Initial modelling (before the remedies hearing)*

5.46 Ofcom noted that the provisional determination required total annual efficiency savings (from all sources) equivalent to 3.7 per cent a year for the four-year forecast period, across all costs and that this was to be the net rate after the inclusion of any implementation costs.[34]

5.47 Ofcom's initial remodelling interpreted the provisional determination as requiring total expenditure including leaver costs to be 14 per cent lower (ie four years of 3.7 per cent reductions) than it would have been absent the savings delivered by improved efficiency and reduced fault rate reductions.[35]

5.48 To model the effect of net annual efficiency savings of 3.7 per cent reduction on all costs, Ofcom estimated that Openreach would need to deliver 5.3 per cent gross annual savings on its compressible costs[36] at the same time as reducing fault rates by 2 per cent each year. It adjusted the models used in the LLU Statement on this basis to take account of our provisional findings.[37]

5.49 Ofcom's modelling output showed that it had implemented a 3.7 per cent reduction on average over four years but not a consistent 3.7 per cent reduction in each and every year.

[32]Frontier Economics, July 2010 'Comments on Ofcom's proposed approach to implementing the provisional determination on efficiency', p6.
[33]Frontier Economics, July 2010 'Comments on Ofcom's proposed approach to implementing the provisional determination on efficiency', p7.
[34]Ofcom letter to CC dated 2 July 2010 §38.
[35]Ofcom letter to CC dated 2 July 2010 §40.
[36]5.3 per cent on compressible costs is derived by Ofcom from a gross efficiency requirement of 4.8 per cent on all costs (including redundancy costs) to deliver a 3.7 per cent net reduction. The annual efficiency saving is split between that delivered by fault rate reductions, (a 2 per cent fault rate reduction was forecast representing 0.5 per cent on all costs) and 4.3 per cent on efficiency on all costs. To deliver the effective rate of 4.3 per cent across all costs it would be necessary to apply 5.3 per cent efficiency target to compressible costs. (Ofcom letter to CC dated 2 July 2010 §41).
[37]Ofcom letter to CC dated 2 July 2010 §41.

TABLE 5.3 **Ofcom's illustration of its interpretation of our provisional decision**

	2008/09	*2009/10*	*2010/11*	*2011/12*	*2012/13*	
Opex	100	100	95.7	91.5	87.6	
Efficiency saving	-	–4.3	–4.1	–4.0	–3.8	
Ongoing opex	100	95.7	91.5	87.6	83.8	
Implementation cost		2.4	2.4	2.3	2.2	
Total opex inc. implementation costs	100	98.1	93.9	89.9	86	3.7% pa

Source: Ofcom slide pack, p4.

5.50 At the remedies hearing, Ofcom confirmed that it considered our provisional determination to mean that 3.7 per cent efficiency should be applied to total costs and that it had included implementation costs in total costs. Ofcom agreed that there was a feedback loop between efficiency rate and implementation costs and that there would be a problem if implementation costs were continually grossed up. Ofcom said that it had addressed this problem in the model by holding the implementation costs constant.[38]

5.51 Ofcom had not treated evoTAMs as implementation costs. It said that it considered these as 'costs of the system' and that whilst it was correct that they delivered a better way of testing equipment, they were not considered implementation costs and Ofcom did not see that there was any decision that they should have been.[39]

5.52 Ofcom disagreed with CPW's argument that it was appropriate to exclude the costs of making efficiency gains from the cost calculation, Ofcom argued that this was not an argument that had been raised in the appeal nor was it a requirement of the provisional determination.[40]

5.53 Ofcom disagreed with CPW's proposal to apply 3.7 per cent to all years from 2007/08 onwards. It argued that 2008/09 should not be adjusted as no errors were found in the approach to derive the estimates and validate the figures with appropriate evidence.

5.54 Ofcom also disagreed with CPW's proposal to adjust the RAV as well as cash costs to reflect the efficiency findings. It accepted in principle that the RAV should be adjusted but did not think it was appropriate to do this 'simply by replacing the numbers in the RAV model with revised numbers' as suggested by CPW as it might correct for other adjustments (which CPW had previously suggested[41]) that had not been subject to appeal and that there was a risk these adjustments might get corrected by accident.[42]

- *Revised remodelling (after the remedies hearing)*

5.55 Following our clarification (see paragraph 5.13), Ofcom revised its remodelling to incorporate a net 3.7 per cent efficiency improvement for each year of the four-year period.[43] Ofcom's approach, in summary, was to:

[38]LLU remedies hearing, p41, lines 5-15, Mr Brown.
[39]LLU remedies hearing, p40, lines 10-20, Mr Brown.
[40]LLU remedies hearing, p38, lines 20-26 , Mr Brown.
[41]We note that later correspondence explains this issue was raised in W/S Duckworth IV but was not appealed in the NoA, see paragraph 5.61.
[42]LLU remedies hearing, p43, lines 8-17 Mr Brown.
[43]Ofcom letter of 20 July 2010.

(a) take Ofcom's estimates of Openreach's[44] operating costs and leaver costs in 2008/09 as a base;[45]

(b) adjust the 2008/09 ongoing operating costs for inflation and movements in volume for the period to 2012/13 (this was done by setting the efficiency assumptions in the model to zero);[46] and

(c) apply 3.7 per cent a year efficiency improvement both to the adjusted ongoing operating costs and the 2008/09 leaver costs forecast to continue until 2012/13.[47]

5.56 This approach provided a total annual cost after efficiency gains.

5.57 In order to maintain Ofcom's approach of modelling leaver and ongoing costs separately and to effect this in the model, Ofcom considered how the leaver cost element would look across the period to 2012/13 and, constrained by its total cost per year findings, adjusted the ongoing operating costs to allow for these leaver costs.[48] Ofcom used this cost split to assess the appropriate 'gross' efficiency percentage to be applied in its model to achieve these annual ongoing operating costs, see Table 5.4.[49]

TABLE 5.4 **Ofcom's assessment of the gross efficiency required to deliver the annual net efficiency required by the provisional determination**

				per cent
Assumptions required to deliver 3.7% efficiency saving in each year	*2009/10*	*2010/11*	*2011/12*	*2012/13*
Annual efficiency target	4.5	1.9	6.9	4.6
Annual reduction in fault rates	2.0	2.0	2.0	2.0

Source: Ofcom Table 5, letter to CC dated 20 July.

5.58 The effect of these revised efficiency targets on capital expenditure was then reflected in the RAV model.[50] The effect was calculated as set out in Table 5.5. Ofcom replaced the capital expenditure figures in the RAV model with the restated capital expenditure figures.[51]

TABLE 5.5 **Ofcom's Reforecast capital expenditure assumptions**

	2009/10	*2010/11*	*2011/12*	*2012/13*
A Capital expenditure as reflected in decision (£ million)	[✂]	[✂]	[✂]	[✂]
B Efficiency target, per decision (%)	4.0	3.0	2.0	2.0
C Efficiency target, as recalculated (%)	4.5	1.9	6.9	4.6
D Capital expenditure restated to reflect increased efficiency (A/Compound effect of B)*compound effect of C (£ million)	[✂]	[✂]	[✂]	[✂]

Source: Ofcom.

[44]We note that Ofcom refers to 2008/9 data as 'Actual'; however, the model suite used for the LLU Statement forecast costs in 2008/09 from 2007/08 actual (base) data. For the purposes of implementing our determination, we consider 2008/09 as data which does not need adjusting as no errors were noted in relation to this year.
[45]Table 1, Ofcom letter, 20 July 2010.
[46]Table 2, Ofcom letter, 20 July 2010.
[47]Tables 2 and 3, Ofcom letter, 20 July 2010.
[48]Table 4, Ofcom letter 20 July 2010.
[49]Table 5, Ofcom letter 20 July 2010.
[50]Table 6, Ofcom letter 20 July 2010.
[51]Ofcom letter to CC dated 21 July 2010.

- *Response to CPW's critique of its modelling*

5.59 We requested that Ofcom respond to the following specific points made by CPW in its letter to us of 23 July 2010 (see paragraphs 5.37to 5.45):

(a) the effect of labour inflation on the capital expenditure forecast in the RAV;

(b) the capital expenditure forecast in the RAV model compared to that in the CF model; and

(c) the application of efficiency assumptions to cash costs.

5.60 Ofcom said that the 1 per cent reduction in wage inflation had no effect on the MPF cost stack in 2009/10 and that the effect on the cost stack in 2012/13 was a 1p fall. Ofcom's view was that these adjustments would have had no effect on the MPF price and that there would be therefore no error in not adjusting the RAV and Oak models to reflect this.[52]

5.61 With respect to the capital expenditure forecast in the RAV, Ofcom noted the following:

(a) Ofcom's approach to modelling the provisional determination on efficiency had been to 'adjust the original modelling undertaken at the time of the LLU Statement. In doing so, Ofcom has sought to make only those adjustments arising directly from the CC's provisional determination that Ofcom '*erred in its estimation of the level of efficiency improvements that might reasonably have been expected to be achieved in respect of Openreach's costs/and or BT Group's costs allocated to Openreach, for the reasons set out in paragraphs 76 to 84 of the* [Notice of Appeal]''.[53]

(b) Ofcom considered that the inconsistency between the capital expenditure forecast in the RAV model and in the CF model resulted from the RAV not being linked to the CF model. Ofcom noted that whilst this had been raised in Mr Duckworth's fourth witness statement it had not been raised as a price control matter in paragraphs 76 to 84 of the NoA; nor anywhere else in the NoA.[54] It said that in implementing the provisional determination, it had 'adjusted the capital expenditure forecast to reflect the increase in the efficiency target from the assumption stated in the LLU Statement to the assumption preferred by the CC'. Ofcom did not consider creating a link between the capital expenditure forecast in the RAV and CF models to be a necessary part of implementing the provisional determination as this would address a point not raised as a ground of appeal.[55]

5.62 Ofcom confirmed that it had applied the efficiency assumption to all cash costs, including operating costs, leaver payments, and capital expenditure. Ofcom noted that '[t]o the extent that CPW may be implying that Ofcom has not applied the efficiency gain to all cash costs, it appears that they may have conflated Ofcom's approach to determining the appropriate efficiency target (based on a review of the total operating costs including leaver payments) with Ofcom's application of the efficiency target to costs (which included all costs, including capital expenditure)'.[56]

[52]Ofcom letter to CC dated 3 August 2010, p1.
[53]Ofcom letter to CC dated 3 August 2010, p1.
[54]Ofcom letter to CC dated 3 August 2010, p2.
[55]Ofcom letter to CC dated 3 August 2010, p2.
[56]Ofcom letter to CC dated 3 August 2010, p2.

5.63 Ofcom then explained that it had not attempted to assess separately the efficiency saving that would deliver a 3.7 per cent reduction in capital expenditure in each year as the baseline capital expenditure changed from year to year for a variety of reasons and not just because of changes in activity levels or inflation as in operating expenditure.[57] Instead Ofcom considered that the efficiency target that delivered the 3.7 per cent saving across operating costs would provide a reasonable basis for modelling the effect of a 3.7 per cent saving across capital expenditure.[58]

Summary of BT's submissions

5.64 BT did not comment on efficiency in its initial submission (of 2 July 2010), as it was awaiting Ofcom's response. It did note that in principle it would expect the glide path methodology to be applied following any correction to be consistent with that used in the LLU Statement.[59] In its presentation at the remedies hearing, BT said that errors on efficiency found by us were errors in the input assumptions for the model.[60]

5.65 It also said that it had a different interpretation to Ofcom as to how our findings on efficiency should be implemented. It considered that the leaver costs should be excluded from the efficiency target. BT said that if, contrary to its view, the efficiency target was to be applied on a net basis including in respect of leaver costs, BT agreed with Ofcom's initial remodelling methodology (of 2 July 2010) and numbers.[61]

5.66 BT disagreed with CPW's proposal to adjust the efficiency assumption in 2008/09. It considered CPW had misunderstood the provisional findings and Ofcom's approach to efficiency in the model for 2008/09, noting that an actual level had been applied.[62]

5.67 BT disagreed with CPW with regard to the costs associated with evoTAMs. It did not agree that increased expenditure on evoTAMs was a cost of efficiency improvement, rather it said that this was a cost of the network infrastructure. It said that the Ofcom model treated evoTAM costs as part of a reasonable proxy for legacy technology.[63]

Summary of Sky's submissions

5.68 Sky considered that the price controls should be based on an assumed efficiency saving (net of implementation costs) of 3.7 per cent a year across all costs for each year from 2009/10 to 2012/13.[64]

5.69 At the remedies hearing Sky said that it agreed with CPW that the 3.7 per cent adjustment should also be applied to 2008/09.[65]

5.70 Sky also argued that Ofcom's approach to modelling, which allowed leaver costs in the cost stack, did not promote efficiency. It said that the inclusion of implementation costs and more particularly leaver costs would not properly implement the provisional decision as it would not be approaching efficiencies on a net basis.[66] It said that Ofcom's modelling assumed that the implementation costs were efficient and that this

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[57]In assessing the appropriate efficiency rate for total operating costs Ofcom used a baseline where the effect of changes in volumes and inflation were stripped out.
[58]Ofcom letter to CC dated 3 August 2010, p2.
[59]BT letter to CC dated 2 July 2010 §32.
[60]BT presentation for remedies hearing, p4.
[61]BT slide pack, p5.
[62]BT slide pack, p14.
[63]BT slide pack, p15.
[64]Sky letter to CC dated 2 July 2010 §3.1.
[65]Sky slide pack, p3.
[66]LLU remedies hearing, p70, lines 13-19. Mr Wisking.

is not something that was concluded upon in the provisional decision. It also said that including these costs in the model provided no incentive for BT to ensure that they would be incurred efficiently and so this approach would not meet the objective of a sufficiently demanding target.[67]

5.71 Sky considered the KPMG report compared Openreach to an efficient operator and that currently Openreach is not an efficient operator. Sky did not consider that it should pay for the implementation costs of changing Openreach to be an efficient operator in 2012/13 as it should not pay both for the inefficiency and for the implementation costs of addressing that inefficiency.[68]

Reference question 1(v)—inflation

5.72 Our determination found errors in relation to wage inflation and energy inflation.

Summary of CPW's submissions

- *Wage inflation*

5.73 CPW considered that the implementation of the reduction in labour cost required by the provisional determination was straightforward, requiring that the labour inflation rate in 2009/10 be set to 0 per cent rather than 1 per cent.[69]

5.74 At the remedies hearing CPW confirmed[70] that it agreed with the holding gains adjustment that resulted from the change in inflation rate, described in paragraph 5.76 below.[71]

- *Energy inflation*

5.75 In order to reverse out the price spike in 2009/10 and move back to a trend level projected from 2008/09, CPW considered it appropriate to assume that energy inflation was 0.5 per cent above general inflation. It therefore considered that to estimate the costs in 2010/11 the energy inflation absent the spike would be 0.5 per cent in 2009/10 and 3 per cent in 2010/11.[72]

Summary of Ofcom's submissions

- *Wage inflation*

5.76 With regard to wage inflation, Ofcom remodelled the 2009/10 wage inflation at RPI+0 per cent as it considered our provisional determination required.[73] It noted that we were correct in considering the effect of wage inflation on rental prices to be dampened by the effect on capitalized labour costs.[74] Ofcom said that wage inflation increased operating costs and flowed into the calculation of holding gains. Therefore, reducing the real wage inflation assumption reduced operating costs (which reduced unit costs) and reduced holding gains (which increased unit costs). The effect of

[67]LLU remedies hearing, p70, lines 22-32, Mr Wisking.
[68]LLU remedies hearing, p72, lines 2-12, Mr Wisking.
[69]CPW letter to CC dated 2 July 2010 Annex§1.
[70]LLU remedies hearing, p15, lines 19-22, Mr Heaney.
[71]Indeed all parties were agreed on this 'we all agreed on the fact that wage inflation flows through the holding gain model'. LLU remedies hearing, p77, lines 6-8, Mr Heaney.
[72]CPW letter to CC dated 2 July 2010 Annex§2.
[73]Ofcom letter to CC dated 2 July 2010 §29.
[74]We set out this view in our letter to the parties of 18 June 2010, see Appendix G.

reducing the real wage inflation from 1 per cent to 0 per cent in 2009/10 was to increase MPF unit costs in that year. Ofcom said that SMPF unit costs would be reduced because the increase in operating costs would not be offset by holding gains.

- *Energy inflation*

5.77 With regard to inflation of energy costs, Ofcom noted that our provisional determination did not state that Ofcom had made an error in its modelling of the 2009/10 energy costs; it therefore did not adjust the figures for that year. It only adjusted the energy inflation assumption for subsequent years. To do this it ensured that energy costs in 2010/11 were equivalent to the 2008/09 figure increased by 'normal' (ie 3 per cent) inflation. Ofcom highlighted that the underlying rate of energy price inflation used in the LLU Statement was 3 per cent.[75]

Summary of BT's submissions

5.78 BT did not comment on inflation in its initial submission (of 2 July 2010), as it was awaiting Ofcom's response. However, it did note that in principle it would expect the glide path methodology to be applied following any correction to be consistent with that used in the LLU Statement.[76]

5.79 At the hearing BT said that it agreed with Ofcom as to how the inflation findings should be corrected.[77]

Summary of Sky's submissions

5.80 With regard to the inflation errors noted in the provisional determination, Sky considered that the price controls should be:

(a) based on a lower wage inflation rate;[78] and

(b) adjusted to correct for Ofcom's error in failing to reverse out the 40 per cent rise applied to energy prices in 2009/10 in the subsequent three years.[79]

5.81 Sky considered the energy price in 2010/11 should be equivalent to the 2008/09 figure increased by 0.5 per cent above the general inflation rate. It considered that in 2009/10 a rate of 0.5 per cent should be applied rather than the 3 per cent assumed by Ofcom.[80]

Reference Question (2)—ancillary services baskets

5.82 Our determination found two errors in relation to ancillary services baskets: that Ofcom erred in not setting individual price caps on the baskets of ancillary services to align revenues with costs in 2012/13 in each of the ancillary services baskets (the AB price cap error); and in not providing sufficient safeguards against Openreach's ability to charge excessive prices by manipulating prices in the co-mingling basket (the co-mingling error).

[75]Ofcom slide pack, p2.
[76]BT letter to CC dated 2 July 2010 §32.
[77]LLU remedies hearing, p56, lines 2-4, Mr Shurmer.
[78]Sky letter to CC dated 2 July 2010 §3.3.
[79]Sky letter to CC dated 2 July 2010 §3.4.
[80]Sky slide pack, p4.

5.83 The parties' submissions covered proposals for *(a)* the AB price cap error and *(b)* the co-mingling error.

5.84 The parties agreed that for the correction of the AB basket error, the first step should be to make the changes to the X resulting from our findings on efficiency and inflation.[81]

5.85 Following review of the submissions of the parties, we set out a proposal for the ancillary services basket remedies (see Appendix H) on which we invited responses. In this section, we first set out the parties' submissions received before our proposal was made (see paragraphs 5.86 to 5.179) and then the responses to our proposal (see paragraphs 5.187 to 5.224).

Summary of CPW's submissions

- *General*

5.86 CPW stated that whilst it was generally inappropriate to make any changes other than for the errors that were identified in our provisional determination, it was content with changes that were absolutely necessary as a consequence of correcting an error that had been identified.[82]

5.87 CPW added that in our assessment on remedies we should take into account that the next LLU charge control decision would be relatively soon and that there was the opportunity to pick up a lot of these issues there.[83]

5.88 CPW stated that the remedy on ancillary baskets should not be remitted to Ofcom.[84]

- *AB basket error*

5.89 CPW proposed that the one-off adjustments Ofcom made to certain ancillary services should remain unchanged,[85] as well as the sub-caps and inertia clauses.[86]

5.90 CPW said that the appropriate level of X should be calculated separately for each of the baskets, after taking into account the adjustments relating to the errors found in the provisional determination on inflation and efficiency. It considered that the X for each basket should be calculated such that, after taking into account the one-off price adjustments at the start of the charge control, in 2012/13 the revenues would be equal to the costs of each of the baskets. CPW proposed the application of a 'smooth' change in average prices by applying a constant nominal percentage adjustment.[87]

5.91 CPW submitted that the sub-caps[88] should not be adjusted in our remedies for the X in the ancillary services baskets as these sub-caps were already more stringent than the overall basket cap in the original LLU Statement and therefore were a feature of the charge control. This particular feature of the charge control had not been

[81]LLU remedies hearing, p88, line 13.
[82]LLU remedies hearing, p18, lines 17–32
[83]LLU remedies hearing, p20, line 32ff.
[84]LLU remedies hearing, p19, lines 8–15.
[85]CPW letter to CC dated 2 July 2010 §10.
[86]CPW letter to CC dated 2 July 2010 §11.
[87]CPW letter to CC dated 2 July 2010 §8.
[88]In fact the correspondence said 'inertia clauses', but from the context we took it that CPW meant 'sub-caps' at this particular point.

appealed. CPW said that it was therefore impermissible revise this feature in our remedy.[89]

- *Co-mingling error*

5.92 CPW suggested that the remedy for the co-mingling error should ensure that where there had been over-recovery of costs by Openreach, prices in the following year should be adjusted by an amount commensurate with the overcharge.[90]

5.93 CPW's proposed remedy was to use 'current year weightings'[91] to eliminate any incentive for BT to game the system by increasing prices on products with growing volumes whilst reducing prices on products with falling volumes (which would be possible when using prior year weightings).[92]

5.94 CPW suggested that at the end of the year there would need to be a calculation of the actual average price increase based on a formula that used current or actual year weightings.[93] Any deviation from the requirement of the charge control would then be offset against future years (possibly including interest to reduce the incentive for gaming).[94]

5.95 CPW said that a current year weighting system would also reduce the risks that BT faced from product demand being volatile and unpredictable from year to year.[95]

5.96 CPW disagreed with Ofcom that Openreach could game a current year weighting system by making exaggerated volume assumptions as any incorrect assumptions would be corrected once the actual volumes were known. CPW stated that if there were such a concern, BT should be required to use prior year weightings for the initial volume estimates for the current year.[96]

5.97 CPW later stated that it had no particular preference as to whether prior year weighting or explicit forecasts were used for the initial volume estimates in a current year weighting approach (as the correction mechanism in the following year would correct for any forecasting error).[97]

5.98 CPW also disagreed with Ofcom that using a current year weighting approach would make it more difficult to assess compliance, stating that compliance would simply be measured at a different point in time.[98]

5.99 CPW stated that the last year of the price control could be treated in one of two ways. Volumes at mid-year or prior-year weightings could be used.[99]

5.100 CPW did not consider Ofcom's alternative suggestions[100] to reduce the risk of gaming to be superior to CPW's proposed current year weighting approach. Ofcom's

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[89] CPW letter to CC dated 23 July 2010 p1.
[90] CPW letter to CC dated 2 July 2010 §14.
[91] In the price formula (see LLU Decision, Annex 3, Schedule 1, FA3(A).4), when Ofcom assesses BT's compliance with the X Ofcom set in LLU Statement, Ofcom calculates a weighted average of the price changes BT implemented for the year. The weights in the LLU Statement were the prior year revenues for each product divided by total revenues for the prior year. Using current year weightings would mean that the weights used would be current year revenues for each product divided by total revenues in the current year.
[92] LLU remedies hearing transcript, p21, line 17ff.
[93] LLU remedies hearing transcript, p21, line 31ff.
[94] LLU remedies hearing transcript, p22, line 7ff.
[95] LLU remedies hearing transcript, p23, line 8ff.
[96] LLU remedies hearing transcript, p23, line 30ff.
[97] LLU remedies hearing, p27, line 8ff.
[98] LLU remedies hearing, p24, line 8ff.
[99] LLU remedies hearing, p24, line 22ff.

proposals would prevent BT from having legitimate pricing freedom, would unnecessarily limit BT's ability to align prices with costs and may not necessarily prevent gaming.[101]

5.101 CPW did not consider it to be a problem that current year weighting would apply only to the co-mingling basket and not the other baskets as each basket would have a different X.[102]

5.102 CPW did not consider that BT's and Ofcom's concern that there were too many products in the basket carried any weight as the prior year weighting approach would apply to the same number of products.[103]

5.103 CPW urged us to implement the current year weighting approach now, even if BT had not in fact manipulated prices, as it would set a precedent and as the potential for abuse still existed.[104] In particular CPW stated that the advantage of a remedy would be that if Ofcom wanted to change the approach in a later charge control it would have to justify this decision.[105] However, CPW stated that there were quite a lot of complications as to the mechanics and the mathematics of how a remedy might work.[106]

5.104 With regard to BT's proposal of using sub caps on three co-mingling product groups, CPW said that this would add constraints that restricted BT, but would not necessarily solve the risk of gaming the prior year weighting approach and could potentially cause some unintended and unwanted consequences. [107]

Summary of Ofcom's submissions

- *General*

5.105 Ofcom considered that when calculating the glide paths for the ancillary services baskets our remedy should maintain the principle adopted in the LLU Statement of aligning costs and prices by 2012/13.[108]

- *AB basket error*

5.106 Ofcom stated that the charge control for ancillary baskets represented a linked package of measures. Therefore changing the basis on which the charge controls were set for the individual baskets might well have implications for some other aspects of the controls that are part of those baskets.[109] For example, if the intent was to set controls which have prices converging with costs by the end of the period, and the sub-baskets prevented that objective from being achieved, it would be appropriate to take that into account when deciding on the appropriate remedy.[110]

5.107 Ofcom stated, as an example, that *MPF New Provide*, in contrast to almost all the other services in the basket, required price decreases in order for such prices to move towards costs.[111] A material change in the X for the MPF ancillary services

[100]That is using a tighter control or tighter subcaps or tighter inertia clauses.
[101]LLU remedies hearing, p25, line 7ff.
[102]LLU remedies hearing, p25, line 19ff.
[103]LLU remedies hearing, p25, line 9ff.
[104]LLU remedies hearing, p24, line 1ff.
[105]LLU remedies hearing, p93, line 24ff.
[106]LLU remedies hearing, p93, lines 30–32.
[107]LLU remedies hearing, p 26, line 6ff.
[108]Ofcom letter to CC dated 2 July 2010 §11.
[109]LLU remedies hearing, p29, line 17ff.
[110]LLU remedies hearing, p29, line 25ff.
[111]LLU remedies hearing, p45, line 14ff.

basket could mean that the sub-caps and inertia clauses needed to change in order to avoid undesirable or unworkable outcomes if left unadjusted.[112]

5.108 Ofcom explained that when it designed the baskets, its objectives were different from those that we had decided were appropriate in our provisional determination. As there was a connection between the objectives driving the charge controls in the baskets and other provisions put in place in respect of those baskets, there could be a conflict if the objectives changed but some of the related provisions did not.[113]

5.109 Ofcom stated that, for example, the sub-caps and changes to the Xs should allow overall cost recovery in a manner that did not distort competition through dissimilar charges being applied to similar services. Ofcom did not consider that retaining the existing sub-caps whilst calculating individual X's would achieve this outcome.[114]

5.110 Ofcom suggested, therefore that, as a minimum, any change to the X of the ancillary services baskets would require a review of the inertia clause and the sub-caps for each of the ancillary services baskets.[115]

5.111 Ofcom suggested that an alternative to this would be to move the *MPF New Provide* product into a separate basket and not make any further changes.[116,117] The advantage of this would be that the controls on the services remaining in the MPF basket and the SMPF basket would be very similar.[118]

5.112 Ofcom said that moving the *MPF New Provide* product into a separate basket would also mitigate the concern that BT was not able to achieve the current basket caps due to the constraints of the sub-caps and inertia clauses, which would become worse if the X in the ancillary services baskets were changed without changing the sub-caps and inertia clauses.[119]

5.113 Ofcom noted that when it had constructed the ancillary services basket in its LLU Statement, it did not consider whether the applicable control was appropriate to all the services in the basket, nor whether the controls would be consistently applied between baskets (eg whether similar services should be subject to different controls) and that had it decided to set individual price caps for each basket of ancillary services, the structure of the baskets would likely have been different from those in the current control. However, Ofcom suggested that a simple structural alteration would ensure largely that the controls were consistently applied between baskets.[120]

5.114 Ofcom explained that if price and costs for each basket as they currently stood were aligned in 2012/13 then the MPF ancillary services basket would be an exceptional case with the control moving in the opposite direction (downwards) to the other ancillary services baskets. Ofcom suggested removing *MPF New Provide* from the MPF ancillary services basket and subjecting this to an individual charge control, as this service was the cause of the downward movement in the MPF ancillary services basket because its price was significantly greater than its cost.[121]

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[112]LLU remedies hearing, p46, line 4ff.
[113]LLU remedies hearing, p31, line 23ff.
[114]Ofcom, slide pack, p7.
[115]LLU remedies hearing, p46, line 25ff.
[116]LLU remedies hearing, p47, line 2ff.
[117]Ofcom states in p49 line 21in the LLU remedies hearing transcript that a slight modification may be desirable" to "Ofcom also stated that a slight modification of the sub-caps may be desirable, but not absolutely essential.
[118]LLU remedies hearing, p47, line 16ff.
[119]LLU remedies hearing, p47, line 24ff.
[120]Ofcom letter to CC dated 2 July 2010 §14.
[121]Ofcom letter to CC dated 2 July 2010 §15.

5.115 Ofcom said that if the MPF ancillary services basket was left as currently structured, given its own price cap, the inertia clause might prevent BT pricing up to the MPF ancillary services basket cap.[122]

5.116 Ofcom proposed that *MPF New Provide* should be subject to the same control as set out for the WLR New Connection control (RPI–16 per cent) so that there would be consistency between this charge and the near equivalent WLR service.[123,124]

5.117 Ofcom noted that the price caps it had applied to the Key Migration Services took the form of price sub-caps, and were not intended to bring price and costs for these services into line; rather the caps were to ensure that BT was not able to manipulate the prices for such services so as to create a barrier to entry.[125]

5.118 Ofcom said that '[t]he price sub-caps imposed on key migration services in the LLU Statement were set at the same level as the price caps applied to each of the baskets and not by reference to the increase that would be required to align prices and costs for each of the key migration services'.[126] Ofcom suggested that in our remedy we should set the price sub-caps for each of the Key Migration Services at the same level as the price cap applicable to the basket that that service sits in (assuming that *MPF New Provide* is moved to a separate basket).[127]

5.119 However, Ofcom submitted that if those additional changes had no material financial impact, then this may not be worth pursuing.[128]

5.120 Ofcom had concerns that BT's suggestions were too complex to be implemented by us without remittal to Ofcom.[129]

5.121 In its letters of 22 and 28 July 2010, Ofcom provided us with calculations of the X in the ancillary services baskets using four different scenarios:

(a) adjusting the X in each basket so that revenues were equal to cost in 2012/13, without any other changes;

(b) adjusting the X in each basket so that revenues were equal to cost in 2012/13 and also moving *LLU Ceases* and *Bulk Reterminations* from the co-mingling basket to the MPF and SMPF ancillary services basket;

(c) moving *MPF New Provide* into a separate basket and adjusting the X in each basket so that revenues were equal to cost in 2012/13; and

(d) moving *MPF New Provide* into a separate basket and adjusting the X in each basket so that revenues were equal to cost in 2012/13 and also moving *LLU ceases* and *Bulk Reterminations* from the co-mingling basket to the MPF and SMPF ancillary services basket.

5.122 The tables below show the resulting Xs. Table 5.6 shows scenarios (a) and (c) as set out in paragraph 5.121 and Table 5.7 shows scenarios (b) and (d) as set out in paragraph 5.121.

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[122] LLU remedies hearing, p47, line 24ff.
[123] Ofcom letter to CC dated 2 July 2010 §16.
[124] LLU remedies hearing, p47, line 19ff.
[125] Ofcom letter to CC dated 2 July 2010 §9.
[126] Ofcom letter to CC dated 2 July 2010 §9. We note that, as set out in the LLU Statement, not all sub-caps imposed on the Key Migration Services were set at the same level as the price caps applying to each basket.
[127] Ofcom letter to CC dated 2 July 2010 §10.
[128] LLU remedies hearing, p32, line 5ff.
[129] LLU remedies hearing, p48, line 4ff.

TABLE 5.6 **Changes in X excluding BT's proposal to reallocate *LLU Ceases* and *Bulk Reterminations***

X in 2010–11	*X per LLU in %*	*X per adjusted LLU in % (a)*	*X per adjusted LLU in % (adjusting MPF New Provide) (c)*
MPF New Provide	N/A	N/A	–16.0
MPF ancillary services	4.5	–3.5	7.0
SMPF ancillary services	4.5	6.5	6.5
Co-mingling	4.5	4.0	4.0
Total ancillary services	4.5	4.0	4.0

Source: Ofcom financial models and Ofcom's letters from 22 and 28 July 2010.

Note: N/A = not applicable.

TABLE 5.7 **Changes in X as a result of BT's proposal to reallocate *LLU Ceases* and *Bulk Reterminations***

X in 2010–11	*X per LLU in %*	*X per adjusted LLU in % (adjusting for BT only)(b)*	*X per adjusted LLU in % (adjusting for BT and MPF New Provide)(d)*
MPF New Provide	N/A	N/A	–16.0
MPF ancillary services	4.5	4.5	18.5
SMPF ancillary services	4.5	4.0	4.0
Co-mingling	4.5	2.5	2.5
Total ancillary services	4.5	4.0	4.0

Source: Ofcom financial models and Ofcom's letters from 22 and 28 July 2010.

Note: N/A = not applicable.

5.123 Ofcom commented that, for the scenarios set out in sub-paragraphs 5.121(a) and 5.121(b), the inertia clause would prevent BT from reducing the *MPF New Provide* and *MPF New Provide inc Featurenet* charges sufficiently for BT to price up to the price cap without having to reduce prices that were already below cost. It would also be likely to lead to inconsistency between charges for similar services in the MPF and SMPF ancillary baskets. Ofcom therefore did not consider these options to be consistent with our provisional determination, which was concerned with generally aligning costs with revenues, unless the inertia clause was changed.[130] Ofcom revised its figures for scenario 5.121(b) in a letter to us on 28 July 2010, which substantially changed the figures which these comments were based on.

5.124 Ofcom commented that, for the scenarios set out in sub-paragraphs 5.121(c) and 5.121(d), the sub-caps would prevent BT from achieving the revenues allowed under the price cap for the MPF and SMPF ancillary services baskets in three out of four cases. Ofcom said that in the one case where this did not apply, BT would be required to increase charges for a service that was already over-recovering its cost. Ofcom therefore suggested that we reset the sub-caps to reflect the overall basket control.[131]

5.125 Ofcom further noted that the pricing flexibility arising in the scenario set out in paragraph 5.121(d) in relation to the MPF ancillary services basket might require additional basket constraints to avoid any impact on competition.[132]

5.126 Ofcom said that its preferred option was that described in paragraph 5.121(c).[133]

[130]Ofcom letter on ancillary services 22 July 2010, pp2&3.
[131]Ofcom letter on ancillary services, 22 July 2010, p4.
[132]Ofcom letter on ancillary services, 22 July 2010, p4.
[133]Ofcom letter on ancillary services, 22 July 2010, p4.

- *Co-mingling error*

5.127 Ofcom said that CPW's suggested remedy of introducing a current year weighing approach was disproportionate and that there were better ways of addressing our concern. Ofcom noted that a control that involved current year weights would be significantly more complex for Openreach to implement and for Ofcom to monitor, than a prior year weighted control with additional safeguards. Ofcom considered that using current weights would require volume forecasts for the different components (rather than using historic data) in order to assess compliance. In addition, there would need to be a correction to make up any shortfall should the forecasts be inaccurate.[134]

5.128 Ofcom set out a number of additional concerns regarding the use of current year weights, which included:[135]

(a) The need for a penalty mechanism to ensure Openreach forecasted volumes accurately. Ofcom noted that Openreach would have an incentive to distort prices to permit a temporary price increase larger than allowed by the control.

(b) The number of items (107) in the comingling basket would make an independent review of Openreach's projections of the services impractical and disproportionate.

(c) The validation of historic volume and revenue data was difficult; the use of current year weights would exacerbate these problems.

(d) It was not clear how this approach could be applied in the context of the remaining charge control period.

(e) The approach would lead to inconsistencies in the way in which cost recovery was treated between the baskets since the weightings would be inconsistent.

5.129 Ofcom therefore proposed that one of the following remedies be adopted rather than using current year weightings:[136]

(a) price sub-caps on specific services;

(b) a tighter inertia clause;

(c) a requirement for all items in the basket to move in line with the charge control; and

(d) setting a tighter price control on the comingling basket.

5.130 Ofcom stated that BT had already raised its charges in line with the existing controls (in the current year) in the co-mingling basket and that 'gaming' for the remainder of this year was likely to be very difficult. Ofcom argued that the related remedy should not be disproportionate.[137]

[134] Ofcom letter to CC dated 2 July 2010 §18.
[135] Ofcom letter to CC dated 2 July 2010 §19.
[136] Ofcom letter to CC dated 2 July 2010 §20.
[137] LLU remedies hearing, p50, line 18ff.

5.131 Ofcom also stated that applying a current year weighting approach added several steps to the process and was particularly problematic in the final year of the control.[138]

5.132 Ofcom stated that changing to a current year weighting would add complexity to a process but provide very little benefit. It would require putting a new system in place which had not been tried, requiring BT to estimate volumes which could not be adjusted as there would not be an end of year adjustment. Further, most of the current charges did not have scope for much change as they were set to meet the current charge control obligations.[139]

5.133 Ofcom further stated that care needed to be taken when setting precedents to address the risk of gaming in the co-mingling basket through the remedy process, considering that it was a complex area and that various shortcomings had been identified in the current structure of the charge control.[140]

Summary of BT's submissions

- *General*

5.134 BT said that our assessment of] remedies should consider the appropriateness of any remedy given that very little time was left for the current control.[141]

- *AB basket error*

5.135 BT said that all the parties agreed that the right approach was to first correct for the efficiency and inflation-related errors, and then to address errors related to ancillary services. [142]

5.136 At the remedies hearing BT stated that its primary position on the correction of the X in the ancillary services baskets was that this should, in principle, be remitted to Ofcom.[143]

5.137 BT stated that *LLU ceases* and *SMPF Bulk Reterminations* products had in Ofcom's model been incorrectly allocated to the co-mingling basket rather than to the MPF and SMPF ancillary services basket.[144] BT suggested that our remedy should correct for this error, as whilst this error did not really matter on Ofcom's original formulation of the charge control where the same X had been set for each of the baskets, it did matter now, if the objective was to set individual Xs for each of the three ancillary baskets so that each of these baskets should enable a position of cost recovery by 2012/13. BT argued that this adjustment would be a direct consequence of making the correction for the error identified.[145,146] BT said that in *consideri*ng po*tential remedies for Ofc*om's error in setting equal price caps for the baskets, its understanding was that we proposed to look at the controls imposed by Ofcom both at basket and at individual service level, including the one-off adjustments made by

[138]LLU remedies hearing, p50, line 27ff.
[139]LLU remedies hearing, p51, line 4ff.
[140]LLU remedies hearing, p95, line 13ff.
[141]T LLU remedies hearing, p57, line 1.
[142]LLU remedies hearing, p57, line 11.
[143]LLU remedies hearing, p56, line 23ff.
[144]In p87, line 16ff, of the remedies hearing transcript, BT stated that *LLU Ceases* and *SMPF Bulk Reterminations* were in the correct legal instrument (ie in the correct legal description of the baskets in the LLU decision). It was simply that in the modelling that was done for the LLU that they were put into the co-mingling basket by mistake.
[145]LLU remedies hearing, p59, line 19ff.
[146]BT slide pack, p7.

Ofcom.[147] BT was in favour of this approach. It considered that the prices for the key products within each basket should be aligned immediately with cost by means of one-off adjustments. Further, BT considered that one-off adjustments should not have been limited to the three products adjusted by Ofcom but also that there should be a one-off adjustment to *MPF Mass Migration* (the bulk version of *MPF Transfer*). It considered there was no justification for treating two products which were largely identical from an engineering point of view differently in that a one-off adjustment was only applied to the price for *MPF Transfer* and not to *MPF Mass Migration.*[148]

5.138 BT also said that having properly aligned the key services with cost there was no longer any compelling reason for them to form part of the basket at all, as it considered the effect of imposing individual controls would 'dominate' the effect of controls applicable at a basket level.[149] BT therefore considered that key ancillary services should be removed from the basket and be subject to individual pric*e caps; the remain*ing services within th*e basket sho*uld be subject to a basket control with an individual 'X' set for each basket.[150]

5.139 BT was concerned about the practical difficulties of implementing revised Xs, particularly considering the interaction of all the other constraints. BT stated that in practice it would be a challenge to implement any remedy that would allow Openreach to price up to the overall price cap without implications for pricing consistency and coherence going forward. This would be particularly relevant for larger changes to the price control.[151]

5.140 BT further stated that in 2009/10 it was not able to price up to the basket cap for MPF ancillary services due to the constraints of the sub-caps. [152]

5.141 BT commented that it had consistently raised concerns that the current basket structure was problematic due to the difficulties in accurately forecasting volumes, and especially in the interaction of the use of the same X for all the ancillary services baskets, the start price adjustments for certain services, the inertia clause and the sub-caps. BT had previously provided examples of how Openreach was mathematically unable to recover costs under the current basket cap, particularly in relation to the key migration services within the basket. BT argued that Ofcom had designed these various constraints to work together and therefore one constraint could not change without an understanding of the impact on the other constraints in the basket and whether this required additional changes to the other constraints as well.[153]

5.142 BT's conclusion was that all this pointed in principle towards remittal and that radical surgery was required to give effect to the appropriate basket structure.[154] BT said that if a more comprehensive adjustment to the baskets was required then this would need to be remitted to Ofcom.[155]

5.143 BT did not consider it appropriate to change the Xs for the ancillary services basket without changing the MPF basket structure. It stated that it would prefer Ofcom's proposal of moving *MPF New Provide* into a separate basket (to only change the X

[147]BT letter to CC dated 2 July 2010 §35.
[148]BT letter to CC dated 2 July 2010 §38.
[149]BT letter to CC dated 2 July 2010 §39.
[150]BT letter to CC dated 2 July 2010 §41.
[151]LLU remedies hearing, p 88, line 29ff.
[152]LLU remedies hearing, p 89, line 15ff.
[153]LLU remedies hearing, p 61, line 9ff, (and p62, line 23).
[154]LLU remedies hearing, p61, line 28ff.
[155]LLU remedies hearing, p89, line 29ff.

for each ancillary services basket without any other changes), but not without additional changes to other parameters of the charge control.[156]

5.144 BT stated that none of Ofcom's proposals for the remedy for the X in the ancillary services basket would allow BT to achieve the objective of cost recovery in the ancillary services baskets.[157]

5.145 BT later reiterated that Ofcom's modelling regarding the ancillary services baskets supported BT's position that the interplay between the various basket controls in the current baskets would result in BT being unable to recover its costs if we were to apply a different X to each of the three ancillary services baskets without making other changes.[158]

5.146 BT stated that the structure of baskets which prevented the achievement of cost recovery at basket level was the basis upon which we found that the basket structure is in error and that the whole basket structure (and not only the Xs) therefore needed to be considered in our decision on remedies.[159]

5.147 BT suggested that Ofcom's analysis showed that the imposition of individual X values without any further amendment prevented cost recovery in the MPF basket. This consequence would render it impossible for BT to ensure that costs and prices within each basket were aligned. BT submitted that this would not remedy the error we had found. BT further submitted that such a remedy would be likely to advantage MPF ancillary services customers and disadvantage SPMF services customers.[160]

5.148 In contrast, re-allocating *LLU Cease* and *SMPF Bulk Retermination* products into the correct baskets and removing *MPF New Provide* from the MPF basket, whilst likely to result in a reduction in Openreach's revenues, would remove the principal obstacle to cost recovery for the MPF basket, and would treat all of Openreach's customers fairly and equally.[161]

5.149 BT further stated that sub-caps should be set at the level of the basket control.[162]

5.150 BT disagreed with Ofcom's suggestion that, if the *LLU Ceases* and *SMPF Bulk Retermination* products incorrectly allocated to the co-mingling baskets were correctly reallocated, that would create additional flexibility in the MPF basket relative to the other baskets, which might in turn require the imposition of additional controls within the MPF basket. BT stated that such additional controls were not necessary as BT had not abused the charge controls. BT further stated that the large weight of *MPF Transfer*, which is subject to a sub-cap, would in any case restrict BT's ability to exploit its pricing flexibility.[163]

5.151 BT's primary position was that the baskets should be radically restructured to allow cost alignment and that the matter should be remitted to Ofcom.[164] BT reiterated that if the matter was not remitted to Ofcom, its preference would be to remove *MPF New Provide* from the MPF basket and to reallocate *LLU Ceases* and *SMPF Bulk Retermination* products to the MPF and SMPF ancillary baskets and to set the sub-

[156]LLU remedies hearing, p62, line 7ff.
[157]LLU remedies hearing, p67, line 13ff.
[158]BT letter to CC, 3 August 2010 re Ofcom modelling', p1.
[159]BT letter to CC, 3 August 2010 re Ofcom modelling', p2.
[160]BT letter to CC, 3 August 2010 re Ofcom modelling', P2.
[161]BT letter to CC, 3 August 2010 re Ofcom modelling', p2.
[162]BT letter to CC, 3 August 2010 re Ofcom modelling', p3.
[163]BT letter to CC, 3 August 2010 re Ofcom modelling', p3.
[164]BT slide pack, p9.

caps at the level of the relevant basket X.[165] BT considered this to be preferable to setting three separate caps for the ancillary services baskets (but with no other changes); however, it said that none of these solutions were the right answer or a long-term solution.[166]

5.152 BT stated that because the one-off price adjustments counted towards the calculation of the achievement of X in 2009/10, Openreach was prevented from pricing up to the basket price caps in 2009/10.[167]

5.153 BT stated that there was no abuse in 2009/10 and that its recent compliance report to Ofcom showed that in 2009/10 it was not able to achieve the relevant Xs of the ancillary baskets because the controls had been overly restrictive.[168]

- *Co-mingling error*

5.154 BT stated that a remedy for the co-mingling error needed to be proportionate to the risk of gaming and should not be over-engineered.[169]

5.155 BT further stated that it did not consider it necessary to remedy the potential gaming in the co-mingling basket.[170] BT said that it had already made changes to the co-mingling basket as permitted under the LLU Decision for 2009/10 and 2010/11. It said that it had applied a uniform price change across the entire co-mingling basket in 2010/11 and that therefore no manipulation had occurred. BT therefore considered that a remedy using current year volume would address a purely hypothetical risk which would not arise in the remainder of the price control period.[171,172]

5.156 BT later clarified that Openreach for 2009/10 had applied a workable set of price changes that would bring the prices of the 107 products within the co-mingling basket towards alignment with cost, subject to the overall basket controls. That had been Openreach's consistently stated objective in connection with the LLU Ancillary services basket, and reflected the purpose of flexibility in the basket structure.[173]

5.157 BT further explained that it made uniform price changes for 2010/11 (namely +3.7 per cent) across all co-mingling products. BT stated that it was able to make uniform changes in 2010/11 because it had taken steps in 2009/10 towards aligning the price of services in the co-mingling basket with cost.[174] BT stated that it did not intend to make any further price changes to the products in the co-mingling basket for the remainder of this control period.[175] BT said that Openreach's approach in 2009/10 was to apply a 'workable set of price changes that would bring the prices of the 107 products within the co-mingling basket towards alignment with cost, subject to the overall basket controls.' BT concluded that there was 'accordingly no element of price manipulation within the co-mingling basket.'[176]

5.158 BT later added that Openreach's approach in 2009/10 for the co-mingling basket had been to apply a workable set of price changes that would bring the prices of the 107

[165] BT letter to CC, 3 August 2010 re Ofcom modelling', p3.
[166] BT slide pack, p10.
[167] LLU remedies hearing, p97, line 4ff.
[168] LLU remedies hearing, p96, line 12ff.
[169] LLU remedies hearing, p97, line 22ff.
[170] LLU remedies hearing, p63, line 9ff; BT slide pack, p11.
[171] BT slide pack, p11.
[172] LLU remedies hearing, p63, line 12ff.
[173] BT letter to CC, 16 July 2010, 'LLU Ancillaries price movements for co-mingling', p2 (3rd last paragraph).
[174] BT letter to CC, 16 July 2010, 'LLU Ancillaries price movements for co-mingling', p1 (2nd paragraph).
[175] LLU remedies hearing, p63, line 12ff.
[176] BT letter to CC, 16 July 2010, 'LLU Ancillaries price movements for co-mingling', p2 (3rd and 4th paragraphs).

products within the co-mingling basket towards alignment with cost, subject to the overall basket controls. That had been Openreach's consistently stated objective in connection with the LLU Ancillary services basket, and reflected the purpose of flexibility in the basket structure. However, these changes had not yet achieved cost price parity across all products within the co-mingling basket.[177]

5.159 BT clarified that the price changes made in the co-mingling basket were associated only with the products defined in the legal instruments implementing Ofcom's LLU Decision, and therefore did not apply to *LLU Ceases* and *SMPF Bulk Reterminations*.[178]

5.160 The *LLU Cease* prices had been raised up to near the limit of their sub-caps (which was equivalent to the LLU MPF and SMPF Ancillary basket controlling percentages). Specifically for *LLU Ceases* (both SMPF and MPF), the price change had been +2.86 per cent in 2009/10—when the controlling percentage was 3.0 per cent and a price change of +3.57 per cent in 2010/11—when the controlling percentage had been 3.84 per cent.[179]

5.161 BT stated that the commercial decision had been taken not to apply any price increases in 2009/10 or 2010/11 to the *SMPF Bulk Retermination* product. This was because its commercial policy had been to ensure that there was an appropriate differential between the prices of 'singleton' products such as Migrations and Reterminations and the 'bulk/multiple' version of these products, so that cost savings realized from doing multiple activities at the same time and in the same exchange were appropriately shared with customers, and so as to incentivize customers to purchase the bulk or multiple versions of products (as these would enable Openreach to use its resources more efficiently).[180]

5.162 BT stated that it would not and could not in practice manipulate the co-mingling basket in the manner suggested in the provisional determination. It suggested that an alternative remedy, which would be more workable and proportionate, would be to apply 'sub-baskets' to the three main categories of co-mingling products (accommodation, power and tie-cables), with the X for each 'sub-basket' being the same as for the broader co-mingling basket.[181]

5.163 BT further stated that it accepted that there was a theoretical risk of gaming the co-mingling basket, but said that it was a purely theoretical risk.[182]

5.164 With regard to safeguards for the co-mingling basket, BT considered that the proposal to replace the current approach, whereby prices are established based on past year volumes with a two-stage process with prices being set based on a forecast of revenues for each product at the start of the year and then subject to a correction process at the end would entail difficulties.[183] These were:[184]

(a) there would be a need for 107 separate forecasts, one for each of the comingling services;

(b) volumes of ancillary services are highly volatile;

[177]BT's response to our suggested remedy for the ancillary services basket, Annex 1, p4.
[178]BT's response to our suggested remedy for the ancillary services basket, Annex 1, p4.
[179]BT's response to our suggested remedy for the ancillary services basket, Annex 1, p4.
[180]BT's response to our suggested remedy for the ancillary services basket, Annex 1, p4.
[181]BT slide pack, p12.
[182]LLU remedies hearing, p96, line 27ff.
[183]BT letter to CC dated 2 July 2010 §§45 & 46.
[184]BT letter to CC dated 2 July 2010 §47.

(c) Openreach cannot forecast significant changes in demand absent CPs communicating forecasts or making public announcements. Such forecasts are commercially sensitive and CPs have no obligation to provide Openreach with accurate forecast in relation to ancillary products. If CPs were required to provide forecast volumes they would have an incentive to manipulate these forecasts; and

(d) average revenue can be affected by the product mix within the basket.

5.165 BT therefore considered that any forecasting was likely to be inaccurate and that there was a substantial likelihood of there being substantial amounts in any correction process, which would create uncertainty and disruption for CPs as well as raising practical issues as to how such payment should be made or reclaimed by Openreach.[185]

5.166 BT added that using current year weighting as the appropriate remedy would lead to a lack of transparency. Prices charged during the year for LLU services would be uncertain until the actual volumes were known and that these prices themselves would depend on the buying decisions of BT's customers. BT also said that it was not clear how the 'true up' at the end of the year would work in practice and that using a current year weighting for the co-mingling basket would be inconsistent with the approach applied to the MPF and SMPF basket (which would use prior year weightings).[186]

5.167 BT said that it was not aware of any precedent where current year revenues had been used in charge controls.[187]

5.168 BT noted that a trueing-up mechanism would need to address whether such a correction should be made by way of rebate to past customers or discount to future customers.[188]

5.169 BT stated that using current year weights would be disproportionate because of the practical implications of having 107 products and the resulting required adjustments, for example, to the billing system.[189] BT further stated that the required true-up would either create price uncertainty which was unattractive, in particular for small customers (as it may impact their business case for operating in the market) or it would require a rollover of price adjustments into the following year which meant that overpayments and their recovery might accrue to different customers.[190]

5.170 BT stated that the current year weighting approach was unattractive and disproportionate in the light of the specific circumstances of the co-mingling basket.[191]

5.171 BT also said that there were other ways to address the co-mingling error than using a current year weighting approach. These included using several sub-baskets within the co-mingling basket.[192]

[185] BT letter to CC dated 2 July 2010 §48.
[186] LLU remedies hearing, p65, line 17ff.
[187] BT letter to CC dated 2 July 2010 §49.
[188] BT letter to CC dated 2 July 2010 §54.
[189] LLU remedies hearing, p97, line 27ff.
[190] LLU remedies hearing, p98, line 5ff.
[191] LLU remedies hearing, p98, line 24ff.
[192] LLU remedies hearing, p99, line 25ff.

5.172 BT stated that the appropriate place to deal with whether a different approach should be adopted in future was through consultation in the context of the next round of charge controls.[193]

Summary of Sky's submission

- *General*

5.173 Sky considered that separate adjustments to the price controls for ancillary services were necessary to address both errors, ie that Ofcom should have set separate controls for each of the baskets and that it imposed insufficient safeguards to prevent price manipulation.[194]

5.174 Sky stated that its preference was for any remedy to be implemented speedily and that we should avoid remittal as in practical terms this would amount to no remedy due to the short time left in the current charge control. We should make the minimum necessary change to the charge control and we should approach this on the basis of simplicity rather than complexity.[195] Sky further stated that only necessary changes that flowed directly from the errors found should be made. Changes that were not necessary would be outside the scope of this appeal.[196]

- *AB basket error*

5.175 Sky considered that the path of prices for each of the ancillary services should be determined based on the principles set out in Ofcom's original decision, namely that there should be assumed to have been certain one-off adjustments[197] to the charges for *MPF New Provide*, *MPF Transfer* and *SMPF Connection* in 2009/10, followed by a smooth glide path to efficient costs in 2012/13 and a smooth glide path from 2009/10 to 2012/13 for the basket as a whole. Sky considered this to be appropriate as it was consistent with Ofcom's reasoning and should be easy to implement.[198]

5.176 Sky supported CPW's proposal on remedies for ancillary baskets. Sky had reservations about Ofcom's and BT's suggestion for a wider restructuring of the charge structure as this may be complex and might require remittal.[199]

5.177 Sky also stated that a more radical restructuring of the charges may go beyond the scope of this appeal. However, Sky indicated that if the move of the *MPF New Provide* product into a separate basket was a necessary and consequential effect of our provisional decision, it could agree to this change as long as that was a remedy that could be implemented by us rather than requiring a remittal to Ofcom.[200]

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[193] LLU remedies hearing, p66, line 28ff.
[194] Sky letter to CC dated 2 July 2010 §§4 & 9.
[195] LLU remedies hearing, p69, line 19ff.
[196] LLU remedies hearing, p74, line 25ff.
[197] At the hearing (Sky slide pack, p5), Sky confirmed that it considered these one-off adjustments should remain unchanged from the original Ofcom decision.
[198] Sky letter to CC dated 2 July 2010 §11.
[199] LLU remedies hearing, p72, line 30ff.
[200] LLU remedies hearing, p73, line 9ff.

- *Co-mingling error*

5.178 Sky stated that the simplest method of remedying the co-mingling error would be to base the assessment of BT's compliance with the price control on current year weightings.[201]

5.179 Sky considered that the simplest way of dealing with the problems arising from calculating the basket weighting based on the previous year's revenue was to include a mechanism within the price control condition that would allow the price control for the following year to be adjusted in the event that it transpired at the end of the previous year that Openreach had over-recovered its costs by reference to that previous year's actual revenue mix. It accepted that such a mechanism was imperfect in that it was only possible to make a correction in the following year when customers' purchasing patterns may have changed and the correction therefore might not be precise for individual customers. However, it considered that this should reduce the incentive on Openreach to manipulate prices and would avoid over-recovery by Openreach.[202]

Our suggested remedy

5.180 Following consideration of the submissions from the parties as to the appropriate remedies in relation to the ancillary services basket as set out above, we suggested a possible remedy. The salient points of our suggestion are outlined below. We describe first the suggested remedy for the AB basket error and then we describe how we could remedy the co-mingling error. In each case we outline our suggestions in turn for Reference Questions 4(ii)(a), 4(ii) and 4(ii)(b).

AB basket error

- *Reference Question 4(ii)(a)—the price control Ofcom should have set*

5.181 Our suggestion was that we would not provide a quantified answer to this question and we would not remit it to Ofcom.

- *Reference Question 4(ii)—how the price controls should be adjusted now*

5.182 Our suggestion was that we would:

(a) adopt Ofcom's proposal to move *MPF New Provide* in a separate basket;

(b) not change any of the one-off price adjustments that Ofcom implemented at the beginning of the LLU charge control;

(c) not adopt BT's proposal to move certain co-mingling services (LLU *Ceases* and *Bulk Reterminations*) into the 'correct' baskets;

(d) not change any of the Xs of the ancillary services baskets (ie the X for all the three ancillary services baskets would remain at 4.5%); and

(e) not change any subcaps or inertia clauses.

[201]Sky slide pack, p5.
[202]Sky letter to CC dated 2 July 2010 §12.

- *Reference Question 4(ii)(b)—the elapsed period adjustment*

5.183 We suggested that no remedy was needed to address an overcharge in the elapsed period of the charge control.

Co-mingling error

- *Reference Question 4(ii)(a)*

5.184 Our suggestion was that we would not provide a quantified answer to this question and we would not remit it to Ofcom.

- *Reference Question 4(ii)*

5.185 We suggested that BT should be required not to make any further price changes to the co-mingling basket until the end of the current charge control and that no other changes should be made.

- *Reference Question 4(ii)(b)*

5.186 We suggested that an adjustment to the unelapsed period of the charge control was not necessary.

The parties' responses to our suggested remedy

5.187 We summarize below the salient points of the parties responses to our suggested remedy.

Ofcom

- *General*

5.188 Ofcom stated that *MPF New Provide* and the WLR new connection charge were similar products and in some cases could be used as a substitute for one another. If prices for *MPF New Provide* were set so that they would align with costs in 2012/13, this may require a review if this created an opportunity for arbitrage between *MPF New Provide* and the WLR new connection charge. To address this risk (which Ofcom considered to be small) Ofcom suggested alignment of the X of *MPF New Provide* to that imposed on the WLR New Connection charge, ie to –16 per cent.[203]

5.189 Ofcom provided us with BT's submissions on their compliance with the first year of the LLU charge control, which showed that BT did not raise prices by as much as it could have in the ancillary services baskets overall in 2009/10 and by considerably less than the 3 per cent price cap for the MPF ancillary services basket. [204]

5.190 Ofcom also informed us that there was an error in the original model it had used to calculate the X of the ancillary services basket, relating to the costs included for MPF ancillary services. Ofcom stated that this had led to an underestimate of costs for

[203]Ofcom reply to question 4 in its letter from 11 August 2010 on ancillary services remedies.
[204]Ofcom reply to question 5 in its letter from 11 August 2010 on ancillary services remedies.

ancillary baskets of £7.5m in the original LLU Statement and would have had the result of increasing the X for 2009/10 and 2010/11) by 0.5 per cent.[205]

5.191 Ofcom confirmed that when calculating the Xs for the ancillary services baskets, it rounded the Xs to the nearest 0.5 per cent.[206]

- *Reference Question 4(ii)(a), 4(ii), 4(ii)(b)*

5.192 Ofcom did not provide any comment on our suggested remedies.[207]

CPW

- *Reference Question 4(ii)(a)*

5.193 CPW did not provide any comments on our suggested remedy for Reference Question 4(ii)(a).[208]

- *Reference Question 4(ii)*

5.194 CPW considered that it was proportionate and logical for us to apply a remedy to address the errors found in the ancillary services baskets. Our suggested remedy would have a material financial impact in the unelapsed period due to a reduction of the *MPF New Provide* price from £75.01 to about £62. Further, since the lower 2010/11 price would set the starting price for the next charge control period the correction would have a persisting effect for three years and thus result in an even greater financial impact. Finally, making this single change was neither complex, nor unduly disruptive.[209]

5.195 CPW broadly agreed with our suggested remedy for the ancillary services baskets given the context, the complexity involved in making multiple adjustments, the short remaining unelapsed period and the need to avoid remittal.[210]

5.196 CPW noted that the projected costs which we had used to assess our proposed remedy were based on Ofcom's interpretation of how the efficiency and inflation errors identified in the provisional determination should be corrected. CPW disputed Ofcom's approach which CPW considered overestimated costs. If CPW's approach to implementation were adopted, the costs would be lower than that projected in the Ofcom model and therefore our proposed remedy may no longer be appropriate.[211]

5.197 CPW also noted that the Ofcom model used in our analysis included an adjustment to the original model used to estimate the Xs for the ancillary baskets to correct for an error in that original model. This error resulted in an underestimate of the *MPF New Provide* cost in 2012/13. In the revised model this had been corrected. CPW contrasted this approach by Ofcom to that which Ofcom adopted in respect of whether to correct an error in the RAV model (where Ofcom maintained that the error should not be corrected). CPW considered this inconsistency to be unjustifiable.[212]

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[205] Ofcom reply to question 7 in its letter from 11 August 2010 on ancillary services remedies.
[206] Ofcom reply to question 8 in its letter from 11 August 2010 on ancillary services remedies.
[207] Page 1 of letter from 11 August 2010 on ancillary services remedies.
[208] Page 1 of letter from 11 August 2010 on ancillary services remedies.
[209] CPW's letter from 11 August 2010 on ancillary services remedies, §5.
[210] CPW's letter from 11 August 2010 on ancillary services remedies, §4.
[211] CPW's letter from 11 August 2010 on ancillary services remedies, §6.
[212] CPW's letter from 11 August 2010 on ancillary services remedies, §7.

5.198 CPW noted that making no changes to the charge control or prices in 2009/10 would mean that the effective price increase for MPF ancillary services (excluding *MPF New Provide*) was substantially higher than the price increase for SMPF ancillary services, even though the average price increase up to 2012/13 required to align revenues with costs was similar for both baskets. CPW pointed out that MPF Ancillary services were used by non-BT CPs and SMPF Ancillary services were used by BT.[213]

5.199 With regard to the appropriate X for *MPF New Provide,* CPW considered that consistency between similar charges was very important. CPW considered Ofcom's proposal of using an X of –16 per cent for *MPF New Provide* for 2010/11 to be flawed as it would not achieve consistency between the *MPF New Provide* charge and the 'near equivalent' *WLR New Provide* charge. This was because the starting price (in 2009/10) for *WLR New Provide* was significantly lower than that for *MPF New Provide* (£67 versus £76) and so allowing the same percentage change in 2010/11 would not ensure price consistency—rather it would maintain inconsistency. CPW suggested three options:[214]

(a) setting the starting price of *MPF New Provide* in 2009/10 to equal that of *WLR New Provide,* ie £67 and then applying RPI –16% change in 2010/11;

(b) leaving the *MPF New Provide* price in 2009/10 unchanged but setting the X in 2010/11 so that the price of *MPF New Provide* and *WLR New Provide* prices are equal in 2010/11; or

(c) setting the X for *MPF New Provide* so that the price in 2012/13 aligns with cost for *MPF New Provide*. CPW considered that the X should be determined to allow the price to equal the *MPF New Provide* cost in 2012/13 that properly reflected the correction on efficiency and inflation.

5.200 CPW agreed that the Xs for the baskets should remain unchanged (except that *MPF New Provide* would be removed from the MPF ancillary basket). Changes to Xs were unlikely to result in large changes to overall prices (or revenues) given the constraint of the sub-caps and inertia clauses, and could cause disruption.[215]

5.201 CPW further argued that changing the sub-caps and/or inertia clauses was not a necessary consequence of the correction for the error in the ancillary baskets and would be complex and impractical.[216]

5.202 CPW agreed with not moving *LLU Ceases* and *Bulk Reterminations* into the 'correct' baskets. Making this change was not a necessary consequence of the correction of the error and would be complex and impractical.[217]

5.203 In response to our ancillary services remedies paper (paragraph 12, see Appendix H), CPW suggested that no long notice period needed to be given for the change to the *MPF New Provide* price. The notice was not a mandatory regulatory requirement. The price change for *MPF New Provide* would have been known to the supplier (Openreach) and major customers (CPW and Sky) by the time of the Tribunal's decision, so a short notice period would not result in undue disruption. Any delay in

[213]CPW's letter from 11 August 2010 on ancillary services remedies, §8.
[214]CPW's letter from 11 August 2010 on ancillary services remedies, §10.
[215]CPW's letter from 11 August 2010 on ancillary services remedies, §11.
[216]CPW's letter from 11 August 2010 on ancillary services remedies, §11.
[217]CPW's letter from 11 August 2010 on ancillary services remedies, §12.

implementing the price reduction would perpetuate the detrimental impact of the error that Ofcom had made in its original decision.[218]

5.204 CPW agreed that for BT to make no further price changes in the co-mingling basket was an appropriate remedy for the co-mingling error.[219]

- *Reference Question 4(ii)(b)*

5.205 CPW considered that it was appropriate to provide an elapsed period adjustment. It did not consider amounts of £1 million to be immaterial or very small. The overpayment would be greater if a higher reduction in *MPF New Provide* prices was determined to be appropriate. Further, whilst the overpayment on *MPF New Provide* may be offset by an underpayment on other ancillary services, much of this underpayment was for services that BT purchased (ie SMPF ancillary basket services) rather than for services CPs other than BT purchased (ie co-mingling and MPF ancillary services) and therefore there would have been a net overpayment in the elapsed period by CPs other than BT.[220]

5.206 CPW also noted that although in assessing whether to adjust prices in the unelapsed period it was proper to consider the disruptive effect that price changes would have, this consideration was not relevant in assessing the amount of the overpayment.[221]

BT

- *Reference Question 4(ii)(a)*

5.207 BT argued that it would not be reasonably practicable for us or for Ofcom to answer the question of what adjustments should be made to the Xs for individual baskets and to address the risk of gaming of the co-mingling basket had Ofcom not erred.[222]

- *Reference Question 4(ii)*

5.208 BT commented that our proposed remedy for Reference Question 4(ii) was imperfect, as in BT's view, if Openreach was to recover its efficiently incurred costs of providing the LLU Ancillary services, adjustments to both the structure and composition of the various baskets would be required.[223]

5.209 BT stated that as the impact of the proposed remedy was small in financial terms relative to the overall MPF Ancillary Services basket revenues the justification for imposing such an imperfect remedy had not been made.[224]

5.210 BT further noted that Ofcom's previous analysis appeared to indicate that moving just *MPF New Provide* out of the MPF Ancillary Services basket, and subjecting it to a separate and adjusted control, may be likely to advantage CPs that utilize MPF to the detriment of CPs that utilize SMPF. BT believed that this would not be consistent with the conclusions underlying our provisional determination on the price differential and

[218]CPW's letter from 11 August 2010 on ancillary services remedies, §14.
[219]CPW's letter from 11 August 2010 on ancillary services remedies, §15.
[220]CPW's letter from 11 August 2010 on ancillary services remedies, §16.
[221]CPW's letter from 11 August 2010 on ancillary services remedies, §16.
[222]BT's letter from 11 August 2010 on ancillary services remedies, p3.
[223]BT's letter from 11 August 2010 on ancillary services remedies, p1.
[224]BT's letter from 11 August 2010 on ancillary services remedies, p2.

that this was a further reason for not imposing such an imperfect remedy for the short unelapsed period.[225]

5.211 BT concluded that if we were minded to proceed with our suggested remedy and maintain the X for each of the three ancillary services baskets at the current levels with no consequential changes to the prices of the products remaining in the MPF Ancillary Services basket, the proposed remedy would be easy to implement and would cause minimal disruption to the market.[226]

5.212 BT suggested that the X for *MPF New Provide* should be set at RPI–16 per cent in order that it was aligned with the control on WLR Connection.[227]

5.213 BT considered that our suggested remedy (ie not to make any further price changes to the co-mingling basket until the end of the current price control) to address the co-mingling error was unnecessary, but it was content with this suggested remedy.[228]

- *Reference Question 4(ii)(b)*

5.214 BT agreed that no adjustment to the unelapsed period (for any overpayment in the elapsed period) of the charge control was necessary for the errors in the LLU Ancillary services baskets.[229]

Sky

- *General*

5.215 Sky considered that it was important that there was some remedy to address the errors in Ofcom's decision, even if such a remedy had only a limited financial impact. Any other approach would undermine the effectiveness of the appeal process.[230]

- *Reference Question 4(ii)(a)*

5.216 Sky made no specific comments on Reference Question 4(ii)(a).

- *Reference Question 4(ii)*

5.217 Sky agreed in general with our suggested remedy for the adjustment to the unelapsed period in Reference Question 4(ii). Sky agreed that any remedy which required a large number of adjustments was unlikely to be appropriate.[231]

5.218 Sky agreed with our suggestion that the most pragmatic remedy for the AB basket error was to move *MPF New Provide* into a separate basket, but to keep the structure of the remaining baskets unchanged. Sky considered that the X for *MPF New Provide* for 2010/11 should be calculated based on achieving full cost recovery by 2012/13, since this was most closely aligned with the overall objective of bringing prices into line with costs.[232]

[225]BT's letter from 11 August 2010 on ancillary services remedies, p2.
[226]BT's letter from 11 August 2010 on ancillary services remedies, p2.
[227]BT's letter from 11 August 2010 on ancillary services remedies, p2.
[228]BT's letter from 11 August 2010 on ancillary services remedies, p2.
[229]BT's letter from 11 August 2010 on ancillary services remedies, p2.
[230]Sky's letter from 11 August 2010 on ancillary services remedies, §2.
[231]Sky's letter from 11 August 2010 on ancillary services remedies, §3.
[232]Sky's letter from 11 August 2010 on ancillary services remedies, §3.

5.219 Sky suggested that Ofcom should waive the 90-day notice period for the price adjustment to *MPF New Provide* as all the parties to the appeal had been on notice since the start of these proceedings that the appeal may result in price changes and, for any communications providers not directly involved in the proceedings, the changes were likely to be to their benefit.[233]

5.220 Sky agreed that our suggestion of preventing any further price changes to the co-mingling basket was sufficient protection for the remainder of the current price control period to address the co-mingling error. [234]

- *Reference Question 4(ii)(b)*

5.221 Sky did not agree with our suggested approach to the elapsed period adjustment. In particular, Sky did not agree with our suggestion that it was disproportionate to make an elapsed period adjustment. Whilst the amounts of any overcharge, in aggregate, may be small relative to the overall revenues from ancillary services, the amounts at stake may still be material for individual communications providers who may each be impacted differently.[235] Sky also argued that a failure to make an elapsed period adjustment in these proceedings might encourage disputes to be brought before Ofcom to recover any overcharge.

5.222 Sky considered that it was important that we made a clear finding on the amount of any past overcharge, on the basis that this was relevant in determining whether an elapsed period adjustment was appropriate and, potentially, in the context of any future disputes which may arise before Ofcom.[236]

5.223 Sky stated that we had not provided any evidence to indicate that it would be particularly complex or time-consuming to calculate the elapsed period adjustment and therefore to give effect to an elapsed period adjustment.[237]

5.224 Sky also disagreed with our suggestion that no adjustment to *MPF New Provide* should be made in the elapsed period adjustment. In Sky's view, to the extent that an elapsed period adjustment was capable of being implemented relatively quickly and easily, the materiality of such an adjustment should not be a factor in deciding whether such an adjustment was appropriate.[238]

Reference Question (4)(b)—The parties' submissions on practical issues related to the elapsed period adjustment

5.225 As a preliminary observation, we note that some of the parties' submissions were in our view directed primarily to the question of whether it was lawful or appropriate to make an adjustment to the unelapsed period of the price control in consequence of the price controls during the elapsed period had been set an inappropriate level.

5.226 In this regard we note that Reference Question 4(ii)(b) requires us to proceed on the assumption that it may be lawful and appropriate to make such an adjustment during the unelapsed period. We regard it as neither necessary nor appropriate for us to seek to determine the lawfulness or appropriateness of making such an adjustment. Accordingly, we have not considered the parties' submissions on this point.

[233]Sky's letter from 11 August 2010 on ancillary services remedies, §5.
[234]Sky's letter from 11 August 2010 on ancillary services remedies, §8.
[235]Sky's letter from 11 August 2010 on ancillary services remedies, §10.
[236]Sky's letter from 11 August 2010 on ancillary services remedies, § 9.
[237]Sky's letter from 11 August 2010 on ancillary services remedies, §11.
[238]Sky's letter from 11 August 2010 on ancillary services remedies, §4.

5.227 Our letter of 15 July 2010 invited the parties' submissions on the elapsed period adjustment in particular on the following points:

(a) What adjustments, if any, should be made during the unelapsed period of the price control as a consequence of any detriment or benefit to Openreach or Other Communications Providers that may have occurred in the elapsed period of the price control.

(b) Whether it would be appropriate:

(i) To calculate any detriment (or benefit) that has occurred in the elapsed period by reference to *(a)* actual data or *(b)* the original data in Ofcom's charge control model or *(c)* any other method?

(ii) To calculate the necessary adjustments to the controls during the unelapsed period by reference to *(a)* updated forecasts or *(b)* the original data in Ofcom's charge control model or (c) any other method?

(iii) To calculate the amount of any detriment (or benefit) and future adjustment on an aggregate basis (including or excluding BT Openreach) and/or on an individual customer basis?

(iv) To take into account consequential decisions made on the basis of the errors in the original LLU Statement?

(c) How, if at all, we could or should address in our determination the fact that the effective date for calculating historic versus prospective payments is by reference to the date of the Tribunal's judgment following our determination (a date which is unknown to us, since it is not fixed by the Communications Act 2003 or by court order), rather than our determination itself?

(d) Whether any of the calculations should include an allowance for interest and, if so, on what basis any such interest should be calculated?

5.228 We subsequently wrote to the parties asking their views on the appropriateness of using the Oftel rate of interest if an allowance for interest were to be made.[239]

Summary of CPW's submissions

5.229 CPW stated that it did not have a strong preference as to whether the calculation of any overpayment should be based on the original projected data in Ofcom's charge control model or on updated actual data, but on balance preferred the former as whilst using actual data would be more accurate, the benefits may be marginal.[240]

5.230 CPW considered that any adjustment for over-recovery in the elapsed period should be determined using a 'base case' date of (say) 1 October 2010, and that a simple model could be constructed which would then adjust that 'base case' to account for a later Tribunal judgement date. These adjustments would take account of (i) the larger overpayment that would have accrued; and (ii) the fact that the number of subscribers in the unelapsed period will be higher since the number of MPF lines is growing.[241]

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[239] Letter from the CC to the parties dated 11 August 2010.
[240] CPW letter to CC dated 2 July 2010 §16(d).
[241] CPW letter to CC dated 2 July 2010 §16(g).

5.231 CPW considered that the elapsed period adjustment should be made to allow recovery over a period of six months to avoid misleading signals arising from having a longer adjustment period or very significant reduction in monthly rental prices for a very short period of time.[242]

5.232 CPW also argued that any adjustment to the price control to address over-payment in the elapsed period on MPF ancillary baskets should be remedied through the MPF line rental charge, rather than by adjusting prices of ancillary services, because purchases of ancillary services are not regular and customers who had purchased ancillary services in the past would not generally be users of these ancillary services in the immediate future. However, these customers would be likely to be ongoing users of MPF Rental.[243]

5.233 In response to our invitation to comment on use of the Oftel rate of interest, CPW reiterated its view that the Openreach WACC was the appropriate interest rate to use. CPW considered that the purpose of the adjustment would be 'to remove excess profits and return the parties to the position as if no error had occurred'. It said Openreach's WACC was a good proxy as 'it reflects the overall delay in cash flow (since cash is funded by equity and debt). An interest rate that reflects only the cost of debt would not do that'.[244] CPW also said that, if an interest rate (rather than a WACC) were used, the Oftel rate (which applied in cases where a charge was reduced following a dispute) would be inappropriately low and that the Oftel rate had been negotiated at a time when BT could impose 'unreasonable conditions' on wholesale customers given its market power.[245]

Summary of Ofcom's submissions

5.234 Ofcom said that in determining the difference between actual and 'corrected' prices in 2010/11 it was important to compare like with like. It said that the pricing model projected prices based on an expected RPI figure and therefore a comparison of the actual 2012/11 prices with those in the model would be distorted by RPI. It therefore considered that a comparison between the estimated 2010/11 price based on the original cost calculation and the estimated 2010/11 price based on 'corrected' cost calculation should provide a reasonable approximation of the overpayment per line in 2010/11.[246]

5.235 In response to our invitation to comment on our proposal to use the Oftel rate of interest, Ofcom said that it had no policy position on the approach that we should take in this appeal. It noted, 'to the extent it is useful for consistency', that in the context of disputes referred to it under the 2003 Act, it had applied the Oftel interest rate.[247]

Summary of BT's submissions

5.236 BT considered that any error should be calculated based on the original data in Ofcom's charge control model as Ofcom would not have had precise data when setting the charge control. It considered actual data not to be relevant in determining what prices should have been set during the elapsed or unelapsed period.[248] It said

[242] CPW letter to CC dated 2 July 2010 §16(e).
[243] CPW letter to CC dated 2 July 2010 §16(b).
[244] CPW letter to CC dated 17 August 2010.
[245] CPW letter to CC dated 17 August 2010.
[246] Ofcom letter to CC dated 2 July 2010 §54.
[247] Ofcom letter to CC dated 17 August 2010.
[248] BT letter to CC dated 2 July 2010 §§111 & 113.

that the price control was set at the same level for all customers and that it was necessary to consider the effect of any overpayment in the market on an aggregate basis.[249]

5.237 BT considered it appropriate for us to calculate historic payments by reference to the date of our determination and to indicate what methodology should be applied for the period between that date and the Tribunal's judgment.[250]

5.238 BT viewed any future adjustment to seek to establish the overall efficiency of the price control on a forward-looking basis and not to be an adjustment to compensate BT's customers, it therefore considered that the calculation should not include an allowance for interest.[251]

5.239 In response to our invitation to comment on a proposal to use the Oftel rate of interest, BT said that its primary position was that the Tribunal had no *vires* to direct a future adjustment. If the future adjustment were to be made, BT was still of the view that there should be no interest as the purpose of the adjustment would not be to compensate customers.[252]

5.240 BT said that if interest were to be included the Oftel rate would be appropriate because it reflected a borrowing rate and the impact of price control error was as if Openreach had borrowed cash from CPs. It considered the use of:

> the weighted average cost of capital, whether of BT (or Openreach) or of the CP, would be inappropriate as it would imply that the "transaction" was of the same average risk as all the investment opportunities of the firm concerned. This is not the case, as once a binding decision has been made, it is certain (risk free) that the money will be repaid, subject only to the usual risk of lending to a corporate. The use of the weighted average cost of capital, whether of BT (or Openreach) or of the CP, would therefore significantly over-estimate the appropriate rate of interest.[253]

5.241 BT also said that to 'the extent that any interest should be paid or taken into account, it should take into account the dates on which the CPs actually made any overpayments, as it is only from that date that the monies paid were no longer in CPs' possession'.[254]

Summary of Sky's submissions

5.242 Sky considered that the original data in Ofcom's charge control model should be used. Whilst it recognized that this would not necessarily reflect the actual detriment, it considered it easy to implement and consistent with the original calculation of the charge control. Sky would be content with an alternative basis of calculation if it could be implemented easily.[255]

[249] BT letter to CC dated 2 July 2010 §115.
[250] BT letter to CC dated 2 July 2010 §121.
[251] BT letter to CC dated 2 July 2010 §125.
[252] BT letter to CC dated 17 August 2010.
[253] BT letter to CC dated 17 August 2010.
[254] BT letter to CC dated 17 August 2010.
[255] Sky letter to CC dated 2 July 2010 §14.1.

5.243 Sky also considered that any adjustment should be calculated on an aggregate[256] basis for all purchases of LLU services by communications providers including BT; it considered any other methodology to be too complex and time consuming.[257] It also considered that it would be appropriate to include an allowance for interest at an appropriate rate.[258]

5.244 Sky recognized that we would not be able to calculate the actual adjustment as the timing of the Tribunal's decision was uncertain but it considered that the methodology for calculating this should be set out clearly for Ofcom to follow.[259]

5.245 In response to our invitation to comment on a proposal to use the Oftel rate of interest, Sky agreed with CPW that the Openreach WACC was the appropriate rate as this rate would 'properly capture any inappropriate gains made by Openreach'. Sky, however, noted the precedent of using the Oftel rate of interest, for example the Oftel rate was used in the Access Network Facilities Agreement, and said that it would be content with the use of this rate.[260]

[256]'Aggregate' rather than on an individual customer basis—this formed one of the questions that we asked the parties in our letter of 18 June 2010—see Appendix G.
[257]Sky letter to CC dated 2 July 2010 §14.2 & 14.3.
[258]Sky letter to CC dated 2 July 2010 §14.5.
[259]Sky letter to CC dated 2 July 2010 §14.4.
[260]Sky letter to CC dated 17 August 2010.

Our response to Reference Question 4(i)

5.246 In this section for each of the questions in respect of which we have determined that Ofcom had erred in turn, we have sought to provide clear and precise guidance as to how that error should be corrected.

5.247 By way of introduction, we first provide our assessment of a number of more general points in relation to the correction of the errors in Reference Question 4(i). We then turn to consider Reference Question 4(i) for each of the errors identified in Reference Question 1 and Reference Question 2.

5.248 We then conclude with our determination of how each error should be corrected. See paragraph 5.324.

General

Remittal to Ofcom

5.249 CPW, Ofcom and Sky agreed that we should determine the adjustments required to correct for any errors found as far as possible. Ofcom, CPW and Sky preferred us to avoid remittal to Ofcom and did not consider such remittal necessary.

5.250 BT considered that remittal was necessary in the case of ancillary services. It did not suggest any other areas for remittal to Ofcom.

5.251 We agreed that remittal to Ofcom would leave a limited period for implementing any remedy, since the current price control ends on 31 March 2011. Accordingly, we considered that remittal to Ofcom was both unlikely to be reasonably practicable and undesirable.

Use of existing data in models

5.252 The parties generally agreed on the use of existing data in models to calculate any adjustment to the remaining price control.[261] We considered it appropriate to use the data in the original models as this is what would have been available to Ofcom at the time of the LLU Statement.

Correction for the errors found in Reference Question 1(i) (efficiency)

Ofcom's financial model of Openreach

5.253 For the purposes of agreeing the approach to modelling the efficiency assumptions following the remedies hearing we asked Ofcom to model a 3.7 per cent efficiency improvement in each year, net of all implementation costs (ie 3.7 per cent to be applied to all costs). This assumption was to be applied in 2009/10 and the following three years. The RAV model was to be updated to reflect the effect of our determination.

5.254 No party disputed the need to use the Ofcom models to determine the price control or to correct the errors we found. Although CPW made several detailed criticisms of

[261]We have interpreted Ofcom's statement at §54 of its letter to us of 2 July 2010 to mean that Ofcom considered any error should be corrected through the original model. This is what Ofcom has done when subsequently providing revised modelling to us.

individual modelling inputs, we concluded that the Ofcom models should not be adjusted in 2007/08 and 2008/09 (see paragraph 2.222 of the efficiency section). We considered it appropriate to continue to use the original models revised for our findings in the manner suggested by Ofcom (particularly given the need to provide a practical and timely remedy).

5.255 CPW raised concerns with Ofcom's remodelling of 21 July 2010 and we consider the main points raised below.

Years to which the revised rate of efficiency improvement should apply

5.256 CPW said that the efficiency rate that we had identified should be applied to the 2008/09 figures as well as the four years of the price control modelling 2009/10 to 2012/13, see paragraph 5.28. Sky supported this suggestion (see paragraph 5.69).

5.257 BT and Ofcom disagreed. They argued that the 2008/09 figures should not be adjusted as these had been reconciled to actual results and were not forecasts, see paragraphs 5.53 and 5.65.

5.258 We did not agree with CPW and Sky as we did not conclude that Ofcom erred in its application of the efficiency savings rate in the financial models (see paragraph 2.222 of the efficiency section). We stated that adjustments to the financial model were only required to change to reflect our assessment that the rate of efficiency in each of the years 2009/10 to 2012/13 should be higher.

Inclusion of 'implementation costs'

5.259 CPW said implementation costs should be zero and excluded from the base year[262] data to which our efficiency assumption would apply.[263] It identified leaver costs and evoTAM costs as implementation costs.

5.260 CPW said that including non-continuing costs in the cost base would distort the measurement of the net efficiency gains.[264] It argued that in the simple case where Openreach made no gross efficiency gains, Ofcom's metric would show a net efficiency improvement in the first year simply because the one-off leaver costs would not be repeated.

5.261 Ofcom disagreed with CPW in two respects:

(a) with regard to CPW's claim that evoTAMs were implementation costs, it considered evoTAMs to be capital expenditure for which Openreach had budgeted. The planned level of expenditure had not been linked to the rate of efficiency savings assumed;[265] and

(b) it considered that implementation costs (which it identified as leaver costs) should be included in 2008/09 and subsequently subject to the revised efficiency rate. Ofcom used this to set a maximum allowable cost in each year and then flexed

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[262]CPW considered the base year to be 2007/08 the input year in the LLU Statement modelling suite; it considered our assumptions should apply to forecasts from 2008/09 onwards. We and Ofcom consider 2008/09 to be the 'base year' for remedies purposes as it is from this year onwards that the error found in our determination apply.
[263]CPW letter to CC dated 2 July 2010 Annex §11.
[264] Frontier Economics, July 2010, 'Comments on Ofcom's proposed approach to implementing the provisional determination on efficiency', p1.
[265]BT agreed with Ofcom that evoTAMs were an ongoing capital expenditure item for the business.

how this total cost was made up (ongoing costs and implementation costs) depending on its assumptions as to the business's needs.

5.262 Sky said that inclusion of leaver costs did not promote efficiency. Including these costs in the model meant that there was no incentive for Openreach to ensure that they were efficiently incurred. Sky said should not pay for the costs of making Openreach efficient, see paragraphs 5.70 and 5.71.

5.263 Our determination of Reference Question 1(i) does not require ongoing and implementation costs to be distinguished. In our view it would be extremely difficult to make robustly such a distinction, even with considerable analysis.

5.264 Whilst Ofcom had modelled leaver costs separately to other operating costs it did this such that total costs (ongoing operating costs and leaver costs) were subject to 3.7 per cent annual efficiency improvement.

5.265 CPW had said that there may be a relationship between evoTAM costs and efficiency savings stemming from potential reductions in fault rates, but that it was not pursuing this point under the price control aspects of the appeal.[266]

5.266 We did not find that there was a direct functional relationship between evoTAMs expenditure and efficiency savings in the financial model. Even if there was a relationship between evoTAM expenditure and reductions in faults, we were satisfied that there should be no adjustment to the financial model, because we incorporated an efficiency saving of 0.5 per cent of annual costs stemming from future reductions in faults within the total rate of efficiency saving of 3.7 per cent per year, consistent with Ofcom's conclusion. We concluded that no adjustment to evoTAM costs in the financial model was required to implement the remedy. As noted in paragraph 2.229 of our efficiency determination, we accepted that the costs to which our efficiency assumption should be applied may include an element of implementation costs (including leaver costs). However it was not appropriate to exclude these from the base data as we set our efficiency target of 3.7 per cent a year taking into account the base data.

5.267 We therefore did not need to conclude whether evoTAM costs were implementation costs nor what proportion of the leaver costs was related to implementation costs as our decision required all costs in 2009/10 to 2012/13 to be subject to an overall 3.7 per cent rate of efficiency improvement.

5.268 While it may be possible that in the first year of a price control Openreach could make net efficiency gains without making any gross efficiency gains, we did not accept CPW's argument that the approach failed to implement our provisional decision. We considered that it was for Openreach/BT to manage its business against the demands of the price control and our decision was that the efficiency targets should be applied to all costs.

5.269 We did not agree with Sky's comments (see paragraph 5.70). Openreach would have an incentive to ensure implementation costs are efficient as it would be subject to an overall efficiency target.

5.270 We considered the points made regarding Openreach needing to make 'catch-up' efficiency gains to be arguments that related to the assessment of the appropriate efficiency rate and not to the implementation of our determination.

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[266] CPW W/S Heaney VI §64(c).

Capital expenditure

5.271 CPW argued that Ofcom's modelling did not reflect the provisional determination and that the capital expenditure figures were inconsistent within Ofcom's suite of models, see paragraph 5.39. Ofcom's model of 21 July updated its capital expenditure figures in the RAV model using its estimate of the impact of the provisional determination on the capital expenditure forecast in the RAV model, rather than linking the RAV model to the revised CF Model as CPW had suggested.

5.272 We disagreed with Ofcom's view that correcting for the inconsistency between the models was not a necessary part of our efficiency decision. Our efficiency determination required a 3.7 per cent efficiency to be applied to total costs in each year and Ofcom's modelling did not do this. We asked Ofcom to run its models in a way that ensured that the RAV model reflected the full output of our decision. Ofcom did this and provided revised cost stacks on 18 August.

Modelling leaver costs

5.273 CPW was concerned about Ofcom's use of its unadjusted leaver cost assumptions in the model, see paragraph 5.44. Given the need for a practical and timely remedy we consider the effect of Ofcom's approach to modelling costs to adequately implement our determination.

Gross efficiency calculation on the basis of operating costs

5.274 Finally, CPW argued that Ofcom's illustrative modelling indicated that the gross efficiency rate in the model had been calculated on operating costs only, rather than being applied to all costs, see paragraph 5.45. CPW said that it was not clear whether or what erroneous effect this had on the model.

5.275 Ofcom confirmed that it had calculated the gross efficiency rate with reference to operating costs only, and that this gross rate had been applied to all cash costs. It said that it estimated the efficiency target that would deliver the CC's required 3.7% reduction in total costs. Ofcom said that it did this by reference to total operating costs including leaver payments. It considered that the efficiency target that delivered a 3.7 per cent saving across operating costs would provide a reasonable basis for modelling the effect of a 3.7 per cent saving across capital expenditure.[267]

5.276 We considered that the most practical and timely way to implement the changes to the LLU Statement stemming from the errors that we found was to change the inputs to Ofcom's models. Ofcom's approach appears reasonable and we saw no persuasive evidence that this approach would result in any material error.

5.277 CPW said that Ofcom's modelling approach only explicitly considered a relatively small number of methods of achieving efficiencies. It said that this could result in distortion in outputs, see paragraph 5.34(b). In our view it would not be possible for Ofcom to make a comprehensive assessment of the methods of achieving efficiencies during the remedies phase of this appeal. As we have set out in our response to Reference Question 1(i), we have concluded that Ofcom's approach to identify two sources of efficiency savings (the general rate of efficiency savings, and the rate of efficiency savings stemming from reductions in fault rates) was appropriate. Given the need for a practical and timely remedy we consider it is

[267] Ofcom letter to CC dated 3 August 2010, p2.

appropriate to use the approach to modelling adopted by Ofcom in correcting the errors found.

Summary of our assessment

5.278 We therefore considered that the efficiency error should be corrected as it has been in Ofcom's modelling of 21 July 2010, adjusted to ensure consistency regarding capital expenditure figures between the RAV model and CF model. Ofcom's letter to us of 18 August provided the cost stacks for MPF and SMPF adjusted (including inflation adjustments) for the correct implementation of our determination.

Correction for the errors found in Reference Question 1(v) (wage inflation)

Wage inflation

5.279 Following the remedies hearing we confirmed that for the purposes of correcting the wage inflation error, Ofcom should assume 0 per cent for 2009/10.[268]

5.280 The parties agreed that a change to the wage inflation assumption would also affect capital expenditure and holding gains, see paragraph 5.74. However, CPW said that Ofcom's assessment of the effect of the provisional determination on the capital expenditure forecast in the RAV excluded the wage inflation findings in the provisional determination, see paragraph5.42.

5.281 This appears to be the case: see Table 5.2 where only efficiency adjustments have been made. We put this to Ofcom (see paragraph 5.60) and it explained that the effect of adjusting labour inflation in the RAV model in 2009/10 by 0.5 per cent would mean no change to the MPF cost stack in 2009/10 and produce a 1p fall in the MPF cost stack in 2012/13.[269] We consider it appropriate for Ofcom to ensure that the capital expenditure in the RAV model is consistent with the CF model. In its letter to us of 18 August, Ofcom linked the two models, and therefore under this approach we consider the RAV model to reflect the appropriate inflation rates.

Summary of our assessment

5.282 We therefore consider the wage inflation error should be corrected as in Ofcom's modelling of 21 July 2010, adjusted to ensure the consistency regarding capital expenditure figures between the RAV model and CF model. Ofcom's letter to us of 18 August provides the cost stacks for MPF and SMPF adjusted (including inflation adjustments) for the correct implementation of our determination.

Correction for the errors found in Reference Question 1(v) (energy inflation)

Energy inflation

5.283 Ofcom's proposed adjustment to remove the effect of the energy spike in 2009/10 was different to that proposed by CPW. To correct the energy inflation trend, Ofcom said a rate of 3 per cent should be applied in each year to the 2008/09 costs. CPW said a rate of 0.5 per cent in 2009/10 and then 3 per cent thereafter should be applied.

[268] See paragraph 2.805 of the inflation section and CC letter to all parties dated 15 July 2010, p1.
[269] Ofcom letter to CC dated 3 August 2010, p1.

5.284 As noted in our determination in relation to the inflation ground of appeal, we agreed with Ofcom that energy costs should be estimated applying a trend rate of inflation of 3 per cent a year.

5.285 Ofcom's model of 21 July 2010 reflects our decision. We noted that the adjustments CPW had proposed in its letter of 16 July 2010 had been incorporated.[270]

Summary of our assessment

5.286 We therefore consider the energy inflation error should be corrected as in Ofcom's modelling of 21 July 2010. Ofcom's letter to us of 18 August provides the cost stacks for MPF and SMPF adjusted (including efficiency and wage inflation adjustments) for the correct implementation of our determination.

Correction for the errors found in Reference Question 2 (AB price cap error)

5.287 In our determination of Reference Question 2, we concluded that Ofcom had erred in not setting individual price caps for each of the three ancillary baskets that would align prices with costs by 2012/13 for each individual basket (the 'AB price cap error').

5.288 In determining the adjustments to the price control, our starting point has been to identify remedies that would bring the price control to where it would have been had Ofcom not erred. For this error, we do not consider such an approach to be reasonably practicable as it would be complicated, time consuming and require remittal to Ofcom.

5.289 We first describe why it is not in our view reasonably practical to establish what the price control would have been if Ofcom had not erred. We then set out a practicable approach to remedying the errors identified.

The price control if Ofcom had not erred

5.290 We have found that Ofcom should have set individual price caps for each of the three ancillary baskets so that revenues for each basket align with costs by 2012/13. We have also found errors in relation to inflation and efficiency that should be corrected (Reference Question 1).

5.291 To correct these errors we need to address the following points:

(a) Whether and if so how the Xs for each of the ancillary services baskets should be changed.

(b) Whether and if so how the sub-caps and inertia clauses should change.

(c) Whether an adjustment to the basket structure would be necessary to set a price cap to enable the alignment of prices with costs for each adjusted basket in 2012/13 (and to set the related Xs and sub-caps and inertia clauses).

(d) If as result of making the above changes, further adjustments are necessary to avoid unintended consequences, whether to make those adjustments.

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[270] Albeit the CPW letter requested a 0.5 per cent energy inflation assumption for 2009/10 rather than the 3 per cent we determined.

5.292 Setting the individual price caps for each of the three ancillary baskets requires an assessment of the appropriate X for each ancillary services basket, including the appropriate associated sub-caps and inertia clauses, as well as possibly evaluating proposals for the creation of additional (or different) baskets. It also requires due consideration of our findings in relation to the co-mingling error.

5.293 CPW and Sky argued that they had not challenged the inertia clauses and sub-caps and a remedy should therefore not require a change to those. However, both parties accepted that any necessary changes as a result of the change in X should form part of the remedy. We consider it highly likely that Ofcom would have set different sub-caps and inertia clauses had it set the X for each ancillary services basket so that prices and costs would align by 2012/13. We therefore consider that an assessment of changes to the sub-caps and inertia clauses would be necessary.

5.294 We do not consider it reasonably practicable for us, considering the time available to us in this appeal, to establish the appropriate price cap for each of the ancillary services baskets, including the associated sub-caps and inertia clauses, as well as evaluating the need for the creation of additional (or different) baskets.

5.295 The only way for us to give effect to such a remedy would be to remit the matter to Ofcom. However we do not regard remittal as desirable or appropriate in all the circumstances. In particular:

(a) We consider that it would be time-consuming and costly for Ofcom (and the industry) to respond to a remittal. We consider it likely that Ofcom would consult the industry before answering the remitted reference questions. We note Ofcom's statement that it had already embarked on the preparation of the next LLU Statement, which would mean that Ofcom would also be working with the industry on the next charge control at the same time as answering the remitted reference questions.

(b) We consider that it is not clear whether any of the resulting price adjustments could be implemented during the current charge control given that by the time the Tribunal hands down its decision it is likely that less than six months will be left in the charge control. We also consider that applying the adjusted basket caps would likely result in disruption to the industry as it would likely require multiple price changes.

(c) We consider that the financial impact on Openreach of a correction of the basket caps for the ancillary services baskets would be relatively small. We are not able precisely to calculate this financial effect, but our indicative calculations[271] show that the financial effect would be between zero and an amount in the region of low single digit million pounds.

5.296 We therefore concluded that it was not appropriate to seek to determine what the price control would have been if Ofcom had not erred.

[271]That is, the calculations in our suggested remedies letter to the parties (see Tables 3 and 4] in Appendix H). An alternative way to evaluate the financial impact would be to consider that the annual revenues of the ancillary services baskets overall are no more than £0.4 billion. The adjustment to the price caps per se would not change any of the revenues that BT could earn (it would only reallocate them between the baskets). The financial impact would therefore only be the impact of adjusting the inflation and efficiency assumptions used in calculating the Xs. Ofcom's submissions to us indicate that the underlying Xs would change by 0.5 per cent. Applying this to the first two years of the charge control would result in a financial effect of no more than £6m (ie £2m (0.5% x £0.4bn) and in the 2nd year of £4m (1% x £0.4bn). However, this calculation is conservative (considering that revenues in the Oak model for the ancillary services baskets are well below £0.4bn in 2009/10 and 2010/11) and ignores the impact of the sub-caps on the current charge control that may reduce this difference further and is before taking into account the financial effect of our determined remedy.

A practicable remedy

5.297 Accordingly, we determine an alternative, proportionate and reasonably practicable remedy for the AB price cap error. This remedy will, to some extent, move prices in the ancillary services baskets toward costs and also provides some correction for Ofcom's error in efficiency and inflation as determined in Reference Question 1. It is also compatible with our remedy for the co-mingling error (see paragraph 5.324(c)).

5.298 When deciding on this remedy we took into consideration that:

(a) that there was a very limited period (of likely less than six months) in which our remedies would take effect and that we therefore considered that proportionality and practicability would need to be a major consideration in setting the remedy;

(b) it is possible that price changes that BT must make as a result of our decision on remedies may be subject to a notice period of up to 90 days (although this could be waived by Ofcom). This would depend on the number and to some extent to the direction of the price changes and possibly some other factors;[272] and

(c) our remedies must meet the requirements of section 88 of the Communications Act 2003, which requires Ofcom to set a charge control that promotes efficiency, sustainable competition and confers the greatest possible benefits to the end users.

5.299 We determine that the appropriate remedy for the X for the ancillary services baskets is to adopt Ofcom's proposal to move *MPF New Provide* to a separate basket.[273] Moving *MPF New Provide* into a separate basket addresses the problems arising in the MPF Ancillary services basket because most product prices in both the MPF Ancillary services basket and the ancillary services basket overall should rise to be aligned with costs. Accordingly, the X for the MPF Ancillary services basket is positive. But the *MPF New Provide* price is significantly above costs and should fall. This remedy will also lower overall revenues in the ancillary services baskets, giving some effect to the adjustments to efficiency and inflation as determined in Reference Question 1.

5.300 We rejected various proposals. In particular, we decided:

(a) Not to change any of the one-off price adjustments that Ofcom implemented at the beginning of the LLU charge control. We did not consider it necessary to make changes to the one-off adjustments as it is possible without making these adjustments to give effect to our determination.

(b) Not to adopt BT's proposal to move certain co-mingling services into the 'correct' baskets. This reallocation is not a necessary consequence of our determination in relation to ancillary baskets as it is possible to give effect to our determination without making these adjustments.

(c) Not to change any of the Xs of the ancillary services baskets (ie the X for all the three ancillary services baskets will remain at 4.5 per cent). We did not consider such a proposal reasonably practicable when considering the requirement for consequential price adjustments and the small financial effect (of changing the

[272] In the LLU Statement Ofcom mandated that the one-off price adjustments for ancillary services should be subject to at least 90 days' notice. See paragraph 7.62 in the LLU Statement.
[273] In practice this would probably mean that we would require BT to reduce the price of *MPF New Provide* to at least the level implied by the new basket cap.

Xs) in the unelapsed period of the charge control. This is explained in more detail in paragraph 5.302 ff. Table 5.9 below shows how, in Ofcom's proposal,[274] the X in each of the baskets would have changed from the original LLU Statement if we were to change the X for each of the baskets and if we moved *MPF New Provide* into a separate basket.[275]. The X would only reduce for the co-mingling basket and would increase for the MPF and SMPF baskets, indicating that (leaving aside the new *MPF New Provide* basket) BT's customers are unlikely to pay materially less (and may even pay more) as a result of changing the Xs for the three original ancillary services baskets.

TABLE 5.9 **Changes in X for each of the baskets per Ofcom's proposal**

X in 2010/11	*X per LLU in %*	*X per adjusted LLU in %**
MPF New Provide	fixed price (£76)	–16.0
MPF ancillary services	**4.5**	**7.0**
SMPF ancillary services	**4.5**	**6.5**
Co-mingling	**4.5**	**4.0**
Total ancillary services	4.5	4.0

Source: Ofcom letters of 22 July 2010 and the associated spreadsheet as amended by Ofcom's letter on 28 July 2010 and the associated spreadsheet.

*The X as adjusted includes the impact of the adjustment for inflation and efficiency as determined in Reference Question1.
Notes:
1. Only the X for 2010/11 is shown. The differences in X would be similar for 2009/10 (as the underlying X for both years was the same).
2. The increase in X for the MPF ancillary services basket is largely due to *MPF New Provide* moving into a separate basket (without this the X would be –3.5 per cent).
3. The table also shows that the impact on X of adjusting the ancillary services basket overall for inflation and efficiency is 0.5 per cent.[276]

(d) not to change any subcaps[277] or the inertia clauses. Changing the subcaps and inertia clauses may affect the scope for BT to engage in price discrimination between products that are used by both BT's customers and BT and products that are only used by BT's customers and our decision on the potential for gaming through the use of prior year weights. In addition, changing the subcaps/inertia clauses may increase the revenues BT is allowed to earn under the LLU charge control (as the sub-caps/inertia clauses in some instances prevent BT from pricing some baskets up to the price cap), which may not be in the interest of Openreach's customers.

5.301 Putting the MPF New Provide product into a separate basket does not require a change to the X for the MPF ancillary services basket in 2010/11. This is because BT's compliance with the charge control is measured against prior year volumes and the revenue weight for MPF New Provide in 2009/10 for the MPF ancillary services basket is only around 2.5%. Furthermore changing the X in the MPF New Provide basket would reduce the effect of our remedy to reduce BT's revenues to give effect to the change in inflation and efficiency as set out in Reference Question 1.

Reasons for not changing the Xs of the three ancillary services baskets

5.302 In the following paragraphs we explain in more detail the reasons why changing the Xs for the three ancillary services baskets would require adjustments to the charge control that are not reasonably practicable.

[274]Ofcom letters of 22 July 2010 and the associated spreadsheet as amended by Ofcom's letter on 28 July 2010 and the associated spreadsheet.
[275]The Xs for each of the baskets are from Ofcom's note on 22 July 2010, Figure 3.
[276]This is based on Ofcom's policy to round the X to the nearest 0.5 per cent.
[277]Except for effectively removing the *MPF New Provide* sub-cap and placing *MPF New Provide* in a separate basket instead.

5.303 If we were to adopt the premise that any remedy that is implemented for each of the baskets should put BT into the position in the unelapsed period it would have been in had Ofcom not erred,[278] it would be necessary to make some one-off price adjustments in each of the baskets to ensure that BT's revenues in the unelapsed period of the price control are the same as the revenues that BT would have earned in the unelapsed period had Ofcom not erred. It would therefore not be sufficient to change the X (as current prices are a result of the incorrect X in the elapsed period of the price control), and a one-off adjustment would also be required to move BT's revenues on to the new glide path implied by the new X for each of the ancillary services baskets, requiring additional changes to BT's prices.

5.304 Furthermore, it may well be necessary that price adjustments that BT would make as a result of the change in Xs (in particular any one-off price adjustments) would need to be either approved by Ofcom or otherwise safeguarded against potential gaming (eg discrimination or abuse of current year weighting approach).

5.305 In addition changing the Xs may require a relatively large number of price changes (for example in the case of the co-mingling basket, where BT implemented the cap uniformly on all prices), which may be costly and disruptive for BT and the industry.

5.306 We undertook some indicative calculations that show that the financial effect of adjusting the Xs for all the four ancillary baskets (ie the three ancillary services baskets and *MPF New Provide*), but not the sub-caps, for the remaining six months of the LLU charge control would be small. See Table 5.10 below.[279]

TABLE 5.10 **Indicative financial Impact of changing the X for the three ancillary baskets**

per cent

Revenue impact from price caps and sub-caps	*LLU statement 2009/10*	*Adjusted LLU statement 2009/10*	*LLU statement 2010/11*	*Adjusted LLU statement 2010/11*
MPF New Provide	One off adjustment applies		–1.3	–16.8
MPF ancillary services	4.0	4.8	3.4	3.9
SMPF ancillary services	0.8	0.9	3.9	4.2
Co-mingling	3.0	2.5	3.7	3.2
Total ancillary services	2.2	2.1	3.6	3.0
Total excl MPF new provide			3.7	3.7

Source: CC calculations.

5.307 Table 5.10 above shows that (partially due to the constraint of the sub caps) there would be only be a small difference in the price increases BT could put through in 2009/10 under the original basket caps compared with the adjusted Xs. The table indicates that whilst BT would be able to earn slightly less revenue in 2010/11 with the adjustment to the Xs compared with the original 4.5 per cent basket cap (see row 'Total ancillary services'), this is only due to moving *MPF New Provide* into a new basket. The revenues BT can earn in the remaining three baskets are very similar

[278]This example is based on our decision in C&W vs Ofcom and probably requires additional explanations at the next group meeting.

[279]These calculations are indicative and provide some guidance as to the magnitude of the financial effect of changing the Xs in the ancillary services baskets. They may not fully reflect our determination or the actual operations of the subcaps or baskets, but they provide a broad indication of the magnitude of the effect of changing the value of the Xs in the ancillary services baskets. We note in particular that BT indicated in its submissions on the appropriate remedy that the legal instrument implementing the charge control defined the baskets differently from Ofcom's financial modelling (in particular that *LLU Ceases* and *Bulk Reterminations* are in the MPF and SMPF basket rather than in the co-mingling basket). This is not reflected in our calculations because it was not raised by the parties in the context of their comments on our above calculations. We also consider that even if we were to adjust our calculations above for this discrepancy the indicative value of the figures in Table 5.10 would not change materially and would not change our determination on remedies.

under the original price cap and the adjusted price cap for the three ancillary services baskets (see the last row in Table 5.10 above).

5.308 Whilst we consider that there may be some benefits from the distribution effects as a result of changing the Xs in the ancillary services baskets with revenues increasing in the MPF and SMPF ancillary services basket, but reducing in the co-mingling basket, we are not able to identify in the time available to us, which of BT's customers would be winners or losers from these changes and if therefore such distribution benefits exist, but note that the changes in revenues are relatively small for each basket.

5.309 We therefore consider that the complexity (eg the need to check BT's price changes for discrimination and gaming) and disruption (eg to the possible need for BT to make a large number of price changes) that would be caused by changing each of the Xs for the three ancillary services baskets would outweigh the benefits.

BT's concerns

5.310 BT stated that as the financial impact of moving *MPF New Provide* into a separate basket was small relative to the overall MPF Ancillary services basket revenues the justification for imposing an imperfect remedy such as moving the *MPF New Provide* into a separate basket had not been made.

5.311 We consider that moving *MPF New Provide* into a separate basket is justified given the relative ease with which this could be effected and given that doing so would allow the price for *MPF New Provide* to align with costs in 2012/13. We note that the current charge control would only require marginal price reductions for this product (RPI–0.5 per cent) when the current price of this product is significantly above its FAC. We also considered that, whilst the financial impact may be small in 2010/11, *MPF New Provide* is projected to account for more than 1/3 of costs in the MPF Ancillary services basket in 2012/13 and we therefore consider *MPF New Provide* to be a significant component of the charge control.

5.312 BT also stated that BT Ofcom's previous analysis appeared to indicate that moving just *MPF New Provide* out of the MPF Ancillary services basket, and subjecting it to a separate and adjusted control, may be likely to advantage MPF CPs to the detriment of SMPF CPs. BT believed that this would not be consistent with the conclusions underlying our provisional determination on the differential and that this was a further reason for not imposing such an imperfect remedy for the short unelapsed period.

5.313 BT did not provide supporting evidence as to why it considered that just moving *MPF New Provide* into a separate basket would advantage MPF CPs to the detriment of SMPF CPs. Moreover, there are some factors that might suggest the opposite.[280] Whilst there may be some unevenness in the results of this adjustment we have received no evidence that suggests this outweighs the benefit of the adjustment.

5.314 CPW noted that making no changes to the charge control or prices in 2009/10 would mean that the effective price increase for MPF ancillary services (excluding *MPF New Provide*) was substantially higher than the price increase for SMPF ancillary services, even though the average price increase up to 2012/13 required to align

[280]Moving *MPF New Provide* into a separate basket will reduce prices for a service that is over-recovering costs and therefore removes an existing disadvantage for MPF customers. The remainder of the MPF ancillary services basket will retain the same X as the SMPF ancillary services basket, which would not indicate a disadvantage for SMPF customers. Furthermore CPW made the opposite claim in its NoA in that Ofcom's decision regulated-in explicit discrimination between users of MPF in favour of SMPF services. (CPW Reply I §160.).

revenues with costs was similar for both baskets. We consider that any discrepancy in pricing for MPF Ancillary Services and SMPF Ancillary Services will largely be a result of the sub-caps or pricing decision by BT and not a result of our decision on remedies. We also did not consider it reasonably practicable to conduct detailed analysis on the actual price changes in the baskets, but note that our remedy leaves the price cap the same for both the MPF and SMPF basket.

Summary of our assessment

5.315 Our determination for the correction of the AB price cap error is to move *MPF New Provide* into a separate basket.

Correction for the errors in Reference Question 2 (co-mingling error)

5.316 In our determination of Reference Question 2, we concluded that Ofcom had erred by not implementing sufficient safeguards against BT gaming the prior year weighting approach (which is used to calculate BT's compliance with the price cap) in the co-mingling basket (the 'co-mingling error').

5.317 We first describe why it is not in our view reasonably practical to establish what the price control would have been if Ofcom had not erred. We then set out a practicable approach to remedying the error identified.

The price control if Ofcom had not erred

5.318 We have found that Ofcom should have set safeguards in the co-mingling basket to prevent BT from gaming the prior year weighting approach that is used in assessing BT's compliance with the Xs (the co-mingling error).

5.319 To correct these errors we need to address the following points:

(a) The identification of the appropriate safeguards.

(b) How the appropriate safeguards would work in practice (eg the related price control formulae and calculation methodologies including the relevant legal instruments).

(c) To ensure that the appropriate safeguard does not have unintended consequences.

5.320 Identifying the appropriate safeguard and setting out how the appropriate safeguard would work in practice would require an assessment of, as a minimum, the solutions suggested by the parties. It would also require due consideration of our findings in relation to the AB price cap error.

5.321 In our view it is not reasonably practical for us to resolve these issues ourselves. We also do not consider it appropriate to remit the matter to Ofcom. The main reason for this conclusion is that there is a simple and effective alternative remedy.

A practicable remedy

5.322 In our view, the appropriate remedy for the co-mingling error is that BT may not make any further upwards price changes to any of the products in the co-mingling basket until the end of the current charge control. For the avoidance of doubt we consider

LLU Ceases and *Bulk Reterminations* to be part of the co-mingling basket for the purpose of this determination.

5.323 We note that this remedy is compatible with our remedy of not correcting the Xs in the three original ancillary services baskets. It reduces the risk of gaming in the co-mingling basket.

Determination of Reference Question 4(i)

5.324 For the reasons given above, we determine that the errors identified in respect of Reference Questions 1(i), 1(v) and 2 should be corrected as follows:

(a) For the 1(i) error on efficiency, and the 1(v) errors on wage inflation and energy inflation, we determine that the cost stacks should be those resulting from Ofcom's model of 21 July 2010, updated to ensure that the inconsistency between the RAV and CF models is not maintained. We consider that in calculating any prices or Xs from these cost stacks, the glide paths should be applied as per the LLU Statement.

(b) We determine that the AB price cap error identified in respect of Reference Question 2 (and the consequential adjustments for inflation and efficiency as determined in Reference Question 1) should be corrected as follows:

(i) to move the *MPF New Provide* product into a separate basket; and

(ii) not to make any other adjustments to the charge control.

(c) We determine that the co-mingling error identified in respect of Reference Question 2 should be corrected by prohibiting BT from making any further upward changes to any of the products in the co-mingling basket in the remainder of the price control. The co-mingling basket for the purpose of our determination for this remedy is the co-mingling basket including *Bulk Reterminations* and including *LLU Ceases*.

Our response to Reference Question 4(ii)

Introduction

5.325 In determining Reference Question 4(ii), we have identified what impact the adjustments in our determination of Reference Question 4(i) will have on the charge control. This includes, for example, what the revised value of 'X' in the RPI–X price control should be, in light of the numbers Ofcom has calculated for our determination of Reference Question 4(i).

5.326 In addition to calculating what the revised value of X should be for the purpose of answering the main part of Reference Question 4(ii) (ie the wording before subparagraphs (a) and (b)), we also provide the specific information required by subparagraphs (a) and (b) of Reference Question 4(ii).

5.327 In our view, Reference Question 4(ii)(a) requires us to calculate the X across the period from May 2009 to March 2011, ie to perform the calculation that Ofcom should have made in 2009 had it not erred in the manner we have identified in our determination of Reference Questions 1 to 3.

5.328 Reference Question 4(ii)(b) asks us to provide a further calculation with adjustments to the price controls applicable during the unelapsed period of the LLU price control to allow for the fact that the original price control was set at an incorrect level during the elapsed period proceeding on the assumption that it may be lawful and appropriate to make such an adjustment during the unelapsed period.

Reference Question 4(ii) and (4)(ii)(a)

5.329 In this section, for each error identified we address whether it is necessary for us to determine any consequential adjustments to the level of the price controls. If so, we determine the necessary consequential adjustments to the level of the price controls. We also indicate where appropriate what price controls should have been set in the LLU Statement had Ofcom not erred in the manner we have identified in the preceding sections of this determination.

5.330 In addressing each of those matters, we adopt a similar approach to that set out in our determination of Reference Question 4(i).

5.331 We are aware that our remedy must satisfy the statutory tests, in particular those under sections 47 and 88 of the 2003 Act.

5.332 In this section we set out how these corrected cost stacks would affect the prices to be set under the scenarios posed by Reference Question 4 (ii) and subparagraphs.

Consequential adjustments to the level of price controls—Reference Questions 1(i) and 1(v) combined

MPF and SMPF

5.333 In the following paragraphs we set out what the price ceilings for MPF and SMPF rentals should have been had Ofcom not erred as set out in our determination of Reference Question 1, answering Reference Question 4(ii)(a). We then set out how the MPF and SMPF rental charges should be adjusted for the unelapsed period of the charge control, answering Reference Question 4(ii).

5.334 Our determination of the MPF and SMPF rental charge for the unelapsed period reflects the rental price that BT would have been able to charge in the unelapsed period had Ofcom not erred.

5.335 We note that in making this determination we relied on figures provided to us by Ofcom. We have not independently verified the accuracy of the calculations.

5.336 Ofcom provided us with calculations of the rental charges,[281] which it would have set had it not erred:

(a) for MPF, the rental charge would have been £85.92 in 2009/10, and the X in 2010/11 would have been 4.50 per cent; and

(b) for SMPF the rental charge would have been £15.24 in 2009/10, and the X in 2010/11 would have been –0.5 per cent.

5.337 Accordingly, Ofcom provided us with calculations of the rental charges,[282] that BT would have been able to charge in 2010/11:

(a) For the MPF rental charge this would have been £89.10, a £1.36 reduction from the current price; and

(b) For the SMPF rental charge this would have been £15.04, a £0.59 reduction from the current price.

Summary of our assessment

5.338 Had Ofcom not erred as set out in our determination of Reference Question 1, the MPF rental charge would have been £85.92 in 2009/10, and the X in 2010/11 would have been 4.50 per cent. The SMPF rental charge would have been £15.24 in 2009/10, and the X in 2010/11 would have been –0.5 per cent.

5.339 The rental charge for the unelapsed period of the charge control should be £89.10 for the MPF rental charge and £15.04 for the SMPF rental charge.

5.340 When making the adjustment to the rental charges, as set out in the previous paragraph, BT should implement the related price adjustments immediately without observing any notice period. This is because many industry participants would have been aware of this price change and because it will benefit CPs to implement the price change immediately.

Consequential adjustments to the level of price controls—Ancillary services (4(ii) and 4(ii)(a))

AB price cap error

5.341 As set out in Reference Question 4(i) we did not consider it reasonably practicable to answer the question of what price caps for the ancillary baskets Ofcom would have set at the start of the price control had it not erred.[283] We did, however, determine an alternative remedy that is reasonably practicable. This means that we cannot answer Reference Question 4(ii)(a) for the AB price cap error. This is because the remedy

[281] Ofcom to CC dated 18 August 2010, pp2&3.
[282] Ofcom to CC dated 18 August 2010, p3.
[283] See paragraph 5.289.

that we have determined in Reference Question 4(i) is not what we consider Ofcom should have implemented had it not erred, but is based on what we consider is reasonably practicable now.

5.342 In the remainder of this section we set out the adjustments that should be made to the remainder of the charge control to remedy the AB price cap error (addressing Reference Question 4(ii)).

5.343 The remedy for the unelapsed period under Reference Question 4(ii) is based on what is appropriate now, considering that some time in the charge control has already elapsed.

5.344 We determined in Reference Question 4(i) that the appropriate remedy for the AB price cap error was to move *MPF New Provide* into a separate basket. We set out below how the price control should be adjusted to give effect to this remedy:

(a) As a first step we move *MPF New Provide* into a separate basket.

(b) Following that, the appropriate X for the new *MPF New Provide* basket needs to be established.

5.345 The parties made various submissions on the appropriate X for the new *MPF New Provide* basket. However, considering that the AB price cap error was that Ofcom did not set individual price caps for the ancillary basket services to align prices with costs by 2012/13, we consider that the most appropriate remedy is to set the X for *MPF New Provide* so that it aligns price with costs by 2012/13 (including the adjustments to inflation and efficiency as determined in Reference Question 1).

5.346 We did not change the starting price for *MPF New Provide* in 2009/10, because *MPF New Provide* was subject to a one-off price adjustment at the start of the LLU charge control (and therefore effectively no X applied to *MPF New Provide* in 2009/10) and because we determined in Reference Question 4(i) that we would not make any changes to the one-off price adjustments at the start of the charge control. See paragraph 5.300.

5.347 This means that the X will need to be calculated over the period of three years, ie a calculation using the *MPF New Provide* price in 2009/10 and *MPF New Provide* costs in 2012/13. This calculation must take into account the adjustments the *MPF New Provide* costs as a result of the errors we found for inflation and efficiency as determined in Reference Question 1, (adjusted to ensure consistency regarding capital expenditure figures between the RAV model and CF model).

5.348 The X for 2010/11 should be calculated using the same methodology as Ofcom applied in calculating the X for the ancillary services baskets, except for the period of calculation for the X in the *MPF New Provide* basket, which is over three years rather than four years. This means that the X should be adjusted upwards by 4 per cent for the difference in Ofcom's underlying inflation assumption in the LLU charge control model (2.5 per cent) and the inflation expectation at the time of the LLU Statement (–1.5 per cent), as applied by Ofcom in the calculation of the X for the ancillary services baskets and should be rounded to the nearest 0.5 per cent.

5.349 We note that Ofcom made an error in that it used the incorrect *MPF New Provide* costs in its original charge control model when calculating the Xs for the ancillary services baskets. We consider that Ofcom should use the correct *MPF New Provide* cost when calculating the X for *MPF New Provide*. Doing otherwise would prevent the *MPF New Provide* price aligning with costs in 2012/13.

5.350 CPW noted that there was also an error in the RAV model used for calculating the correction for the error in efficiency. CPW stated that we should adopt an approach consistent with that used to correct the error in the *MPF New Provide* cost and the error in the RAV model. As we have corrected for the error in the RAV model, it is consistent to also correct the error in the original LLU model for the *MPF New Provide* cost in 2012/13.

5.351 We asked Ofcom to perform this calculation. In a letter on 19 August 2010 Ofcom submitted that the resulting X would be –15 per cent. Ofcom further submitted to us in a letter on 25 August 2010 that removing the inconsistency between the RAV model and CF model might result in a very small second order adjustment to the MPF New Provide cost stack, but would not affect the MPF New Provide X that Ofcom had provided to us in its letter on 19 August 2010. On 26 August 2010 we asked Ofcom for clarification on the calculation of the appropriate X for MPF New Provide in its 19 August 2010 letter. In its response on 27 August 2010 Ofcom suggested that the X for MPF New Provide in 2010/11 would be –17.5 per cent.

5.352 We also determined that BT should implement the necessary price changes giving effect to the new *MPF New Provide* price cap with immediate effect, ie for Ofcom to waive the usual 90-day notice period. This is because the resulting reduction in the *MPF New Provide* price is a single price reduction and thus easy to implement. Further, we agreed with CPW and Sky that industry participants would have been aware of this price change from the time of our determination which would be some time before the Tribunal hands down its decision.

Summary of our assessment

5.353 We make no determination in respect of Reference Question 4(ii)(a) for the reasons set out in paragraph 5.341.

5.354 With respect to Reference Question 4(ii), for the reasons given above, we determine that the appropriate X for the *MPF New Provide* basket should be as follows:

(a) Not to make any changes to the *MPF New Provide Price* in 2009/10.

(b) To set the X for *MPF New Provide* in 2010/11 so that the *MPF New Provide* price will be aligned with cost in 2012/13, including the same adjustments that Ofcom made to the Xs in the ancillary services baskets in the LLU Statement, ie to set the X for *MPF New Provide* to –17.5 per cent.

(c) Ofcom to waive the usual 90-day notice period for the required price adjustment to *MPF New Provide*.

Co-mingling error 4(ii) and 4(ii)(a)

5.355 We determined in Reference Question 4(i) that the appropriate remedy for the co-mingling error is for BT not to make any further upwards price adjustments to any of the products in the co-mingling basket including LLU Ceases and Bulk Reterminations. This remedy does not require us to determine any consequential adjustment to the level of the price controls. As such we have not considered it necessary to answer Reference Questions 4 (ii) and 4 (ii)(a).

Determination of Reference Question 4(ii) and 4(ii)(a)

5.356 Our determination of Reference Question 4(ii)(a) for MPF and SMPF rentals is that had Ofcom not erred as set out in our determination of Reference Question 1, the MPF rental charge would have been £85.92 in 2009/10, and the X in 2010/11 would have been 4.50 per cent. The SMPF rental charge would have been £15.24 in 2009/10, and the X in 2010/11 would have been –0.5 per cent.

5.357 Our determination of Reference Question 4(ii) for MPF and SMPF rentals is that the rental charge for the unelapsed period of the charge control should be £89.10 for the MPF rental charge and £15.04 for the SMPF rental charge.

5.358 When making the adjustment to the rental charges, as set out in the previous paragraph, BT should be required not to give any notice before implementing the related price adjustments. This is because many industry participants would have been aware of this price change and because it will benefit CPs to implement the price change immediately.

5.359 We make no determination for the AB price cap error in respect of Reference Question 4(ii)(a). With respect to Reference Question 4(ii), we determine that appropriate X for the *MPF New Provide* basket should be as follows:

(a) Not to make any changes to the *MPF New Provide* price in 2009/10.

(b) To set the X for *MPF New Provide* in 2010/11 so that the *MPF New Provide* price aligns with costs in 2012/13, including the same adjustments that Ofcom made to the Xs in the ancillary services baskets in the LLU Statement, ie to set the X for *MPF New Provide* to –17.5 per cent.

(c) Ofcom to waive the usual 90-day notice period for the required price adjustment to *MPF New Provide*.

5.360 We make no determination for Reference Question 4(ii) and Reference Question 4(ii)(a) for the co-mingling errors.

Our response to Reference Question 4(ii)(b)

5.361 In this section, we consider what adjustments, if any should be made to the unelapsed part of the price control in light of our determination of Reference Question 1 and Reference Question 2 that the price controls during the elapsed period of the price control had been set at an inappropriate level.

5.362 Our determination in relation to this Reference Question is made on the assumption that it may, having regard to the criteria in section 88 of the 2003 Act, be lawful and appropriate to adjust the price control applicable during the unelapsed period in this manner.

Adjustments to take account of errors in the elapsed period

Adjustment on an aggregate or individual customer basis

5.363 The parties all said that any assessment regarding an adjustment to reflect an overcharge in the elapsed period should be on the basis of aggregate LLU purchases, rather than on an assessment of individual customers' purchases. We agree that this would be much more practicable although we note that our view on this might be affected by the reasoning relating to the appropriateness and lawfulness of this adjustment.

Taking account of the date of the Tribunal's decision

5.364 The parties agreed that we should specify an approach to set our remedies with reference to a specific date[284] and to provide a methodology to enable the amounts of any elapsed period adjustment be calculated once the date of the Tribunal's decision is known. Ofcom provided a spreadsheet for this for MPF and SMPF rentals. CPW proposed that we determine the adjustment using (say) 1 October 2010 as the assumed date for the Tribunal's decision and then provide a simple model to allow for an adjustment should the judgement date be later. BT suggested that the date of our final decision should be used to calculate the adjustment and we should propose a means for the Tribunal to reflect an alternative date.

Inclusion of interest

5.365 The parties disagreed with regard to the possible inclusion of interest in the calculation of any adjustment to take account of any overcharge in the elapsed period. CPW considered that interest should be included at Openreach's WACC. BT considered no interest should be included whereas Sky considered that interest should be included. Ofcom has said that it not have a policy position on this point.

5.366 We considered it appropriate to recognize the time value of money, but did not consider the risk profile of the cash flows related to our remedies meant that Openreach's WACC was necessarily appropriate. We note that the considerations as to whether interest should be paid will be related to the reasoning whereby it is determined whether an elapsed period adjustment is 'legal and appropriate'. We did not consider it appropriate for us to determine whether an interest charge should be applied and, if so, the appropriate interest rate as this depends on the Tribunal's assessment of the purpose of any such adjustment.

5.367 However, we have obtained the parties' views on the use of the Oftel rate of interest (see paragraph 5.228). This is commonly used in the industry and was used in the recent Cable & Wireless v Ofcom Appeal.

Other issues related to any elapsed period adjustment

5.368 CPW argued that in taking account of the overcharge in the MPF ancillary services basket, any adjustment to the future charges should be applied through the MPF rental charge. Its rationale was that users of the MPF ancillary services basket in the elapsed period were more likely to be users of the MPF rental services than the MPF ancillary services basket in the immediate future.[285] CPW also proposed that any adjustment to future charges to reflect the overcharge in the elapsed period should apply over a six-month period.[286] However, because of our finding not to provide a remedy for Reference Question 4(b)(ii) for the ancillary basket errors(see paragraph 5.400 and 5.401) we did not find it necessary to address these points.

5.369 We set out the assumptions we have applied in calculating the indicative 4(ii)(b) adjustment.

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[284]BT—FD date, CPW—1 October.
[285]See paragraph 5.232.
[286]See paragraph 5.231.

5.370 First, the adjustment to the price control for the unelapsed period should be calculated so that BT is projected to earn the same amount of revenue in the two years of the charge control as if Ofcom had not erred (ie the revenues as determined under Reference Question 4(ii)(a)). We regard this as consistent with the general purpose of Reference Question 4, ie to correct the errors we have identified.

5.371 Second, in our view, the detriment (or benefit) that occurred in the elapsed period and the necessary adjustments to the controls during the unelapsed period should be calculated by reference to the original data in Ofcom's charge control model. This follows the principle that we should follow what we understand would have been Ofcom's approach to the extent possible.

5.372 Third, we consider that the amount of any detriment (or benefit) in the elapsed period and any adjustment to the unelapsed period should be calculated with reference to BT as the supplier only, using Ofcom's charge control model. Again, we note that no party disagreed with this approach. In our view, collecting data for individual customers would not be reasonably practicable.

5.373 Fourth, we think that if interest is to be taken into account the appropriate Oftel Interest Rate as defined in BT's Standard Interconnect Agreement (which currently is LIBOR plus 3/8 per cent[287]) may be an appropriate rate to use. This would be incorporated by adopting an NPV-neutral approach using the interest rate as the discount factor.

5.374 Fifth, the adjustments to the charge control under this Reference Question 5(b)(ii) should be referred to Ofcom to calculate in the event that the Tribunal decides that the 5(b)(ii) adjustment should be implemented. Ofcom's calculation should provide an adjustment to the unelapsed period to take into account the overpayment in the elapsed period. To effect this adjustment Ofcom should calculate the new X for the unelapsed period and the required adjustment to the prices on the effective date when the Tribunal hands down its decision. Ofcom should recalculate price adjustments and the new Xs such that the revenues in 2012/13 are the same as they would have been had Ofcom not erred. Further, the NPV of the total revenues for BT in the adjusted charge control should be equal to the NPV of the charge control had Ofcom not erred. We accept that Ofcom may be able to agree a simpler solution with the parties.

5.375 Sixth, we consider that any changes in prices since the start of the charge control should be reflected in a change of the same absolute amount to the adjusted prices that result from implementing this remedy.

Assessment

MPF and SMPF

5.376 The actual adjustment required under Q4(ii)(b) will depend on the date of the Tribunal's decision. Until that date the elapsed period is continuing.

5.377 For illustrative purposes we asked Ofcom to estimate the amount of overcharging that had occurred in the elapsed period, assuming that BT had charged the maximum price[288] and assuming the elapsed period ended on 30 September 2010.

[287] www.ofcom.org.uk/static/archive/oftel/publications/pricing/ntsd0901.htm.
[288] We wrote to BT to confirm the prices that BT had charged in the elapsed period of the charge control; BT confirmed that it had charged the maximum price allowed for both MPF and SMPF rentals in 2009/10 and 2010/11. BT letter to CC dated 16 August 2010.

For these purposes we considered the relevant period to be from the date at which the prices set in the LLU Statement came into force (19 June 2009) to 30 September 2010.

5.378 Ofcom undertook this on the basis of actual volumes for the period to 6 August 2010 and then estimated volumes to 30 September 2010. It found that the overcharge on MPF amounted to £3.11 million and on SMPF £2.10 million.

5.379 We consider this a useful illustration but note our observation in paragraph 5.252 that when calculating the overcharge the Tribunal should ask Ofcom to undertake this on the basis of *forecast* volumes as per the LLU Statement model rather than actual volumes.

5.380 When the Tribunal makes its decision, we consider that Ofcom should be required to recalculate the new price such that the NPV of the total revenues for BT in the adjusted charge control is equal to the NPV of the revenues that would have been earned in the charge control had Ofcom not erred.

5.381 We set out below one methodology which we believe would fulfil the principles set out above, but we accept that Ofcom may agree a simpler solution with the parties:

(a) Calculate the size of the error (ie the revenue that has accrued to BT in the elapsed period less the revenues that it would have earned had Ofcom not erred) by reference to Ofcom's charge control model using the actual date of the Tribunal decision.

(b) Calculate the new price (of MPF and SMPF line rentals) as at the effective date of the decision of the Tribunal in order to calculate the adjusted price (of MPF and SMPF line rentals) for the unelapsed period, taking into account that Ofcom's charge control model is based on annual calculations. In doing this:

(i) The calculation of the new price should be calculated (using Ofcom's charge control model) with reference to the overpayment calculated in subparagraph *(a)* above (ie to assume that the overpayment calculated in subparagraph *(a)* occurred throughout the elapsed period of the charge control) and the associated new price adjustment occurred on the date of the Tribunal's decision.

(ii) The calculation should be performed on a NPV-neutral basis, assuming that the total NPV of the revenues that BT will generate in the price control period (the recalculated revenues for the unelapsed period and the revenues for the elapsed period combined) are equal to the NPV of the revenues in the corrected Ofcom model. The discount rate to be used should be the Oftel Interest Rate.

5.382 If it were decided that the 4(ii)(b) adjustment should be made, we would recommend that the numbers be audited by Ofcom before doing so.

Summary of our assessment

5.383 For the reasons given above and having regard to the considerations and assumptions set out in Reference Question 4(ii)(a), we determine that the size of the additional consequential adjustment to the level of the price control applicable during the unelapsed period would need to be calculated once the effective date of our determination is known (ie the date of the Tribunal's judgment on this appeal), in line with the methodology set out in paragraph 5.381.

Ancillary baskets

- *AB price cap—Assessment*

5.384 Reference Question 4(ii)(b) asks us to indicate to the Tribunal how the price control should be adapted for the errors we found, if the unelapsed period were to recover any overpayment in the elapsed period (the 'elapsed period adjustment').

5.385 We determine that it would not be reasonably practicable to answer Reference Question 4(ii)(b). We outline our reasons below.

5.386 First, in order to determine Reference Question 4(ii)(b), we would need to decide what the amount of overpayment was in the elapsed period to reflect the fact that the price control during the elapsed period was set an inappropriate level for the reasons we have determined in Reference Question 2 (and 1) (and the related parts of Reference Questions 4(i) and 4(ii) (including sub-paragraph 4(ii)(a)). This would require us to calculate the correct charge control had Ofcom not erred. However, we do not consider it reasonably practical to determine this question for the reasons set out in paragraphs 5.290 to 5.296. In particular we refer to the complexity for us of calculating the appropriate basket price caps as set out in paragraph 5.294 and for Ofcom as set out in paragraph 5.295.

5.387 Second, our indicative financial analysis in Table 5.10 indicates that any possible overpayment would be a relatively small financial amount.[289]

5.388 This was based on the assumption that the AB price cap error itself would not have led to an overcharge in the elapsed period (as revenues would have largely shifted between baskets as a result of a change in the price caps for the ancillary baskets).

5.389 The only source of overpayment is therefore the adjustment for the inflation and efficiency error in Reference Question 1. We consider that this amount is unlikely to be more than £6 million over the entire two-year charge control (0.5 per cent in the first year and 1 per cent in the second year of the charge control as a percentage of total ancillary basket revenues of no more than £0.4 billion).[290]

5.390 However this amount would need to be reduced by the unelapsed period of the second year of the charge control and would also need to be reduced for the effect of the sub-caps preventing BT from earning revenues up to the basket caps (based on the assumption that had Ofcom had not erred, it would have set the basket caps so that BT could earn revenues up to the basket caps as doing otherwise might have made it impossible for revenues and costs to align in 2012/13). On the assumption that the Tribunal hands down its decision on the 1 of October 2010, the amount of overpayment in the elapsed period of the charge control is therefore likely to be in the range of £0 million to £4 million.

5.391 It may also be possible, based on the evidence received from BT that BT did not actually price up to the maximum allowed under the basket caps and that therefore,

[289]Despite not being able to precisely calculate the amount of overcharge in the elapsed period, we are able to calculate indicative figures for the financial effect that changing the Xs would have had and we are therefore able to comment on the financial consequences had we adjusted the Xs of the baskets, even though we cannot ourselves conclude on the detailed design of the baskets. However, in order to provide an elapsed period adjustment we would require more accurate estimates of the overpayment in the elapsed period than those provided by our indicative calculations. We also do not consider that we are in the position to provide an approximate estimate of the overcharge due to uncertainty that the operation of the sub-caps introduce in making such an estimate.

[290]The estimate of £0.4 billion is conservative as revenues in the Oak model for 2009/10 and 2010/11 are well below £0.4 billion.

in practice, a smaller or no overcharge occurred. We have, however, not considered it necessary to form a view as to the significance of this.

5.392 Given the upper end of the range of the overcharge is relatively small and given that it is possible that the effect of the sub-caps is to reduce the amount of the overcharge to zero, and given the complexity involved in calculating what the appropriate price cap would have been for the ancillary baskets had Ofcom not erred, we do not consider that it would be reasonably practicable for us or Ofcom to answer Reference Question 4(ii)(a) in order to answer Reference Question 4(ii)(b).

5.393 We therefore consider that it would not be reasonably practicable to provide a remedy for the elapsed period adjustment for the error in the AB price cap.

Summary of our assessment

5.394 For the reasons given above and having regard to the considerations and assumptions set out in Reference Question 4(ii)(b), we determine that we do not provide an elapsed period adjustment for the AB price cap error.

Co-mingling error

Assessment

5.395 Reference Question 4(ii)(b) asks us to indicate to the Tribunal how the price control should be adapted for the errors we found, if the unelapsed period were to recover any overpayment in the elapsed period (the 'elapsed period adjustment').

5.396 We were not persuaded that BT had taken advantage of the opportunity to 'game' the co-mingling basket. We therefore did not consider there to have been an overpayment in the elapsed period of the charge control that should be remedied.

5.397 We therefore do not provide an elapsed period adjustment for the co-mingling error.

Summary of our assessment

5.398 For the reasons given above and having regard to the considerations and assumptions set out in Reference Question 4(ii)(b), we determined that we should not provide an elapsed period adjustment for the co-mingling error.

Determination of Reference Question 4(ii)(b)

5.399 For the MPF and SMPF rentals we determine that the size of the additional consequential adjustment to the level of the price control applicable during the unelapsed period would need to be calculated once the effective date of our determination is known (ie the date of the Tribunal's judgment on this appeal). The appropriate process for this calculation is set out in paragraphs 5.376 to 5.383.

5.400 We determine that we do not provide an elapsed period adjustment for the AB price-cap error.

5.401 We determine that we do not provide an elapsed period adjustment for the co-mingling error.

APPENDIX A

Reference from the Competition Appeal Tribunal
to the Competition Commission

IN THE COMPETITION
APPEALTRIBUNAL **Case No: 1111/3/3/09**

BETWEEN:

THE CARPHONE WAREHOUSE GROUP PLC

Appellant

- supported by -

BRITISH SKY BROADCASTING LIMITED

Intervener

-v-

OFFICE OF COMMUNICATIONS

Respondent

- supported by -

BRITISH TELECOMMUNICATIONS PLC

Intervener

REFERENCE OF SPECIFIED PRICE CONTROL MATTERS
TO THE COMPETITION COMMISSION
27 NOVEMBER 2009

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1. Having regard to:

(A) the Statement and Notification issued by the Office of Communications ("OFCOM") dated 22 May 2009 and entitled "A new pricing framework for Openreach" ("OFCOM's Statement");

(B) the price controls set by Condition FA3(A) ("Condition FA3(A)") in Annex 3, Schedule 1 of OFCOM's Statement;

(C) the Notice of Appeal ("the Notice of Appeal")[1] dated 21 July 2009 lodged by Carphone Warehouse ("CPW") in Case 1111/3/3/09

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[1]All references to the pleadings herein should be understood as references to the pleadings as amended, insofar as appropriate.

challenging certain aspects of the setting of Conditions FA3(A) and the statement therein that the appeal raises specified price control matters within the meaning of Rule 3(1) of the Competition Appeal Tribunal (Amendment and Communications Act Appeals) Rules 2004;

(E) the Defence and supporting evidence filed by OFCOM on 26 October 2009; and

(F) the Statements of Intervention filed by British Sky Broadcasting Limited on 6 November 2009 and British Telecommunications plc ("BT") on 10 November 2009

the Tribunal, pursuant to Rule 3(5) of the 2004 Rules and section 193 of the Communications Act 2003 ("the 2003 Act"), hereby refers to the Competition Commission for its determination the specified price control matters arising in these appeals.

2. By this reference the Tribunal orders the Competition Commission to determine the following questions:

Question 1

Whether the price controls imposed by Condition FA3(A) on BT have been set at a level which is inappropriate because OFCOM erred in estimating BT's efficient costs in 2012/13 for metallic path facility rental ("MPF"), shared metallic path facility rental ("SMPF") and associated ancillary services ("ancillary services") in one or more of the following respects:

(i) OFCOM erred in its estimation of the level of efficiency improvements that might reasonably have been expected to be achieved in respect of Openreach's costs and/or BT Group's costs allocated to Openreach for the reasons set out in paragraphs 76 to 84 of the Notice of Appeal;

(ii) OFCOM erred in its calculation of Openreach's cost of capital for the reasons set out in paragraphs 85 to 87 of the Notice of Appeal;

(iii) OFCOM erred in the allocation of costs as between Openreach and BT's other business activities for the reasons set out in paragraph 91 of the Notice of Appeal;

(iv) OFCOM erred in the allocation of costs as between MPF on the one hand, and wholesale line rental and SMPF on the other, to provide the basis for decisions on respective price controls for each of those services, for the reasons set out in paragraphs 92 to 100 of the Notice of Appeal;

(v) OFCOM erred in its assessment of inflation for the reasons set out in paragraph 101 of the Notice of Appeal.

Question 2

Whether the price controls imposed on BT are inappropriate because OFCOM erred in specifying the price caps for baskets of ancillary services imposed on BT in one or more of the following respects:

(i) OFCOM erred in setting the individual price caps on the baskets of ancillary services for the reasons set out in paragraphs 106 to 113 of the Notice of Appeal;

(ii) OFCOM failed to provide sufficient or appropriate safeguards to prevent anti-competitive exploitation by BT of its pricing latitude in respect of the baskets of ancillary services for the reasons set out in paragraphs 114 to 118 of the Notice of Appeal.

Question 3

Whether OFCOM erred in setting the glide path for MPF and SMPF and/or by making certain one-off adjustments to the prices of certain ancillary services for the reasons set out in paragraphs 119 to 125 and 127 to 129 of the Notice of Appeal.

Question 4

Having regard to the fulfilment by the Tribunal of its duties under section 195 of the 2003 Act 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 level of the price controls,

indicating:

(a) what price controls should have been set in OFCOM's Statement had OFCOM not erred in the manner identified; and

(b) if the price controls set in OFCOM's Statement have during the elapsed period of the price control been at an inappropriate level and on the assumption that it may, having regard to the criteria in section 88 of the 2003 Act, be lawful and appropriate to adjust the price control applicable during the unelapsed period, what adjustments to that part of the price control should be made, if any.

3. The Competition Commission is directed to determine the issues contained in this reference by 1 June 2010. The Competition Commission shall notify the parties to this appeal of its determination at the same time as it notifies the Tribunal pursuant to section 193(3) of the 2003 Act.

4. Should the Competition Commission require further time for making its determination it should notify the Tribunal and the parties so that the Tribunal may decide whether to extend the time set out in the previous paragraph.

5. There shall be liberty to apply for further directions.

Vivien Rose
Chairman of the Competition Appeal Tribunal

Made: 27 November 2009
Drawn: 27 November 2009

**Amended reference from the Competition Appeal Tribunal
to the Competition Commission**

IN THE COMPETITION APPEAL TRIBUNAL — **Case No: 1111/3/3/09**

BETWEEN:

THE CARPHONE WAREHOUSE GROUP PLC

Appellant

- supported by -

BRITISH SKY BROADCASTING LIMITED

Intervener

-v-

OFFICE OF COMMUNICATIONS

Respondent

- supported by -

BRITISH TELECOMMUNICATIONS PLC

Intervener

ORDER

UPON the Tribunal having referred the specified price control matters raised in this appeal to the Competition Commission ("Commission") on 27 November 2009 ("the Reference") and having directed the Commission to determine the issues contained in the Reference by 1 June 2010

AND UPON the Commission writing to the Tribunal on 12 February 2010 requesting that the period for the determination of the Reference be extended to 31 August 2010

AND UPON considering the observations of the parties on this issue

IT IS ORDERED THAT:

1. The date by which the Commission is directed to determine the issues contained in the Reference be extended to 31 August 2010.

2. There be liberty to apply

Vivien Rose
Chairman of the Competition Appeal Tribunal

Made: 18 February 2010
Drawn: 24 February 2010

Additional background to Ofcom's WACC component estimation

Debt premium

1. Ofcom's consultation range was 2 to 3 per cent for both the First and Second Consultations. This recognized that the short-term debt premium[1] at the time of the First Consultation was in the region of 3 per cent[2] but that longer-term measures of the debt premium suggested that 3 per cent may be a temporary high.[3] Ofcom noted that its estimate in 2005 was 1.0 per cent and that the premium over the risk-free rate on the BT Group's sterling-denominated ten-year corporate debt issued in June 2007 was around 1.5 per cent at the time of issue (now 2.5 per cent).[4] Ofcom stated: 'Taking into account the ongoing volatility of credit markets, we would propose a range of 2–3 per cent for BT's debt premium'.[5]

2. At the time of the LLU Statement, Ofcom also noted that:

   (a) The BT Group's credit rating at the time of the LLU Statement was Baa2 (Moody's) and BBB (S&P).[6,7]

   (b) The BT Group's most recent debt issue was on 25 June 2008, when it issued €1 billion of seven-year bonds at 155 bps above the mid-swap rate. This data point was nearly a year out of date.[8]

   (c) More recent Bank of England data suggested that UK investment grade corporate debt spreads had gone up considerably since September 2008, and at the time of the LLU Statement the BT Group debt was trading at 400–450 bps above equivalent gilt yields.[9]

   (d) The latest Bank of England data suggested that in Q1 2009, investment grade non-financial corporate bond spreads had narrowed slightly from January 2009, although the Bank suggested that this was unlikely to be due to a reduction in return required to cover credit risk and more likely a reduction in the required liquidity premium.

Equity risk premium

3. Ofcom considered the following estimation methods when assessing ERP:[10]

   (e) Ex-post estimation:

      (i) extrapolating observed historical risk premia; and

      (ii) extrapolating adjusted historical risk premia.

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[1]Ofcom did not indicate that this figure was based on 'recent debt issues'.
[2]First Consultation §10.85.
[3]First Consultation §10.86.
[4]First Consultation §§A10.85 & 10.86.
[5]First Consultation §A10.87.
[6]It was downgraded from Baa1 and BBB+ at the end of March 2009, on the back of cash-flow concerns related to BT Global Services.
[7]LLU Statement §A8.113.
[8]LLU Statement §A8.114.
[9]LLU Statement §A8.115.
[10]LLU Statement §A8.17.

(f) Ex-ante estimation:

(i) using the dividend growth model; and

(ii) using surveys of academic and user expectations.

4. For ex-post estimation, Ofcom relied on Dimson, Marsh and Staunton data, which suggested a range of 4.0 to 5.5 per cent[11] for historic premiums based on arithmetic mean and an implied range for adjusted ERP over bonds of 3 to 4.5 per cent.[12]

5. For ex-ante estimation, Ofcom considered the dividend growth method which provided a range with mid-point 3.5 to 4 per cent in 2005 to still be a relevant range but considered that this type of approach was highly subjective and that little weight should be placed on this.[13] Ofcom also looked at survey results; in addition to the survey in 2005, Ofcom noted a survey of UK finance professors that suggested an ERP estimate with arithmetic mean of 5.5 per cent; Ofcom afforded only little weight to survey evidence.[14]

6. Ofcom also noted that UK economic regulators and competition authorities used a range of 3 to 5 per cent for ERP estimates.[15]

7. Ofcom considered that its broad view of 4 to 5 per cent reflected a balanced view of the available evidence, and noted that Ofcom's bias was towards placing more weight on the ex-post historic estimates than other estimates of the ERP.

BT's Group equity beta

8. In its 2005 Final Statement,[16] Ofcom estimated the BT Group equity beta to be 1.1.[17] This was based on a series of data points with particular reference to the two-year daily[18] estimate of the BT Group's beta measured against the FTSE Allshare index.

9. For this review (2009), Ofcom commissioned the Brattle Group (Brattle) to assess how the BT Group's equity beta has moved since the 2005 review and to collate a range of values that should now be considered. Ofcom's review of the Brattle report showed that the BT Group's one-, two- and five-year daily betas measured either against the FTSE Allshare or against the FTSE Allworld indices all lay within a narrow range of 0.8 and 0.9. These were based on the BT Group's actual gearing, which Brattle noted had more than doubled since early 2007. Brattle's analysis suggested to Ofcom that at a 38 per cent gearing level (the average gearing rate in the year to November 2008), a range of 0.8 to 1.0 was reasonable. Ofcom takes the mid-point of this range to give a point estimate of the BT Group equity beta at 38 per cent gearing of 0.9.[19]

10. Ofcom then re-levers this beta to 35 per cent (the assumed optimal level of gearing—see paragraph 2.261). Ofcom referred to the CC's Stansted report[20] when assessing debt beta for the BT Group. Ofcom noted that the Stansted report concluded that a

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[11]LLU Statement §A8.20.
[12]LLU Statement §A8.22.
[13]LLU Statement §§8.26–8.28.
[14]LLU Statement §§A8.32 & 8.33.
[15]LLU Statement §A8.34.
[16]This is also known as the Cost of Capital Statement 18 August 2005.
[17]Ofcom estimated the cost of capital in 2005 using an average of its estimates at 30 and 35 per cent gearing.
[18]Daily beta has not been defined.
[19]Annexes to LLU Statement §A8.62.
[20]CC Stansted Price Control Review 2008 is available at: www.competition-commission.org.uk/rep_pub/reports/2008/539stansted.htm.

debt beta of 0.1 was consistent with a debt premium of 1.4 to 1.7 per cent. In this case, Ofcom used a debt premium of 3 per cent and therefore believed that a higher estimate of debt beta was required: 0.15 was selected.[21] This results in an equity beta for the BT Group at 35 per cent gearing of 0.86.[22]

[21]This has not been challenged and indeed it appears that CPW has also used this debt beta estimate in assessing equity beta from the estimated asset beta.
[22]Annexes to LLU Statement §§A8.62–8.67.

WLR Determination

COMPETITION COMMISSION

Reference under section 193 of the Communications Act 2003

The Carphone Warehouse Group plc v Office of Communications

Case 1149/3/3/09

Determination

31 August 2010

Excisions in this determination marked with [✂] relate to commercially confidential information: Schedule 4, paragraph 1, to the Enterprise Act 2002.

Members of the Competition Commission who conducted this appeal

Peter Freeman CBE, QC *(Chairman of the Group)*

Professor John Cubbin

Tony Morris

Professor Sudi Sudarsanam

Chief Executive and Secretary of the Competition Commission

David Saunders

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Part 1: Legal framework and procedure

Preamble

1.1 On 26 October 2009 the Office of Communications (Ofcom) published a statement entitled *Charge controls for Wholesale Line Rental and related services* (the WLR Statement). The WLR Statement contained decisions made pursuant to sections 45 and 87 of the Communications Act 2003 (the 2003 Act) to impose price controls on British Telecommunications plc (BT) in relation to various services supplied by BT in the market for wholesale analogue exchange line services in the UK (excluding the Hull area). The term of the price controls is set to finish on 31 March 2011.

1.2 Wholesale line rental (WLR) is a product Openreach supplies to communication providers (CPs) allowing them to rent access lines on wholesale terms, and resell the lines to customers. WLR enables CPs to offer their own-branded telephony services over the Openreach network. The WLR product gives consumers the opportunity to choose alternative suppliers who can provide them access and, in almost all cases, calls services.

1.3 The price-controlled services in question are:

(a) the charge for analogue core WLR rental;

(b) the WLR transfer charge; and

(c) the WLR new connection charge.

1.4 In its Wholesale Review,[1] Ofcom decided that BT should be required to provide a wholesale analogue WLR product. Ofcom believed that this remedy would address BT's significant market power (SMP) by requiring it to provide a product that would allow CPs to compete with BT's downstream businesses on an equivalent basis.[2]

1.5 The WLR Statement contained, inter alia, decisions to modify the existing price controls applicable to WLR and connected ancillary services.[3] The products and services affected by the price controls are discussed in more detail in Sections 3 and 6 of the WLR Statement.

The structure of our determination

1.6 Our determination is divided into three sections.

1.7 Section 1 contains two parts:

- Part 1: an introduction to the legal framework and procedural issues concerning the WLR Appeal.

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[1]Ofcom's review of the wholesale narrowband fixed markets, which included wholesale exchange line services, published 15 September 2009.
[2]WLR Statement §2.14.
[3]The previous price controls for WLR services were set in Ofcom's 24 January 2006 statement, 'Wholesale Line Rental: Reviewing and setting charge ceilings for WLR services'.

- Part 2: an introduction to the WLR Appeal and related economic issues. We also set out an overview of the technology relevant to the WLR Appeal.

1.8 Section 2 comprises an overview of the parties' arguments.

1.9 Section 3 contains two parts addressing the Reference Questions applicable to each of CPW's grounds of appeal as set out in the WLR Notice of Appeal (WLR NoA):

- Part 1: determination in respect of WLR Reference Question 1.
- Part 2: determination in respect of WLR Reference Question 2.

The appeals and the appellate framework

1.10 Appeals were brought by the Carphone Warehouse Group plc (CPW) against the decision of Ofcom contained in the WLR Statement before the Competition Appeal Tribunal (the Tribunal) under section 192 of the 2003 Act (the LLU Appeal). British Sky Broadcasting Limited (Sky) and BT both intervened (the Interveners).

1.11 The 2003 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.

…

(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.

(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).

…

1.12 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.

1.13 The SMP conditions imposed by Ofcom in the WLR Statement[4] were imposed pursuant to section 87(9) of the 2003 Act. Accordingly, the price control matters in the WLR Appeal fell to be identified and referred to us for determination.

The Tribunal's reference

1.14 In the Tribunal's order entitled *Reference of Specified Price Control Matters to the Competition Commission* dated 18 February 2010 (the Reference), the Tribunal identified a number of specified price control matters within the meaning of Rule 3(1) of the 2004 Rules for referral to the Competition Commission (CC).

1.15 The Reference required us to determine two questions going to whether Ofcom had erred for specific reasons given by CPW. A final question (Question 3) asked us to include in our determination, if the answers to any of the previous questions were 'yes', clear and precise guidance as to how any such error found should be corrected and, in so far as was reasonably practicable, a determination as to any consequential adjustments to the level of the price controls.. A copy of the Reference is at Appendix A.

1.16 We set out the main arguments and evidence put to us by the parties and conclude with our assessment and conclusions in determining whether Ofcom has erred for any of the reasons put to us.

The legal framework

1.17 Regulation of the telecommunications sector takes place across Europe under what is known as the European 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) and Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities (the Access Directive). 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 to the WLR Appeal are Articles 8 and 13 of the Access Directive, which provide, in relevant part:

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 13.

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.

[4]The price controls were set by condition AAA4(WLR) in Annex 6, Schedule 1 of the WLR Statement.

…

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. 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 involved.

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.

1.18 The UK's NRA is Ofcom and the CRF was implemented in the UK by the 2003 Act, in which the powers and duties set out in the Directives are reflected.

1.19 Section 45 of the 2003 Act provides Ofcom with the power to set binding conditions, including SMP conditions. An SMP condition can be applied to a CP that Ofcom has determined as having SMP in a specific market (sections 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.

1.20 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.

1.21 The 2003 Act, in line with the CRF, also imposes more general duties 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, 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.

1.22 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 as well as in relation to our overall conclusions, to the CRF and the domestic provisions implementing it. We consider our conclusions to be consistent with the legal framework.

The purpose of our jurisdiction

1.23 In determining the nature of the investigation, we paid particular regard to the judgments of the Tribunal in relation to the price control matters in *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).[5]

1.24 In the Calls to Mobiles Appeal, the Tribunal noted that the aim of the statutory provisions was that the disposal of the appeal, incorporating the determination, should result in as high a degree of finality as possible, having regard to the grounds of appeal and the nature of the CC's findings. In that case, it encouraged the CC to conduct its investigation in such a manner and to express its determination in such terms as to make clear what directions it should give in respect of the specified price control matters when remitting the decision to Ofcom. The Tribunal considered it desirable that those directions and the disposal of the appeals should, in effect, settle the question of what the price control should be for the period covered by Ofcom's Statement on Mobile Call Termination,[6] and stated that the CC should carry out its investigation with that goal firmly in mind.[7] It added that the Reference Questions had been drafted in such a way as to acknowledge the possibility that it might not be possible for the CC to set an alternative price control, but so as to ensure as far as possible that the appeal resulted in a revised price control being finalized without delay and avoided a situation where there were issues which required substantial

[5] *[2009] CAT 11* (Judgment: Disposal of the Appeals).
[6] Published 27 March 2007.
[7] *[2008] CAT 5*, paragraph 15.

further work and the exercise of judgement by Ofcom.[8] We believe that the same principles apply in the WLR Appeal.

1.25 In the judgment disposing of the appeals, dated 2 April 2009,[9] the Tribunal decided the price control matters in accordance with the CC's *Mobile phone wholesale voice termination charges* determination, notified to the Tribunal on 16 January 2009 (MCT Determination).[10] We have approached the conduct of the present determination with the wording of the Reference, and the approach taken in the Calls to Mobiles Appeal, firmly in mind.

The standard of review

1.26 We have followed the same approach to the standard of review as was taken in the Calls to Mobiles Appeal. The standard was set out in paragraphs 1.30 to 1.33 of the MCT Determination and we restate the relevant principles here.

1.27 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 a discretion. In the Calls to Mobiles Appeal, 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. 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 3 in particular).

1.28 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.

1.29 We have carried out that examination, in respect of Reference Questions 1 and 2, 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. This is the standard set out in paragraph 1.32 of the MCT Determination and it is the approach that we have adopted in this appeal.

1.30 In its response to our provisional determination in the LLU Appeal, CPW criticized this approach.[11] CPW said that even if Ofcom happened, fortuitously, to have stumbled across a correct outcome, then that did not mean it did not err in its methodology. CPW submitted that we should consider whether, notwithstanding that no adjustment to the price control was necessary, Ofcom's methodology was in fact flawed. CPW further requested that the CC should clearly identify the methodology which Ofcom should adopt in future price controls and that, in so far as it did not adopt that methodology in the LLU price control, then it did err.

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[8]ibid, paragraph 16.
[9]*[2009] CAT 11* (Judgment: Disposal of the Appeals).
[10]The MCT Determination is available at:
www.competition-commission.org.uk/appeals/communications_act/mobile_phones_determination.pdf.
[11]See §§54 & 55 of CPW's response to the LLU provisional determination.

1.31 The role of the CC in the present appeal is to answer the questions referred to it by the Tribunal. We have done so in the course of this written determination. We have addressed below the methodology adopted by Ofcom and identified any errors in approach in the course of the narrative of the written determination. We have also identified any areas where the reasons given by Ofcom in the LLU Statement were inadequate or where the right result was reached for the wrong reasons.

1.32 However, if the price control is set correctly notwithstanding a flaw in the methodology adopted by Ofcom, there is no error in the price control. In such circumstances, the proper answer to the Tribunal's Reference Question will accordingly remain that no error in the price control is disclosed. The jurisdiction we exercise is, as we have already observed, to consider an appeal on the merits against Ofcom's decision. We do not exercise a merely supervisory jurisdiction to consider whether the reasons given in the decision are flawed.

1.33 It will nonetheless be apparent from the narrative description given in the written determination below where, if at all, we have considered that Ofcom has adopted an incorrect approach or methodology to a particular issue. We would also add that if, in a future appeal, we considered that the absence or inaccuracy of reasons adopted by a regulator meant that we could not understand the decision that had been reached, we might well conclude that the end result could therefore not be justified on the material before us. This may be of most significance where Ofcom would otherwise ask for, and receive, some margin of appreciation for its expertise as a specialist regulator.

1.34 We have, however, borne in mind 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 are 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.

1.35 The parties have made various submissions in relation to the standard of review that should be adopted by us on price control references.[12] While the parties accepted the principles set out in the MCT Determination above, there was some debate as to how these principles should be interpreted. The parties submitted their comments on the standard review in response to our provisional determination in the LLU Appeal and these comments were repeated for the purpose of the WLR Appeal.[13]

1.36 The parties were generally agreed on the following aspects concerning the standard of review:

[12]The parties essentially restated their submissions concerning standard of review as provided in the LLU Appeal. The parties made submissions concerning standard of review in written skeleton arguments in the LLU Appeal. In accordance with the Tribunal's direction of 26 January 2010 (see paragraph 1.65 below), we consider these submissions contained in the LLU written skeletons as part of the WLR Appeal.
[13]As stated by the parties in their responses to the WLR provisional determination.

(a) the appeal is an appeal on the merits before a specialist tribunal. The CC discharges an appellate role under section 193(1) of the 2003 Act;

(b) Ofcom's decision must be subjected to profound and rigorous scrutiny; and

(c) the nature of guidance to be given by the CC in answering the Reference Questions.

1.37 There was a dispute between the parties concerning the interpretation of the relevant paragraphs on the standard of review as set out in the MCT Determination concerning:

(a) materiality;

(b) the relevance of the TMobile & O2 case (and other cases cited by Ofcom) to considering full appeals on the merits;[14]

(c) the requirement for a more stringent review where there is a prospective analysis; and

(d) the effect on the standard of review of the alleged inadequate consultation undertaken by Ofcom in connection with the WLR Statement.

Materiality

1.38 Ofcom raised the issue of materiality in its Defence[15] where it submitted that CPW had mistaken our role in undertaking a review of price control matters. Ofcom submitted that we should proceed with caution in seeking to revisit detailed issues that required a fine weighing and balancing of evidence and that had been considered and consulted upon exhaustively by Ofcom. Ofcom submitted that we could not sensibly act as a substitute regulator, revising all aspects of Ofcom's decision making, even where there were several alternative solutions potentially available to any given regulatory problem. According to Ofcom, our task was, instead, to identify whether Ofcom was materially wrong. Ofcom submitted that CPW failed to show any such material error in relation to any of its grounds of appeal.

1.39 CPW submitted[16] that, with regard to materiality:

(a) its challenge raised substantial issues of economic principle (Ofcom did not dispute this);

(b) any error in the price set for the current charge control period would have persisting effects into the next charge control period (Ofcom did not dispute this);

(c) the very nature of a price control was that tens of assumptions combined to produce an overall cost estimate and so to dismiss a challenge to any individual assumption (viewed in isolation), on the basis that it was only one assumption, would effectively negate the ability to challenge a price control decision; and

(d) none of its grounds raised points which were 'immaterial'.

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[14] *T-Mobile (UK) Ltd and Telefonica O2 v. Ofcom [2008] EWCA Civ 1373,* CA.
[15] Ofcom WLR Defence §10.
[16] CPW Written Skeleton §11 (submitted in the LLU Appeal).

1.40 Ofcom submitted in its skeleton argument[17] that it could be deduced from the Calls to Mobiles Appeal that the CC exercised the following restraints when examining the exercise of a discretion by Ofcom:

(a) having regard to the materiality of errors;

(b) recognizing a margin of discretion for Ofcom; and

(c) avoiding substitution of judgment without good reason.

1.41 Ofcom then went on to state in its skeleton argument that 'Ofcom's analysis of materiality is intended to assist the CC in focussing its resources … the CC is … entitled to decide how much time and effort to devote to the many detailed points raised under each ground of appeal'.[18]

1.42 CPW concluded that a 'materiality' threshold entered the picture only in the sense that, if the CC concluded that Ofcom erred on a particular point, and if it were to substitute its own view, this would make no substantive difference to the result on that point. CPW noted that, even in that situation, great caution would be needed. CPW submitted that the potential knock-on effect of the same error being repeated in the next price control must be borne in mind and that the CC should nonetheless set out clearly what approach should have been adopted by Ofcom in any event. CPW therefore stated that, in practice, the present case was likely to involve no real scope for any materiality issues to arise.[19]

1.43 Sky submitted in its written skeleton that there was no basis for Ofcom seeking to introduce a materiality threshold into the test to be applied by the CC.[20]

1.44 It is apparent that a number of issues have been canvassed under the heading of materiality, including the margin of appreciation allowed to the regulator. In our provisional determination we said that we intended to assess the materiality of errors found cumulatively, by value, and by reference to each Reference Question or sub-part thereof. Both CPW and Sky took issue with aspects of this approach in their responses to our provisional determination. While the purpose of provisional determinations is not generally to stimulate fresh argument, we will address the points made by CPW and Sky below, as indeed we address a limited number of responses to provisional determinations in other sections of this determination.

1.45 In response to our provisional determination, CPW said[21] that materiality was a vitally important issue, as small errors on individual elements of the price control may well give rise cumulatively to material errors overall, even if, when taken individually, they were considered to be immaterial. CPW contended that all of the errors identified by it were material when considered on a cumulative basis.[22]

1.46 CPW submitted that, where errors had been identified by the CC in accordance with the grounds of appeal, it was necessary for the CC to take account of their cumulative impact not only in relation to each Reference Question separately, but across the grounds of appeal as a whole.[23] This would involve the CC addressing all

[17] Ofcom Written Skeleton §6(c).
[18] Ofcom Written Skeleton §11(c).
[19] CPW Reply I §33.
[20] Sky generally supported CPW's submissions with regard to standard of review. See Sky Written Skeleton.
[21] CPW response to the LLU provisional determination, §13.
[22] CPW response to the LLU provisional determination, §§12–18.
[23] CPW response to the LLU provisional determination, §14.

errors identified cumulatively and then considering whether there was any material impact on the price control as a whole.

1.47 In response to our provisional determination, Sky referred to §1.27 of the introductory chapter to the LLU provisional determination and made the following criticisms[24] of the CC's proposed approach:[25]

(a) This passage appears to be ambiguous. To the extent that it means that an error must have some effect on the final decision by Ofcom (or some part of that decision, however small), then Sky agrees with it. If it means that small errors in the price control should not be taken into account in assessing whether Ofcom has erred, because these are not sufficiently material to vitiate Ofcom's decision (or part of it), then Sky disagrees.

(b) Sky does not consider it appropriate to apply a materiality threshold when considering whether Ofcom has erred.

(c) To the extent that the CC has found Ofcom to be in error in relation to a point raised in the appellant's grounds of appeal, this is sufficient to vitiate Ofcom's decision (at least in part).

(d) There may be a separate question as to whether it is appropriate and proportionate to require the error to be corrected, but this goes to the appropriate remedy, not to whether Ofcom has erred.

Prospective analysis

1.48 CPW submitted in its NoA that in setting a price control Ofcom purported to be engaged in a prospective analysis. Accordingly, its decision must be 'sufficiently rigorous and thorough [and] because the likelihood of error is greater in a prospective analysis, the prospective analysis must be proportionately more rigorous to account for this possibility'.[26]

1.49 Ofcom submitted that CPW was wrong to contend that a more stringent standard of review should apply to Ofcom's prospective analysis and that this counter-intuitive proposition was wrong in principle. Ofcom submitted that it did not follow from the EU case law considered in *Hutchison 3G (UK) Limited v. Ofcom [2005] CAT 39*; and was not specifically endorsed by the Tribunal in that case. On the contrary, Ofcom submitted that it would be appropriate to accord a more generous *margin of discretion to a regulator in respect of judgments* about future events, in relation to which there is an inherent element of uncertainty. Ofcom made reference to the remarks of Lightman J in *R v. Director General of Telecommunications ex parte Cellcom* [1999] ECC 314 (emphasis added):

> The court must be astute to avoid the danger of substituting its views for the decision makers and of contradicting a conscientious decision maker acting in good faith … If (as I have stated) the court should be very slow to impugn decisions of fact made by an expert an experienced decision maker, it must surely be *even slower to impugn his educated prophecies and predictions for the future.*

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[24] Sky response to the LLU provisional determination, §4.
[25] This approach was also set out in §29 of the introductory chapter to the WLR provisional determination.
[26] CPW made reference to *Hutchison 3G (UK) Limited v Ofcom* [2005] CAT 39 at [33], which endorsed the approach of the Irish Electronic Communications Appeals Panel in Decision No: 02/05 at 4.23 in respect of appeal ECAP 2004/01).

1.50 Ofcom then stated in its skeleton argument[27] that:

(a) Price control analysis required a regulator to make assessments as to what would happen over the period of the price control (and beyond) in respect of the regulated undertaking's costs and volumes. Such assessments were unavoidable. Equally, they carried an unavoidable, and often relatively significant, element of uncertainty. In Ofcom's submission, it was wrong in principle to suggest that a regulator should be held to any higher standard as regarded the rigour of its prospective analysis than in relation to its findings on past events.

(b) An expert appellate body like the CC could and should still recognize the uncertainties inherent in future predictions. It should only substitute judgment where there was good reason for preferring an alternative prediction to that relied on by the regulator. It certainly should not seek to hold the regulator to a higher standard of scrutiny.

(c) CPW had relied in its skeleton argument on comments of the Tribunal in *Vodafone v. Ofcom [2008] CAT 22*, §48. However, Ofcom submitted that those remarks were obiter, as was clear from the subsequent paragraph of the Tribunal's judgment which CPW omitted to reproduce, in which the Tribunal concluded that it was not 'necessary, in the circumstances, to address further the question of whether a higher standard applies in the context of prospective analysis' (§49).

(d) In its NoA, by contrast, CPW had referred to the judgment of the Tribunal in *Hutchison 3G (UK) Limited v. Ofcom [2005] CAT 39*, §33. However, Ofcom stated that in that case, the Tribunal expressly endorsed the conclusion of the Irish appeal body, ECAP, that a regulator had to meet any higher standard of proof in relation to ex ante analysis. Ofcom submitted that this suggestion that prospective analysis must be 'proportionately more rigorous' than ex post analysis was clearly specific to the issue of significant market power. For the reasons set out above, Ofcom submitted that it would be wrong as a matter of principle to regard it as having any more general application.

The effect of the alleged inadequate consultation on the standard of review

1.51 CPW submitted in its skeleton arguments[28] that the alleged inadequacy of Ofcom's consultation undermined the basis for any margin of discretion which it might otherwise have possessed.

The burden of proof and questions of transparency

1.52 In response to our provisional determination, CPW raised a new but related issue concerning our approach to determining the Reference Questions. It concerned who had the burden of proof in showing that Ofcom had erred. CPW stated that it was important for the CC to adopt an express, clear and principled approach in relation to the burden of proof since it had general ramifications for the CC's approach to a number of the points of appeal.[29]

1.53 CPW stated that it was incumbent on Ofcom, in relation to all aspects of the price control, to justify its approach on the basis of sound reasoning and cogent evidence.

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[27] Ofcom Written Skeleton, §10(a).
[28] CPW Written Skeleton, §4.
[29] CPW response to the LLU provisional determination, §4.

1.54 CPW argued that, given the lack of information available to it, CPW could not be expected to provide evidence which lay within BT's possession or control, and which Ofcom needed to obtain. CPW referred to the difficulties it said that it had experienced in obtaining disclosure of documents and information in the course of the appeal and had emphasized the severely disadvantaged position in which CPW believed it had found itself as a result.

1.55 CPW argued that it was essential that the CC, in formulating its general approach in price control appeals, did not place a burden of proof on appellants in the position of CPW that was, in reality, 'impossible to discharge'. CPW argued that this would make appeals on certain issues so difficult as to render those points, in practical terms, immune from effective scrutiny on appeal.

1.56 CPW set out specific examples from the provisional determination where we had given our provisional conclusion that CPW's ground of appeal should be dismissed on the basis of a lack of evidence, and where CPW claimed that this was, in fact, evidence which CPW could not be expected to possess.

Our assessment

1.57 As stated above, we followed the approach adopted in the Calls to Mobiles Appeal.

1.58 As stated above, we followed the approach adopted in the Calls to Mobiles Appeal. We also note the judgment handed down by the Court of Appeal in the Calls to Mobiles Appeal.[30] In particular, we have considered whether Ofcom erred for any of the specific reasons put forward by the parties. We have assessed each Reference Question on the basis of the facts and the specific exercise undertaken by Ofcom and considered whether CPW, where relevant supported by Sky, has demonstrated that Ofcom did err.

1.59 Where we have not fully understood a party's arguments we have sought clarification. In addition, we have sought to test certain evidence or arguments made by a party, where we have felt that it is necessary to do so, in order to assess the cogency and relevance of the evidence. We have also, where appropriate, considered the relevant approach adopted in previous appeals or regulatory practice more generally. We have not, however, carried out additional investigation beyond the scope of the Reference since we do not consider that we have jurisdiction to investigate broader criticisms of the conduct of Ofcom before, during or after the publication of the WLR Statement.

1.60 As with the Calls to Mobiles Appeal, we consider that any error must have been of sufficient importance to vitiate Ofcom's decision on the point in whole or in part. We recognize that certain areas require more discretion than others and we address these points throughout our determination. Below we set out our view of the particular points of contention between the parties.

Materiality

1.61 We consider that there is force in Ofcom's submission that our task is to identify whether Ofcom's decision has been shown to be materially in error. But we have not found it possible to set out a general approach to the assessment of materiality. In practice considerations of materiality are not amenable to a formal analytical scheme.

[30] [2010] EWCA Civ 391.

We have considered materiality on a case-by-case basis as part of our analysis of specific criticisms made by CPW of Ofcom's decision making.

1.62 In answering each Reference Question put to us by the Tribunal, we have considered materiality at three stages of our decision making process.

1.63 First, we have found 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. The principle of considering proportionality in this way is generally accepted by the parties. For example, in our assessment in the LLU Appeal, in relation to questions of cost allocation, we have supported some decisions taken by Ofcom on the ground that Ofcom as the regulator was faced with some real uncertainty about the possibility of obtaining greater certainty through further investigation. We have found that Ofcom was entitled to take into account the materiality of the sums involved and the likelihood of obtaining greater clarity in deciding whether to expend further time and resource on further investigation.

1.64 Secondly, we have concluded that 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. 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.

1.65 We have considered materiality in this second stage by assessing the value of each particular error found. We have not assessed materiality on the basis of the cumulative value of all the errors we have found, as CPW argued we should. Nor have we assessed materiality on the cumulative value of errors found within a Reference Question or sub-reference question as we proposed in our provisional determination. This issue arose specifically in the LLU Appeal. In the LLU determination we identified only one error that was not material. This was the misallocation of the costs of management of services in Northern Ireland, on which our determination can be found in paragraph 2.613 of the LLU determination. Consequently, we did not have to decide whether or not to aggregate errors that are not material because there were no such errors to aggregate.

1.66 However, because the parties to the appeal have made representations on our approach to materiality we think it right to address the issue in case it is of assistance to parties to future appeals and to the CC in its consideration of them. We restate here our approach as set out in the LLU Appeal. As with materiality generally, we have not identified a formal general approach that would determine when, if at all, immaterial errors should be aggregated. We are mindful that to aggregate immaterial errors has the effect of converting an error that is in and of itself immaterial into a material error through its combination with other immaterial errors. These other errors may be unrelated and may lie in different and discrete aspects of the price control. We do not wish to rule out the possibility that in future appeals there may be cases where such aggregation is justifiable where the cumulative effect of discrete errors had a highly significant impact on the price control set by Ofcom. But as a general approach we would be cautious about elevating the immaterial into the material. We also observe 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 will be remedied. We do not think this is the purpose of this appeal process, which is to carry out an appellate review of Ofcom's decision and not to retake the decision itself.

1.67 Third, we have considered materiality when deciding whether it is proportionate for the error to be corrected. This consideration of materiality goes to determining whether a remedy is appropriate or not. In terms of materiality in remedies we do not specifically look at the value of the error as such but at the balance between the effort and effect (or cost and benefit) of correcting such error. There are no remedies to consider in this appeal.

Prospective analysis

1.68 We have not found it possible to accept a general prescription as to the consequences of the frequently prospective nature of many of the tasks Ofcom performed in the course of preparing the WLR Statement. We have subjected Ofcom's decisions to thorough scrutiny. In reaching our conclusions, we have been mindful of the nature of the tasks, their difficulty, and the degree of judgement required of Ofcom.

1.69 As we have already stated, we will only substitute our judgement where there is good reason to prefer an alternative approach to that relied on by the regulator.

1.70 The prospective nature of Ofcom's decisions is one element that we have taken into account when deciding whether one approach is better than another. There is consensus that the appeals before us are appeals on the merits and that Ofcom's decisions are subject to rigorous scrutiny. In our scrutiny, we have found it more useful to ask whether we think Ofcom has been shown to have erred in all the circumstances, rather than whether a particular aspect of a determination is particularly forward looking, or is a lesser mix of prospective and other analytical issues.

Ex post facto rationalization

1.71 In the WLR Appeal, CPW provided us with examples of situations where it claimed that Ofcom had explained its reasoning behind the price controls only following publication of the WLR Statement. For example, Dr Houpis stated[31] that one of Ofcom's justifications for its approach to 'technology neutrality' had been introduced in the WLR Appeal but had not been mentioned in Ofcom's consultations or in the LLU or WLR Statements. The Tribunal ruled on this particular issue[32] concluding that this justification was in fact identifiable from the WLR Statement and was not a case of ex post facto rationalization.

1.72 Our focus during the WLR Appeal has been on deciding whether the price controls have been set at the correct level and our first concern is to establish whether an appellant such as CPW can show that Ofcom has failed to set the right level of charge. We do not expect the WLR Statement to be an exhaustive statement of each and every consideration that Ofcom took into account in reaching its decision, or on which it may subsequently rely in answer to a challenge such as that now made by CPW. Arguments made, and points relied on, can very often be articulated more fully without their first iteration being found inadequate. Further, it is inevitable that in a process such as the present appeal there will be some development of the arguments, and this applies equally to all the parties to the price control appeal.

[31]CPW W/S Houpis VI, §13.
[32]Letter from the Tribunal to Osborne Clarke dated 5 March 2010.

1.73 However, it is important that decisions such as the WLR Statement are sufficiently transparent. While there are many reasons for transparency, there are two that are of immediate concern for the CC in Communications Act appeals. These are, first, that the more transparent Ofcom's decision making is, the more efficient the appeal process will be. The extent to which decisions are transparent is one of the factors that bears on the speed with which appeals can be referred to the CC by the Tribunal, and then disposed of by the CC. Secondly, the reasoning in Ofcom's decision is particularly important where Ofcom wishes to be accorded a margin of appreciation as the regulator and for its regulatory expertise.

1.74 However, in our view nothing in the WLR Appeal turns on the presence or significance of the ex post facto argument.

Our procedure

1.75 For this reference we adopted a procedure which, in our view, was suited to the nature of our task.[33] We received financial models used by Ofcom in setting the price control. Ofcom provided an explanation of some of these models in a meeting with Ofcom (attended by all parties). We received written arguments and evidence from the parties, held both plenary and bilateral hearings, issued requests (copied to all parties) where we considered that we needed further information, and issued provisional determinations for comment. Overall, a great deal of material was submitted throughout the process. We have taken very careful account of all the material submitted to us, including responses to our provisional determinations.

1.76 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 attempted to refer to what we considered to be the key submissions and pieces of evidence in relation to each of the points we considered.

Confidentiality ring

1.77 A confidentiality ring had been established by the Tribunal on 26 February 2010[34] and we adopted the Tribunal's confidentiality ring as part of our procedure.

The proposed consolidation of the LLU and WLR Appeals

1.78 CPW considered that there should have been consolidation of the LLU and WLR Appeals and it requested a direction from the Tribunal in accordance with Rule 17 of the Competition Appeal Tribunal Rules 2003.

1.79 Ofcom agreed with CPW that the two appeals be consolidated.[35] Initially, we did not express a view as to whether the appeals should be consolidated, but we did recognize the similarity of the price control issues raised in the two appeals.[36]

1.80 The Tribunal acknowledged that various issues raised by the WLR Appeal were similar to those raised by the LLU Appeal. However, it concluded that the two

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[33] We informed the parties of the main steps in the procedure that we envisaged in our First Day Letter of 18 December 2009.
[34] The confidentiality ring was established by an order of the Tribunal of 1 October 2009, following discussion at a case management conference held on the same date.
[35] Letter from Ofcom to the Tribunal dated 18 January 2010.
[36] Letter from the CC to the Tribunal dated 15 January 2010.

appeals must be kept distinct.[37] The Tribunal did acknowledge that it may be appropriate for certain matters raised by both appeals to be heard at the same time.

1.81 We wrote to the Tribunal[38] to state our concerns regarding the timing of the LLU and WLR Appeals and also to note which matters ought to be heard in parallel. Our view was that the price control elements of both appeals should be heard in parallel given the significant overlaps between the two appeals. We said that each of Ofcom's decisions was important context for the other and our conclusions in each appeal would be important context for our decisions in the other. We deemed this to be very important in relation to the price/cost differential issue raised in both appeals and also in assessing whether an adjustment to either price control would be necessary. We expressed our view that there would be advantages to the parties and the CC, in terms of economy and clarity in consolidating the two appeals.

1.82 In conclusion, the Tribunal did not accept that it was necessary or appropriate for the appeals to be consolidated. The Tribunal stated that we could, if we considered it appropriate, adopt procedures in the appeals to enable overlapping price control matters to be considered together.[39]

LLU submissions

1.83 In a communication from the Tribunal to CPW dated 26 January 2010, the Tribunal directed that all documents served or disclosed in the LLU Appeal may be used for the purposes of the WLR Appeal.[40] Furthermore, at each of the bilateral hearings with the parties to the WLR Appeal, we made clear that matters arising from the LLU and WLR hearings would be treated as potentially relevant to and admissible in both cases.

Document disclosure issues

1.84 Over the course of the LLU and WLR Appeals, there have been a number of issues concerning disclosure of documents that have impacted upon our process.

1.85 Specifically, in relation to the WLR Appeal, we note that there was late disclosure of certain BT documents which had hitherto been withheld from all parties by BT as confidential and which the Tribunal requested us to review for relevance to our considerations, and which we ultimately identified as potentially relevant to the issues in the WLR Appeal. We were required to perform this analysis of numerous documents in a matter of days.

1.86 Complete disclosure of the relevant documents was not made to the parties until May 2010. This meant that the CC had to allow the parties time for further submissions on the disclosed documents. Final submissions were received on 1 June 2010.

1.87 The disclosure of these documents at a very late stage of the LLU and WLR Appeals has meant that an already long process has become even longer. Our involvement in the disclosure exercise has added to the workload of the CC and has required us to expend resource on matters that might better have been dealt with earlier in the LLU

[37]Letter from the Tribunal to Osborne Clarke dated 26 January 2010. CPW disagreed with the Tribunal's conclusions and responded setting out further arguments for consolidation in its letter of 27 January 2010.
[38]Letter from the CC to the Tribunal dated 29 January 2010.
[39]Letter from the Tribunal to Osborne Clarke dated 29 January 2010.
[40]The Tribunal confirmed that all documents served or disclosed in the WLR Appeal could be used for the purposes of the LLU Appeal in its communication to Osborne Clarke dated 3 February 2010.

and WLR Appeals process. This has also added to the time we have needed to complete the exercise we have been asked by the Tribunal to perform.

1.88 We also note that there were initial issues concerning CPW's access to Ofcom's confidential modelling (although these were resolved prior to the WLR Reference being made to the CC).

1.89 These issues have resulted in a large number of submissions being received from the parties months in to the LLU and WLR Appeals process. This has created an extra level of complexity to the appeal process.

1.90 It is our hope that in the future parties to Communications Act appeals will seek to identify and resolve disclosure issues earlier in the process, ideally prior to any reference being made to the CC.

Considering evidence

1.91 As in the LLU Appeal, there have been some instances where we have been provided with evidence and/or new arguments at a relatively advanced stage of the proceedings—for example, in relation to clarification we sought from CPW in respect of CPW's approach to the appropriate calculation of the structure of charges.

1.92 The complex nature of the issues raised in the WLR Appeal has required us to clarify certain matters with the parties and we are grateful for the responses to our information and data requests. Where we have received information at a relatively advanced stage of the proceedings, of necessity, we have needed to consider whether, in answering the WLR Reference Questions and given the time and resources available to us, it has been appropriate for us to consider every aspect of this information. This assessment has informed how much detail we have needed to go into when looking at some of the Frontier Economics (Frontier) material,[41] particularly where it appears to us that some of the numbers provided have been based on adjustments to the Ofcom modelling that were not raised by the arguments submitted in CPW's WLR NoA.

1.93 We explain further how we have analysed the various submissions from Frontier in our assessment section (see Section 3).

[41]We requested this information by letter on 19 April 2010. CPW's Solicitors, Osborne Clarke, responded on 27 April submitting a paper produced by Frontier. On 20 May Osborne Clarke submitted a piece of financial modelling prepared by Frontier; and some revisions to this modelling were submitted on 1 June.

Part 2: General and economic introduction

The WLR Appeal

1.94 On 18 February 2010, the Tribunal referred the following two questions to the CC in the WLR Appeal:

> **Question 1**
>
> Whether, for reasons set out within paragraphs 76 to 107 of the Notice of Appeal, the WLR Price Controls have been set at a level which is inappropriate because OFCOM failed to set the controls in such a way as to secure that the differential between, on the one hand, the price for WLR and/or WLR + SMPF and, on the other hand, MPF was at least equivalent to the long run incremental cost ("LRIC") difference between those services:
>
> (i) by reason of OFCOM setting the price differentials on a current cost accounting and fully allocated costs basis rather than on a LRIC basis, as explained, in particular in paragraphs 87 and 88 of the Notice of Appeal; or
>
> (ii) by reason of OFCOM having erred in its calculation of LRIC for the reasons set out in paragraphs 92 to 105 of the Notice of Appeal.
>
> **Question 2**
>
> Whether, for reasons set out within paragraphs 76 to 107 of the Notice of Appeal, the WLR Price Controls have been set at a level which is inappropriate because OFCOM should have, but did not, set those controls in such a way as to secure that the differential between on the one hand, the price for WLR and/or WLR + SMPF and, on the other hand, MPF was greater than the difference between the LRIC of those services.

1.95 This section provides some background to the issues arising in connection with the WLR Appeal. First, we summarize CPW's challenge. Then we set out an overview of the terminology and technological background relevant to the WLR Appeal.

Summary of CPW's challenge

1.96 CPW's challenge is made out in its WLR Notice of Appeal (WLR NoA) at §§76–107.

1.97 WLR Reference Question 1 concerns Ofcom's approach to calculating the WLR price controls. Specifically:

- §§87 and 88 of the WLR NoA concern Ofcom's approach of setting the price differentials on the basis of a current cost accounting and fully allocated costs basis rather than on a long run incremental cost (LRIC) basis.
- §§92–105 of the WLR NoA concern Ofcom's approach to determining the LRIC cost differential.

1.98 The main issues raised by Reference Question 1 are:

(a) In setting a price differential that is at least equivalent to LRIC—has Ofcom erred in principle by adopting an approach that used CCA FAC (Current Cost Accounting Fully Allocated Cost) and then applied a cross-check to a LRIC estimate? In other words, was Ofcom wrong to base the charges on a top-down allocation of all the costs in their most recent accounts to different services based, where appropriate, on the usage those services make of the cost elements, and then apply a check based on the costs of providing a certain quantity of each service over a long period calculated using the equipment required (bottom-up).

(b) Has Ofcom erred in its calculation of LRIC as a cross-check?

(i) Has Ofcom not based its assessment on efficient forward-looking costs, and in particular not applied the most efficient assumptions on the technology for line cards and MPF wiring?

(ii) Has Ofcom made practical errors in its calculations of LRIC estimates?

1.99 WLR Reference Question 2 concerns the appropriate approach to evaluating the differentials between the WLR and LLU price controls.

1.100 The main issues raised by Reference Question 2 are whether Ofcom should have set the WLR price controls at a level such that the differentials between:

- the price for WLR and the price for MPF; and
- the combined price for WLR and SMPF, and the price for MPF,

would be greater than the differences between the LRICs of those services.

Background to the issues

The relevance of the differentials between WLR and MPF services

1.101 MPF and WLR (with SMPF for broadband) are alternative ways to deliver voice, or voice and broadband, services to customers. Because CPW acquires MPF services from Openreach, CPW is concerned not only with the price of MPF in absolute terms, but also with the price differentials maintained between MPF and SMPF+WLR, and between MPF and WLR.

The importance of the 'mark-up'

1.102 The costs of the various services comprise many elements. Some of these are readily and uncontroversially attributable to one and only one service or set of services; these can be considered to be 'direct costs' although a variety of terminologies are used. Other costs are incurred as inputs to a wider group of services. When such costs are incurred, there are a variety of ways of allocating them across the services; adding these costs to the direct costs is sometimes described as a 'mark-up'.

1.103 Within the telecommunications industry there are many shared components. As a result the 'mark-up' figures can be a high proportion of the overall cost. Thus, the decisions as to how to allocate these costs become very significant.

Terminology

1.94 The WLR Appeal raises a number of complex economic issues. This part seeks to provide a general introduction to the key terms arising in the WLR Appeal.[42] We note that there is some variance in how different terms are used by the parties; the actual meaning depends upon the context, and we have considered the parties' arguments in context. The following explanations are therefore provided only for general guidance.

The notions of efficiency

1.95 The discussion involves three types of economic efficiency:

(a) *'Allocative efficiency'* is achieved when prices are close to marginal cost. This ensures that all consumers who value a product at more than its cost are able to purchase it.

(b) *'Productive efficiency'* means that the costs of production are minimized.

(c) *'Dynamic efficiency'* means that firms have the correct incentives to invest (eg in new infrastructure) and to innovate (eg to generate new products). Greater reliability and other quality improvements, and the creation of new products and services, are critically-linked to investment and innovation.

Ofcom's cross-check

1.96 Ofcom acknowledged that there was a risk that setting charges based on CCA FAC would mean that the difference between the price for MPF and that for WLR + SMPF would be less than the difference in LRICs between these services. This could have created productive inefficiency by encouraging production of voice and broadband services to shift towards using WLR+SMPF instead of using MPF for some operators that would have in fact minimized their total costs by continuing to use MPF. Ofcom conducted a brief cross-check to guard against a major productive inefficiency distortion while relying on the CCA FAC method to allocate all costs between products sensibly.

Background to the technology

1.97 Since the digitization of telephone networks, most fixed-line telephone calls in the UK have been carried on BT's legacy network. This network is a public switched telephone network (PSTN) and uses time division multiplexing (TDM). It is a circuit switched technology where a route is found to link two telephones or exchanges together for the entire call. This technology uses line cards to connect the core transmission network (that starts at the main distribution frame (MDF)) to the individual telephone line at the local exchange or subscriber unit.

1.98 More recently, next generation network (NGN) technology has been developed which can transmit telephone calls in the same way as Internet traffic using IP (Internet protocol) routers and packet switching, so that each transmission or telephone call is broken down into packets and then each packet is transmitted through the network separately and reassembled at the other end. Implementation of NGN can mean that separate core networks for distributing different types of data can be replaced with a

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[42]Also see the Glossary.

single converged network for all data transmission. Customers are connected to the NGN using multi-service access nodes (MSANs) and line cards that can interact with both voice and data traffic called combi-cards. BT called its implementation of NGN 21CN (21st century network). CPW argued that Ofcom's price control should have been based on the costs of an NGN network because these costs were those that an efficient operator would have incurred.

1.99 Ofcom and BT said that the decision on whether NGN was the appropriate technology to adopt in the core network (and whether to change the line card in the access network to interact with an NGN network) was affected by the extent of next generation access (NGA) development. NGA is the provision of higher speed and capacity connections to customers' premises from the local exchange or subscriber unit by replacing the existing copper wires with fibre-optic cables. There are two main methods. FTTC (fibre to the cabinet) is where the copper wire from the local exchange to the street cabinet is replaced with fibre optic, but the customer still relies on a slower copper connection to link their premises to the cabinet (which may continue to dictate the capacity). FTTP (fibre to the premise) is where the fibre-optic cable is extended all the way to the customer's premises. As Internet usage has grown, CPs have found that customers are more willing to pay for higher-speed connections using FTTC and FTTP.

1.100 Table 1.1 shows the cost benchmarks for 2012/13 used by Ofcom to set the price controls for MPF, SMPF and WLR, and CPW's revised calculations. These figures show that CPW argued for lower MPF and SMPF charges and higher WLR charges, resulting in an increase in the differential between MPF and WLR from £10 to £36 per line and between MPF and WLR + SMPF from £25 to £47 per line.

TABLE 1.1 **Ofcom's price controls and CPW's revised figure (base method) for 2012/13**

	Ofcom CCA FAC	*CPW*
WLR—Residential	108	116
WLR—Business	104	115
MPF	98	80
SMPF	15	11

Source: WLR Statement and figures provided by CPW.

Section 2: WLR Appeal: Overview of the parties' arguments

Introduction

2.1 In broad summary, CPW's case was that[1] the price controls imposed on Openreach in respect of WLR were set at an inappropriate level because Ofcom had erred in setting the efficient price differential as between:

(a) MPF and WLR; and

(b) MPF and WLR+SMPF.

2.2 CPW challenged Ofcom's approach to setting price differences on the basis that:[2]

(a) the price differential certainly must not be less than the LRIC cost differential;

(b) there was a compelling argument for a differential as between MPF and WLR and MPF and WLR+SMPF which was greater than the LRIC differences between those respective services—ie some form of mark-up over LRIC (LRIC+EPMU); and

(c) specifically, CPW alleged that Ofcom had erred in three key issues:

(i) Ofcom failed to have regard to the need for a price differential that equalled or exceeded the LRIC cost differential between MPF and WLR;

(ii) Ofcom failed to properly take into account the economic principles that underpinned an economically efficient and appropriate price; and

(iii) in any event, Ofcom miscalculated LRIC in its 'cross-check'.

2.3 Mr Heaney suggested[3] that to calculate the forward-looking cost differences between MPF and WLR (and also between MPF and WLR+SMPF) to maximize economic efficiency, the cost standard should be:

(a) Based on costs in 2012/13.

(b) Based on a long-run view of incremental costs considering which costs are variable over the long run including fixed assets and other one-off costs such as the costs of implementing new technologies.

(c) Forward looking in that it was based on the activities and assets that would be incurred to efficiently deliver the services in future rather than being based on the activities and assets currently being used to deliver the service.

(d) Based on the modern efficient asset (MEA) in that it assumes that the technology /architecture was the most cost efficient (on a forward-looking basis.) This has several implications:

(iv) The MEA was based on NGN technology and not BT's existing PSTN network technology.

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[1] CPW WLR NoA, §7.
[2] CPW WLR NoA, §78.
[3] CPW W/S Heaney I, §222.

(v) Migrating to NGN will require installation of new equipment and also the physical migration of customers from the existing network to the new NGN. Thus the MEA should include these costs.

(vi) The MEA cost should be based on the efficient migration approach and timing and thus should not be explicitly linked to BT's 21CN roll-out programme.

(e) Costs are based on BT's additional costs for providing WLR instead of MPF or WLR+SMPF instead of MPF, and not on a new entrant, such as CPW. This was consistent with the approach appropriate for reducing productive inefficiencies.

Pleadings and witness statements

2.4 On 23 December 2009 CPW appealed Ofcom's WLR decision (*Charge controls for Wholesale Line Rental and related services*, dated 26 October 2009) (the WLR Statement). The WLR Statement imposed charge controls on Openreach in respect of WLR and associated ancillary services. CPW had already[4] appealed a related price control decision of Ofcom's concerning charge controls on Openreach in respect of MPF, SMPF and associated ancillary services.[5]

2.5 In this section, we consider relevant parts of both the WLR Statement and LLU Statement, as the context requires.

2.6 Table 2.1 below sets out the key pleadings and witness statements in which the parties set out their arguments in the WLR Appeal.

TABLE 2.1 **WLR Appeal: pleadings and witness statements**

Party	*Pleading*	*Witness statements**
CPW	Notice of Appeal dated 23 December 2009	Heaney III Houpis III
	Reply V dated 29 March 2010	Heaney VII Houpis VI
	Reply VI dated 21 May 2010	
Ofcom	Defence dated 15 February 2010	
BT	Statement of Intervention dated 26 February 2010	Peard II Dolling III Shurmer III

Source: CC.

*CPW submitted additional witness statements from some of its witnesses in respect of the non-price control matters in the LLU and WLR Appeals, as well as in respect of interlocutory proceedings. Hence the numbering of the CPW witness statements does not always run sequentially for each 'pleading'.

2.7 In addition to the pleadings and witness statements, we held hearings with the parties, received correspondence on specific points (including correspondence from the parties commenting on the transcripts of the various hearings), and received submissions from Frontier on behalf of CPW. We also issued a provisional determination to the parties to the WLR Appeal on 8 July 2010 regarding which the parties made written submissions. We gave careful consideration to these submissions and consider specific points made in these submissions in Section 3 of this determination.

[4]By way of a Notice of Appeal dated 21 July 2009 (the LLU Appeal).
[5]*A New Pricing Framework for Openreach*, dated 22 May 2009 (the LLU Statement).

The LLU Appeal

2.8 We also considered the pleadings, witness statements and evidence submitted in the LLU Appeal. By the Tribunal's direction of 26 January 2010 all documents served or disclosed in the LLU Appeal may be used for the purposes of the WLR Appeal. The Tribunal made a similar direction on 3 February 2010 so that all documents served or disclosed in the WLR Appeal may be used for the purposes of the LLU Appeal.

2.9 Table 2.2 below sets out the key pleadings and witness statements in which the parties set out their arguments in the LLU Appeal in relation to Question 1(iv) of the LLU Reference. Question 1(iv) of the LLU Reference concerned the allocation of costs as between MPF on the one hand and WLR and SMPF on the other.

TABLE 2.2 **LLU Appeal: pleadings and witness statements in relation to Question 1(iv) of the LLU Reference**

Party	*Pleading*	*Witness statements*
CPW	Original Notice of Appeal dated 21 July 2009	Heaney I Houpis I
	Amended Notice of Appeal dated 17 December 2009	
	Reply I dated 22 January 2010	Heaney IV Houpis IV
	Reply II dated 9 February 2010	Heaney V
Ofcom	Original Defence dated 26 October 2009	
	Amended Defence dated 8 January 2010	
BT	Original Statement of Intervention dated 10 November 2009	Dolling I Tickel I
	Amended Statement of Intervention dated 5 February 2010	
Sky	Original Statement of Intervention dated 6 November 2009	Bushell I
	Amended Statement of Intervention dated 5 February 2010	

Source: CC.

*CPW submitted a third 'reply' dated 1 March 2010 in respect of the LLU Appeal.
†CPW submitted a fourth 'reply' dated 8 March 2010 in respect of the non-price control matters in the LLU Appeal.

2.10 The remainder of this section is structured as follows:

(a) First, we consider the arguments around whether Ofcom failed to secure that the differential between the price for MPF and WLR+SMPF was at least equivalent to the LRIC difference between those services.

(b) Secondly, we consider the arguments around whether Ofcom failed to secure that the differential between the price for MPF and WLR was at least equivalent to the LRIC difference between those services.

(c) Thirdly, we consider the arguments around calculating the price differentials on a current cost accounting and fully allocated cost basis rather than on a LRIC basis.

(d) Fourthly, we consider the arguments regarding the relevant technological assumptions in setting the price differentials and whether Ofcom erred in its calculation of LRIC.

The differential for MPF and WLR+SMPF

Ofcom's Decision[6]

2.11 In its WLR Statement, Ofcom considered[7] that the differential between MPF and WLR+SMPF should reflect cost differences because of the risks of distorting the choice of wholesale products. Ofcom did not[8] consider it appropriate to base charges on demand-based factors (for example, by using Ramsey pricing) as MPF and SMPF+WLR were alternative wholesale inputs for CPs to provide the same retail services.

2.12 Ofcom said[9] that setting charges so that the differentials broadly reflected incremental cost differences would be consistent with removing any productive efficiency distortions and that setting charges on the basis of CCA FAC was consistent with achieving this aim.

2.13 In its LLU Statement, Ofcom stated that when setting charges it had considered two, potentially conflicting, considerations:[10]

(a) allocative efficiency considerations, to the extent that the wholesale products related to different retail markets; and

(b) productive efficiency considerations, to the extent that the wholesale products were alternative inputs for the same retail markets.

2.14 Ofcom stated[11] that the allocative efficiency considerations tended to point to mark-ups on LRIC that reflected differences in the elasticities of the different retail products; whereas the productive efficiency consideration tended to point towards charges which reflected the absolute differences in LRIC so that, if an operator chose to use WLR+SMPF instead of MPF, the higher charge it paid reflected the extra costs incurred as a result.

2.15 Ofcom said that the most important static efficiency consideration was the potential distortion in the use of wholesale products.[12] In general, where wholesale products were close substitutes, the choice between them could be distorted if the difference in charges did not reflect the difference in incremental costs. In the case of MPF and WLR+SMPF, these products were not in the same market, but were alternative wholesale inputs in the sense that either WLR+SMPF or MPF plus an LLU operator's own voice platform could be used as wholesale inputs to provide retail voice and broadband services.

2.16 If the MPF charge made a significantly lower contribution to recovery of common costs than WLR+SMPF, this would create distortions that would reduce efficiency.[13] For example, for LLU operators to choose between MPF and WLR+SMPF on their merits, the difference in charges should be comparable to the differences in incremental costs for Openreach. Ofcom considered that the potential distortions to competition in the longer term could be significant. Such distortions were, in its opinion, likely to be the most important static efficiency consideration. Ofcom con-

[6]This section summarizes both the LLU and WLR Statements.
[7]WLR Statement, §5.14.
[8]WLR Statement, §5.14.
[9]WLR Statement, §5.14.
[10]LLU Statement, §A4.27.
[11]LLU Statement, §A4.28.
[12]LLU Statement, §A4.8.
[13]LLU Statement, §A4.9.

sidered that charging on the basis of CCA FAC was likely to be broadly consistent with removing these static distortions.

2.17 In terms of dynamic efficiency, Ofcom considered whether it was justifiable to actively promote competition by setting prices specifically to assist entry with the use of MPF rather than WLR+SMPF.[14] Ofcom concluded that at this stage in the market's development differences between charges should move towards reflecting the underlying differences in costs.[15]

2.18 Ofcom agreed[16] that if deeper competition in voice (based on MPF) were to be effective and sustainable, it would be likely to lead to greater consumer benefits than otherwise. It said:

> In our on-going review of the retail narrowband services market, our provisional finding is that BT does not have SMP in the retail narrowband market. The scope for deeper competition in voice to produce dynamic gains is, therefore, likely to be limited. Any gains would be limited to the additional competition on the difference between the WLR and MPF cost stacks, over and above that provided by cable and that which would anyway be provided by MPF used for both voice and broadband. The majority of the 24 million lines take both voice and broadband.

2.19 Ofcom also said[17] that if there were significant benefits for CPs of moving to using MPF, then it would expect them to move to using MPF when it was most efficient for them to do so. There should be no need to artificially set prices to give them such an incentive. Maintaining an artificially high differential between MPF and WLR+SMPF might encourage operators to make the transition earlier than would be efficient.

2.20 Ofcom said that CPW's approach would 'tend to disadvantage operators using WLR+SMPF' and, as a result, could 'conceivably reduce competitive pressures for broadband services'.[18]

2.21 In its WLR Statement, Ofcom calculated[19] the LRIC differential between MPF and WLR+SMPF to be in the range of £15 to £20, compared with a forecast difference in CCA FAC used to set the glide path for prices of around £25 in 2012/13. As such, Ofcom said that it was confident that the difference between the MPF and WLR+SMPF charges was certainly not smaller than the LRIC differentials.

CPW's Appeal[20]

2.22 CPW suggested[21] that the most efficient pricing differential depended on whether one was considering productive, allocative or dynamic efficiency. CPW argued that:

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[14]Ofcom explained at its bilateral hearing (p26, lines 17–27) that to promote network-based competition using MPF and SMPF it put in place a floor on the price that BT could charge for wholesale products. However, Ofcom had always envisaged that this would come to an end at a point when new entrants were able to gain sufficient scale to stand on their own feet.
[15]LLU Statement, §A4.10.
[16]LLU Statement, §A4.89.
[17]WLR Statement, §A4.95.
[18]Ofcom LLU Statement, §A4.94.
[19]WLR Statement, §5.86.
[20]This section summarizes both the LLU and WLR NoAs. We note that CPW's WLR NoA largely replicated and expanded upon CPW LLU NoA.
[21]CPW WLR NoA, §82.

(a) Optimization of productive efficiency would require the difference in prices between MPF and WLR+SMPF to reflect the difference in incremental costs between those services.[22]

(b) Optimization of allocative efficiency would require fixed and common costs to be recovered with regard to the relative demand characteristics of the products.

(c) Optimization of dynamic efficiency considerations required that providers were incentivized to use the technology (which CPW argued to be MPF) that would tend to encourage stronger and deeper network-based long-term competition.

2.23 Dr Houpis[23] stated that the set of prices that would maximize allocative and productive efficiency were the relevant Ramsey prices. Prices based on FAC, as adopted by Ofcom, did not take account of demand considerations but rather allocated common costs to services as an accounting exercise.

2.24 CPW accepted that whether CPs would switch between WLR+SMPF and MPF products in response to price changes was a relevant consideration. In particular, in response to Ofcom's claim that where two wholesale products were substitutes there were limitations in the applicability of Ramsey pricing to derive an efficient set of charges, CPW said that Ramsey pricing could be applied in these circumstances using super elasticities of demand:[24]

> Ramsey pricing should therefore, in principle, and if correctly calculated, take into account cross price elasticities by incorporating these within what is known as the super-elasticity of the product. In this way substitution between two or more products as relative price level change is incorporated within the welfare analysis.

2.25 Ramsey pricing implied that, if the demand for voice services was more inelastic than the demand for broadband, MPF should make a relatively smaller contribution to the recovery of any fixed and common costs than WLR, to the extent that MPF was used to provide predominantly broadband services.[25]

2.26 CPW said that it had provided evidence to Ofcom in response to Ofcom's Second Consultation that showed that the demand for voice services was relatively more inelastic than the demand for broadband services. CPW said that this evidence suggested that an efficient set of prices should recover more fixed and common costs from voice services.[26]

2.27 While Dr Houpis[27] shared Ofcom's view that the elasticity evidence was not ideal and additional evidence would be useful in arriving at a more definite view, he argued that the available evidence supported the view that there was a significantly higher demand elasticity for broadband compared with voice services because:

[22] Dr Houpis argued that ensuring that there was no distortion resulting solely from productive inefficiencies would require the difference in prices for MPF and WLR+SPMF to equal the difference in the LRIC of providing MPF and WLR+SPMF (see CPW W/S Houpis I, §26).
[23] CPW W/S Houpis I, §51.
[24] CPW W/S Houpis I, §54.
[25] CPW W/S Houpis I, §55.
[26] CPW W/S Houpis I, §56.
[27] CPW W/S Houpis I, §§57 & 58.

(a) The evidence presented indicated a higher sensitivity of demand in relation to the price of broadband than voice services.[28] Dr Houpis argued that Ofcom did not provide any evidence that suggested otherwise.

(b) While the evidence presented was not up to date, no evidence had been presented to suggest that the relative price sensitivities of demand for broadband and voice had narrowed over time.

(c) Whilst broadband prices had fallen over time, later adopters of broadband could be more price sensitive than earlier adopters.

(d) Demand for MPF would be relatively more elastic than demand for WLR because demand for MPF was predominantly driven by broadband, whereas demand for WLR was still driven by demand for voice services.[29]

(e) Dr Houpis was not aware of any evidence to suggest that the relative price sensitivities of the demand for broadband and voice at the retail level would be reversed at the wholesale level.[30]

2.28 In Dr Houpis's view, all these factors demonstrated the importance of choosing a structure of prices that at least goes some way to more closely reflect an efficient structure of prices than those prices based on an unadjusted application of CCA FAC.

2.29 Dr Houpis suggested[31] that higher demand elasticity for broadband compared with voice services did not necessitate the implementation in practice of a full (or optimal) Ramsey approach (given significant practical challenges), but required the differential between MPF and WLR prices to be larger than the difference in LRICs.

2.30 Dr Houpis considered[32] that even if elasticities of demand for MPF and WLR were the same, if prices of MPF and WLR were set to reflect no more than the absolute difference in the incremental costs of MPF and WLR, this would 'unambiguously' lead to allocative inefficiencies. Dr Houpis argued that this was because if the price sensitivities of demand for MPF and WLR were the same, allocative efficiency required that the prices of WLR and MPF were set such that the mark-up over incremental cost for each service to recover any fixed and common costs between WLR and MPF was proportional to the incremental cost of each service. In other words, to maximize allocative efficiency, the difference in prices should equal the true LRIC of each service plus equal proportionate mark-up (EPMU).

2.31 CPW considered[33] that Ofcom's proposals implied a constant mark-up per line in absolute terms, not in proportion to the LRIC. Therefore, Ofcom's approach would imply that MPF (with a lower LRIC) would be making proportionately a larger contribution to the recovery of fixed and common costs than WLR.

2.32 CPW argued[34] that setting the price of any wholesale products too high allowed BT to engage in a price squeeze, since it could use excess revenues derived from wholesale products to compete more keenly in the retail market. Furthermore, setting

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[28]CPW stated that it provided evidence on demand elasticities for voice and broadband services in its responses to the first and second Ofcom consultation documents. This evidence showed that the demand for voice services was relatively more inelastic than the demand for broadband services.
[29]CPW W/S Houpis I, §59.
[30]CPW W/S Houpis I, §59.
[31]CPW W/S Houpis I, §60.
[32]CPW W/S Houpis I, §61.
[33]CPW W/S Houpis I, §62.
[34]CPW WLR NoA, §79.

the price of MPF too high relative to WLR (for voice) and too high relative to WLR+SMPF (for voice and broadband) prejudiced the ability of those using MPF to compete effectively and sustainably against those purchasing WLR or WLR+SMPF from BT.

2.33 CPW also argued[35] that capping the price of WLR at an inappropriately low level could create a competitive distortion in relation to other technologies, such as mobile, that were seeking to compete with fixed in the provision of voice services to the low usage segment.

2.34 CPW argued[36] that the levels of MPF, SMPF and WLR, and the structure of relative prices between MPF and WLR, and also between MPF and WLR+SMPF, were critical to effective network-based competition.

2.35 Mr Heaney argued[37] that network-based competition was of particular importance because it allowed competitors to innovate and differentiate by services, which was only possible if competitors operated their own network, leading to substantial benefits for consumers. In CPW's view, Ofcom had argued[38] that setting a price for MPF too high relative to WLR (or relative to WLR+SMPF) would discourage effective and sustainable deep network-based competition.

2.36 CPW defined dynamic efficiency benefits as relating to long-run developments in the market that ultimately serve to the benefit of the consumer. Dr Houpis considered[39] Ofcom's assessment of dynamic efficiencies encompassed a number of shortcomings, specifically:

(a) an understatement of the potential benefits from increased competition and, in particular, confusion between promoting effective competition and protecting inefficient competition;

(b) a failure to identify the circumstances under which dynamic and static efficiency considerations may differ;

(c) a failure to appreciate the implications for dynamic efficiency of reducing the differential in prices between MPF and WLR+SMPF, and MPF and WLR, because of its erroneous assessment of prices that satisfied allocative and productive efficiency; and

(d) its justification for the use of inaccurate cost estimates to set the price of core rental services (CRS) on the grounds of promoting regulatory stability.

2.37 CPW dismissed Ofcom's concern that its approach would 'tend to disadvantage operators using WLR+SMPF' and, as a result, could 'conceivably reduce competitive pressures for broadband services'[40] and said[41] that SMPF-based competition had been the major platform in 2004, but technology had moved on significantly in the last five years, which needed to be reflected in the pricing structure. CPW also said that such concerns would only be an issue if new entry was still possible, and if it was important to preserve the opportunities for stepped entry (as described by BT).

[35] CPW Heaney III, §32.
[36] CPW WLR NoA, §79.
[37] CPW W/S Heaney I, §§20–25.
[38] CPW WLR NoA, §81.
[39] CPW W/S Houpis I, §69.
[40] Ofcom LLU Statement, §A4.94.
[41] CPW hearing transcript, p31, lines 8–18.

2.38 CPW also argued that:[42]

(a) According to Ofcom projections, whilst (non-BT) SMPF lines accounted for a majority of (non-BT) SMPF and MPF lines in 2009/10, this would be reversed by 2012/13.

(b) Ofcom confused the dynamic role that competition could have in promoting efficiency with seeking to protect the specific firms currently competing in the market.

(c) Ofcom did not present any evidence that there would be fewer competitors, or less intense competition to provide services over MPF than over WLR+SMPF, only that, given the historic pricing pattern, relatively more customers were served today using the latter.

(d) There was no convincing argument that the cost structure of operators competing using MPF should be such as to create additional barriers to entry, or other obstructions to competition, which would reduce the intensity of competition between operators.

2.39 Contrary to Ofcom's assessment of the benefits of dynamic efficiencies in voice services, CPW noted[43] that as a result of using MPF rather than WLR+SMPF there had been significant innovation, including the bundling of voice with broadband, free voicemail and a range of additional voice features combined with innovative price plans.

2.40 CPW said that Ofcom argued that its approach had advantages in terms of dynamic efficiency stemming from transparency, predictability and consistency for competitors.[44] CPW disagreed,[45] explaining that there was a serious lack of transparency in the process by which prices were set; and that Ofcom's argument placed undue weight on avoiding change or development, both over time, and across all Ofcom's regulatory decisions. CPW said that, whilst it might be desirable to set the recovery of overall costs in a fashion that did not allow large categories of costs not to be recovered (or to be double-recovered), this did not mean that price differentials between specific services should be set on this basis simply because that was how they had been set in the past or in some other price contexts.

2.41 CPW argued[46] that the key issue in relation to cost recovery was that Openreach (and investors in Openreach) should expect that prices would be set so that Openreach recovered its overall costs, based on the best available information at the time prices were set. This required that the relevant expected revenues of Openreach recovered its projected costs, rather than assuring investors that costs would be recovered under any variation in demand for Openreach's products.

2.42 While Ofcom had taken into account overall efficiency gains in the provision of the CRS, Dr Houpis stated[47] that no allowance had been made for potentially differing rates of efficiency gains between MPF and WLR (due to probable changes in how these services could be expected to be delivered over the forecast period), for example the introduction of new products (such as single jumpering) would reduce the true incremental cost of MPF.

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[42] CPW W/S Houpis W/S I, §§77–81.
[43] CPW W/S Houpis I, §71.
[44] Ofcom Defence, Annex, §§40 & 41.
[45] CPW Reply I, §145.
[46] CPW Reply I, §146.
[47] CPW W/S Houpis I, §31.

2.43 CPW argued that Ofcom had overstated the degree of substitution between MPF and WLR/WLR+SMPF. In particular, CPW said that[48] although over the longer term it was reasonable to expect a strong relationship between the price differential between MPF and WLR+SMPF and an operator's choice of wholesale product, such decisions would be influenced in the short term by factors other than just price, including the overall business strategy of an operator and the costs of migrating customers to a different technology, which were significant.

Ofcom's Defence[49]

2.44 Ofcom concluded[50] that productive efficiency was the more important consideration in the balancing of allocative and productive efficiency. Charges should therefore be set so that the differential in prices between MPF and WLR/SMPF was broadly in line with differences in the LRICs of these products. Ofcom stated[51] that it was generally to be expected that the difference between charges which have been set on a CCA FAC basis would be at least as great as the difference between the LRICs of the services in question, since CCA FAC was a form of LRIC plus mark-up (for common costs).

2.45 Ofcom[52] did not accept that there was a strong case for setting a larger differential than LRIC (as suggested by CPW):

(a) When allocative and productive efficiency were considered together, they did not suggest that the differential between the charges for MPF and for WLR+SMPF should be significantly greater than the difference in the respective LRICs.

(b) Based on an assessment of allocative, productive and dynamic efficiency considerations, Ofcom found[53] that the differentials resulting from the charges set on a CCA FAC basis were appropriate.

2.46 Ofcom took the view[54] that the most important static efficiency consideration was productive efficiency, and this should be given a higher weight, especially in the longer term. Ofcom noted that MPF was currently used exclusively for the delivery of voice and broadband and MPF and WLR+SMPF was therefore currently alternative wholesale inputs for the same retail products.

2.47 On its own, Ofcom stated[55] that productive efficiency would imply a price differential equal to the difference in the LRICs of the inputs. In theory, Ofcom could have sought to optimize economic efficiency, giving some weight to allocative efficiency, in setting the differentials. This may suggest a move over time towards a differential that was close to the difference in LRIC, as substitution would increase over time. When two inputs were substitutes, Ofcom noted that the theory implied that their relative prices should be set to reflect their relative marginal costs.[56]

2.48 In practice, Ofcom[57] said that there were severe measurement difficulties and as such it did not consider it feasible to try to optimize economic efficiency in a very

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[48] CPW W/S Houpis I, §49.
[49] This section incorporates both Ofcom's LLU and WLR Defence.
[50] Ofcom LLU Defence, Annex D, §48.
[51] Ofcom WLR Defence, Annex §16.
[52] Ofcom LLU Defence, Annex D, §6.
[53] Ofcom WLR Defence, Annex, §6.
[54] Ofcom LLU Defence, Annex D, §9.
[55] Ofcom LLU Defence, Annex D, §23.
[56] Ofcom LLU Defence, Annex D, §17.
[57] Ofcom LLU Defence, Annex D, §25.

precise way. There were measurement difficulties in assessing LRIC and in assessing the elasticity of demand for access for MPF and WLR+SMPF and substitution between them. Ofcom also suggested that if it chose to set optimal prices for MPF, WLR and SMPF, it would be necessary to set all regulated charges to a fully optimal basis. This could require a recalculation of the common cost allocation for other services, including the network charge control.

2.49 Ofcom did not believe[58] that Ramsey mark-ups could be used to set MPF and WLR+SMPF charges to achieve efficient overall recovery of costs. It considered the informational requirements of Ramsey pricing to be prohibitive. It would not be feasible to rely on Ramsey mark-ups because of the risk of distorting the choice (in terms of productive efficiency) between WLR+SMPF and MPF.

2.50 Given the various measurement difficulties, Ofcom[59] took the view that the best that could realistically be achieved in terms of economic efficiency was to ensure that the differential between MPF and WLR/WLR+SMPF was sufficiently reflective of Ofcom's estimate of the likely range for LRICs.

2.51 In response to Dr Houpis's suggestion that developments in the theory of Ramsey pricing would allow Ofcom to set prices taking into account of both productive and allocative inefficiency at the same time using the 'super elasticity' of the product, Ofcom[60] referred to *The Access Pricing Problem: A Synthesis* by Mark Armstrong, Chris Doyle and John Vickers (ADV) as an alternative approach to calculate the optimal access price. The ADV model was composed of the marginal cost of the input; an 'Efficient Component Pricing Rule' (ECPR) term; and a 'Ramsey' term.

2.52 Ofcom noted[61] that the ADV model was concerned with static efficiency. Ofcom considered that considerable weight should be placed on dynamic efficiency and therefore did not set charges using the ECPR.

2.53 Ofcom considered[62] that the differential in charges between MPF and WLR+SMPF did affect relative demands because it would affect CPs' choice of wholesale products, and because the wholesale demands may be affected through the retail market as end-consumers switched between CPs.

2.54 Ofcom suggested[63] that to the extent that substitution was restricted, this would be due to inertia and a delay in responding to price signals. The less than full substitutability derived from obstacles to switching which were likely to disappear over time. In technical terms, Ofcom expected the long-run elasticity of substitution to be significantly higher than the short-run elasticity. If this were so, the optimum prices would change over time. However, it would be difficult to track the changes in the elasticity over time and to adjust prices to reflect this.

2.55 Ofcom argued[64] that the relationship between input price differentials and substitutability would have to be stable, continuous and known over time to allow the approach advocated by CPW to be feasible. As the relationship was likely to be none of these, and attempts to implement an approach of the type suggested would be likely to be unsuccessful, possibly leading to unstable and unintended outcomes, Ofcom disagreed with CPW's approach.

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[58] Ofcom LLU Defence, Annex D, §16.
[59] Ofcom LLU Defence, Annex D, §28.
[60] Ofcom LLU Defence, Annex D, §§10–15.
[61] Ofcom LLU Defence, Annex D, §§14 & 15.
[62] Ofcom LLU Defence, Annex D, §19.
[63] Ofcom LLU Defence, Annex D, §§20 & 21.
[64] Ofcom LLU Defence, Annex D, §22.

2.56 Ofcom considered[65] that CPW overstated the difference in elasticity between MPF and WLR of demand partly because it was possible that some demand for WLR was driven by retail demand for broadband Internet access.

2.57 Ofcom did not accept Dr Houpis's assertion that dynamic efficiency considerations pointed to a differential significantly greater than the difference in the respective LRICs.[66] Ofcom argued that it had considered the following aspects of dynamic efficiency when making its charging decisions:

(a) potential gains from increased competition in broadband and voice; and

(b) providing a stable regulatory framework, including by giving weight to how charges had been set in the past and to stakeholders' reasonable expectations for charges in the future, so as to enable a climate for efficient investment.

2.58 Ofcom[67] said that a reasonably priced WLR product was important to downstream competition. Ofcom had now deregulated the retail narrowband market and a significant increase in the WLR charge could affect the competitive conditions in the retail market.

2.59 Ofcom said[68] that its view was that sustainable and effective competition required that—in the long term—entrants must be able to compete without special protection. This suggested that prices should be set in the longer term to cover efficiently incurred costs, and that relative prices should not distort the choices among products made by CPs.

2.60 Although there could be a case for a larger increase in MPF charges to reflect the difference in LRICs more closely, Ofcom suggested[69] that the glide path appropriately balanced the objective of reducing any potential distortion to choice between MPF and WLR+SMPF with the need to protect consumers and to avoid dislocation in the market. Ofcom did not agree[70] with CPW that there was a strong case for setting charges so as to generate a larger differential in order to promote competition. Other dynamic efficiency considerations militated in favour of retaining a CCA FAC approach, with an appropriate price path.

2.61 Ofcom said that another problem with attempting to set optimal prices for MPF, WLR and SMPF was that the analysis could only be partial as Ofcom had not set other prices in this way. Ofcom gave as an example the retail provision of calls which shared some common costs with access products. Ofcom said that calls generally had a higher elasticity than access products, so mark-ups on access products would have to reflect the lower elasticity of access prices compared with call prices. This could require a recalculation of the common cost allocation in the Network Charge Control in order to reduce mark-ups on calls.[71]

2.62 Ofcom[72] argued that CPW's suggestion of a margin squeeze was entirely hypothetical and that CPW did not provide evidence to support this claim.

[65]Ofcom LLU Defence, Annex D, §26.
[66]Ofcom LLU Defence, Annex D, §36.
[67]Ofcom LLU Defence, Annex D, §32.
[68]Ofcom LLU Defence, Annex D, §37.
[69]Ofcom LLU Defence, Annex D, §49.
[70]Ofcom LLU Defence, Annex D, §49.
[71]Ofcom LLU Defence, Annex D, §27.
[72]Ofcom WLR Defence, Annex, §50.

Sky's Intervention

2.63 Sky supported[73] CPW's submission that Ofcom's decision resulted in an insufficient difference between the prices of MPF and SMPF+WLR. Sky noted that although Ofcom's duty and stated policy objective implied that it should be promoting the use of MPF services, since competition based on using MPF was the most efficient means of competing, the most upstream form of competition that was sustainable in the short to medium term and it delivered the greatest benefits for consumers. Sky claimed that, in practice, Ofcom's decision would deter or slow down the future development of MPF-based competition and favour the incumbent provider.

2.64 Ms Bushell noted that Sky had historically purchased SMPF services, in conjunction with WLR services, but had recently made the decision to switch to using MPF services for both its existing and new subscribers who took broadband, calls and line rental services from Sky. The decision to switch was based on two main factors:

(a) the reduced cost and increased call termination revenues associated with purchasing MPF services compared with SMPF and WLR services; and

(b) the ability to offer an enhanced telephony proposition to its customers.

2.65 Ms Bushell indicated[74] that there were two key benefits of LLU services, over other wholesale services, offered by Openreach or BT Wholesale:

(a) although LLU involved relatively high upfront costs, CPs were able to benefit from lower ongoing costs compared with using other wholesale services, leading to lower prices for consumers; and

(b) because LLU involved the alternative CP effectively taking over the line between the local exchange and the customer's premises, it provided much greater scope for product differentiation and innovation compared with other wholesale services, as well as the ability for the service provider to control and deliver to the customer a better quality of broadband product and service.

2.66 Ms Bushell noted[75] that the benefit of LLU-based competition had been clearly recognized by Ofcom. In its last strategic review of the telecommunications sector, Ofcom concluded that, at least in the medium term, it was unlikely that further end-to-end infrastructure-based competition would be sustainable and that purely service-based competition would be insufficient to deliver the full range that benefited consumers. The most effective way of delivering these consumer benefits was seen to be through competition from alternative CPs at the deepest level of infrastructure (ie the most upstream level) where it was likely to be effective and sustainable, notably LLU-based competition. Although Ofcom did not appear to have moved away from this overall policy objective, Ofcom's decision did potentially reduce the scope for LLU-based competition to continue to deliver the full range of benefits originally envisaged by Ofcom and for these benefits to be rolled out to a larger number of customers in the future.

2.67 Ms Bushell indicated[76] that Sky made the decision to migrate to MPF services prior to publication of the LLU Statement, and noted that the decision was worse than Sky

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[73] Sky LLU SoI, §34.
[74] Sky W/S Bushell, §19.
[75] Sky W/S Bushell, §20.
[76] Sky W/S Bushell, §28.

had forecast in its business case. Sky was clear that Ofcom's decision on MPF would be a key factor in its decision to invest in the future, [✄].[77]

2.68 Ms Bushell suggested[78] that Ofcom's decision would favour BT's retail business over other competing CPs, such as Sky, and that this would go against the objective of LLU which was introduced in order to increase, rather than decrease, the competitive pressure on BT.

BT's Intervention

2.69 With regard to CPW's claim of a potential margin squeeze, BT argued[79] that the cases presented by Mr Heaney were not relevant to the issue of the MPF and WLR+SMPF price differential as CPW and other MPF-based providers were not actively seeking to compete in the provision of either WLR or SMPF services, but in markets further downstream of MPF, SMPF or WLR.

2.70 Mr Shurmer said[80] that there was no risk of a price squeeze as was suggested by CPW, because of the legal and regulatory controls to which Openreach was subject, including accounting separation and the BT Undertakings. Mr Shurmer said[81] that CPW had ignored the fact that BT's Undertakings ensured that Openreach had the incentive to treat all its CP customers equivalently and impose legally binding obligations to reinforce those incentives.

2.71 BT argued[82] that SMPF-based provision had made a significant contribution to competition. BT said that, in particular, it had allowed CPs to enter the broadband market and build a customer base via bitstream, then move up the value chain to invest in providing SMPF services, and then to broaden their scope of provision into narrowband by taking WLR and offering bundled services. BT said that, at that point, LLU providers might seek to utilize MPF.

2.72 BT said that Mr Heaney referred[83] to innovation and choice, but did not reflect the importance of WLR in also providing these benefits to consumers. For example, a WLR-based CP which used carrier pre-selection (CPS)[84] to deliver voice calls, could do so over its own network using its own call servers and other telephony functionality, and was therefore able to innovate in terms of both infrastructure and service. Such benefits were not therefore confined to MPF, although an MPF operator may have more scope for innovation across a broader range of services than by using WLR alone.

2.73 Mr Shurmer noted[85] that there were also consumer benefits to WLR-based competition (alongside the use of SMPF) which MPF did not currently offer. For example, WLR allowed end-users to elect to take their voice and broadband services from different providers. SMPF allowed CPs to provide broadband independently of voice telephony. In contrast, MPF was used to provide 'bundled' broadband and telephony services from the same CP.

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[77] Sky W/S Bushell, §§33–36.
[78] Sky W/S Bushell, §38.
[79] BT W/S Tickel, §21.
[80] BT W/S Shurmer III, §§34–37.
[81] BT W/S Shurmer III, §§33–35.
[82] BT W/S Tickel I §19.
[83] BT W/S Shurmer III, §23.
[84] CPS allows end-users to choose a supplier of voice calls without having to dial additional codes on the telephone. The regulated BT CPS product ensures that the end-users' calls are routed across the network of that supplier.
[85] BT W/S Shurmer III, §24.

CPW's Reply V (29 March)

2.74 In its LLU Defence, Ofcom had stated that the substitutability between MPF and WLR+SMPF for the provision of voice and broadband services would mean that any effort to increase the differential between MPF and WLR to take into account allocative efficiency considerations would be ineffective. In response, Dr Houpis[86] argued that there was no evidence that MPF and WLR+SMPF were very close substitutes. On the contrary, the available evidence on the demand for WLR, and WLR+SMPF, suggested that the two products were not perfect, or even near perfect, substitutes. He also said that there was also no evidence to suggest that this should be expected to change in the near future. In the absence of close substitutability, allocative efficiency considerations were even more important.

2.75 In support of his position, Dr Houpis said:[87]

(a) The provision of retail broadband and voice services using MPF offered greater flexibility in terms of the range of services that could be offered compared with the provision of similar services using WLR+SMPF.

(b) The provision of retail voice services using MPF relied less heavily on the inputs provided by BT/Openreach compared with WLR.

(c) There were also (sunk) transition costs of around £40 for customers that switched from one technology to another, which would imply that substitutability would be far from perfect at the margin.

(d) As the CP's capital costs to provide retail services using MPF, or WLR+SMPF, were to a significant extent sunk, this would also be expected to reduce the substitutability of MPF for WLR+SMPF for existing customers.

(e) The available empirical evidence was also consistent with the above analysis about the differences in the characteristics of the two products, as CPs used both MPF and WLR+SMPF for the provision of retail voice and broadband services. Whilst the mix had been changing gradually over time, there was no evidence of the kind of switching that would support a hypothesis that the two inputs were perfect, or near perfect, substitutes.

2.76 In Dr Houpis's view,[88] competition in the downstream retail market from CPs using WLR would be critically dependent on the relationship between the prices of wholesale inputs used by competitors to BT and the level of retail prices in the downstream market for the relevant services. Dr Houpis noted that it was unclear that the changes in the absolute level of the WLR charge would have a direct impact in themselves. As Ofcom appeared to assume that increases in WLR prices would feed through into increases in the retail line rental prices for voice-only retail customers, the relative level of retail prices of BT and rivals using the WLR service would appear to be unchanged by an increase in the input price. Thus, Dr Houpis suggested that there did not seem to be any reason to expect an increase in the level of WLR prices to have a direct effect on retail competition between BT and rivals using the WLR product.

[86] CPW W/S Houpis IV, §10(c).
[87] CPW W/S Houpis IV, §19.
[88] CPW W/S Houpis IV, §30.

2.77 CPW accepted[89] that there was no single correct answer in specifying appropriate mark-ups to reflect allocative efficiency, there were some answers which were inferior (including, as Ofcom did, merely leaving the differences between prices to reflect (its view of) LRIC differences).

2.78 With regard to the importance of WLR in supporting competition, Mr Heaney said[90] that he agreed that WLR was important. However, it was clear that MPF was a better platform for competition than WLR/SMPF since it was a deeper form of competition. In addition, Mr Heaney said that MPF was becoming relatively more important (and WLR less important), as demonstrated by the shift to MPF from WLR. According to Ofcom's own projections, Mr Heaney noted that from 2009/10 to 2012/13 MPF would increase by 2.9 million lines whilst WLR would decline by 4.1 million lines. Whilst WLR may be important, it was unequivocally clear that MPF was a better platform for competition and would become relatively even more important.

2.79 In response to Mr Shurmer's argument that the operational separation of Openreach meant that BT would not act anti-competitively, Mr Heaney stated:[91]

(a) Within Openreach (which was vertically integrated across MPF and WLR), there was a clear incentive to leverage vertically to favour WLR/SMPF over MPF.

(b) Since Openreach was not structurally separated from the rest of BT (but merely operationally separate), there was some incentive to favour the rest of BT over other operators. Openreach could (and did) favour the rest of BT over competitors by favouring WLR/SMPF.

CPW's WLR hearing (30 April 2010)

2.80 CPW said at its WLR bilateral hearing that its:[92]

> understanding of Ofcom's view, and we agree with that, is what they are trying to do is to ensure the deepest level of competition possible, and the whole idea, the whole concept … of Ofcom's policy is this idea of the ladder of investment which means that a new entrant goes to the first step, the second step and then the third step. So, even if you had such a concern, the implication of that would be that people would be competing more strongly at the deeper level, which is the MPF level. In our view, that reduces further, if you want, any potential concern about that risk. In the longer term, if Ofcom was able today to act as a 'central planner', our understanding is based on their objectives that they would choose MPF. That would be the idea, that the other access products available (such as SMPF) would allow people to be able to do that (use MPF).

2.81 CPW also told us that SMPF-based competition had been the major platform in 2004, but technology had moved on significantly in the last five years, which needed to be reflected in the pricing structure.[93] CPW also said that it was quite possible for one operator to be offering broadband based on SMPF while another operator offered fixed-line services using WLR.[94]

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[89] CPW Reply I, §144.
[90] CPW W/S Heaney VII, §86.
[91] CPW W/S Heaney VII, §88.
[92] CPW hearing transcript, 13 May, p23, lines 1–20.
[93] CPW hearing transcript, 30 April, p29, lines 21–32, p30, line 1.
[94] CPW hearing transcript, 30 April, p30, lines 2–14.

2.82 With respect to Ofcom's perceived policy, CPW suggested[95] that 'in the longer term, if Ofcom was able today to act as a "central planner", our understanding is based on their objectives that they would choose MPF'.

Ofcom's WLR hearing (6 May 2010)

2.83 At its hearing, Ofcom said[96] that, if BT were to adopt NGN in local exchanges, it might be appropriate, for allocative efficiency reasons, for the prices of some services to increase—however, dynamic efficiency considerations would point in the opposite direction.

2.84 Ofcom also said that:[97]

> looking at the relativity of WLR plus SMPF versus MPF we are concerned to make sure that we set those relative prices in a way that reflects underlying cost and is likely to be sustainable from both perspectives: in the sense that, from BT's point of view, it invests in network to provide those services, and also from the service provider's point of view that they are not being encouraged to do something which will unwind in two or three years' time and end up costing more.

2.85 In relation to CPW's suggestion of using Ramsey prices, Ofcom said:[98]

> We don't see this as primarily a Ramsey question which is about allocative efficiency. So estimates of allocative efficiency losses through failing to set Ramsey prices, which is essentially where that calculation comes from, I think we just say it's not relevant because if you try to set Ramsey prices in these circumstances you'd be undermined by arbitrage essentially, because this is not a Ramsey question where you set wholesale prices to induce Ramsey retail prices, it's about producing a given set of outputs at minimum cost. So I would be rather dismissive of the allocative efficiency calculation.

2.86 In response to CPW's argument that there was a correspondence in elasticity between the wholesale and retail prices, Ofcom said[99] that there was no correspondence in this case as the same outputs were being provided by a different combination of inputs.

BT's WLR hearing (12 May 2010)

2.87 At its hearing, BT said[100] that it expected there to be an increase in demand from CPs other than BT for WLR. Overall, it expected there to be a growth in the number of MPF lines but that quite a lot of this growth would be accounted for by Sky and CPW moving their customer bases away from using WLR and SMPF, on to using MPF. CPW also stated[101] that there were unlikely to be any new entrants into the market.

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[95] CPW hearing transcript, 30 April, p23, lines 14–17.
[96] Ofcom hearing transcript, 6 May, pp46&47, lines 18–37.
[97] Ofcom hearing transcript, 6 May, p25, lines 30–37, p26, lines 1–6.
[98] Ofcom hearing transcript, 6 May, p25, lines 30–37, p52, lines 10–22.
[99] Ofcom hearing transcript, 6 May, p6, lines 3–6.
[100] BT hearing transcript, 13 May, p15, lines 26–29, p16, line 1.
[101] CPW bilateral hearing, Dr Houpis, p31.

Ofcom's letter of 19 May 2010

2.88 Ofcom noted[102] that the substitution from WLR+SMPF to MPF was proceeding at some pace, and there was an increasing rate of substitution particularly since the conclusion of the last LLU charge control review.

2.89 Also, Ofcom clarified that although it had observed a trend towards MPF and away from WLR and SMPF by some major CPs, it did not anticipate that this trend would leave BT as the only user of SMPF. Ofcom said that there were certain CPs which did not wish to replace WLR with their own MPF-based voice service, either at all or in areas where investment of this nature was not warranted.[103]

BT's letter of 19 May 2010

2.90 In relation to WLR competition, BT noted[104] that there had been significant new entry using WLR, including 48 new CPs that had commenced taking WLR from Openreach since January 2009, and a further 36 currently 'in establishment'.

CPW's letter of 25 May 2010

2.91 CPW contended[105] that competition based on MPF was preferable over competition based on WLR+SMPF. CPW said that competition based on MPF delivered greater dynamic efficiencies, since it would reach across more of the value chain, and other operators had greater ability to innovate and differentiate. CPW's case was that it was right that the structure of prices should take into account the greater benefit that MPF-based competition delivered, and that setting the price difference above LRIC was the appropriate way to achieve this. CPW considered its arguments entirely consistent with Ofcom's declared policy objectives.

2.92 With regard to the relevance of elasticity of retail products, CPW stated:[106]

> in a hypothetical scenario in which no SMPF product existed, such that broadband + voice could only be provided using MPF, then the two inputs WLR and MPF would be used to provide different retail outputs: access to voice services, and voice + broadband services respectively. There is therefore a link between wholesale and retail products, and prices. To the extent that the demand characteristics for these two outputs were different (and demand for access to voice services was relatively less price sensitive) then it would be desirable to set a price differential above LRIC efficiently to recover any fixed and common costs. CPW did not understand this to be a point of contention, as it has been recognised by Ofcom.

2.93 CPW said[107] that it recognized that to set 'optimal' prices in the current context, and to try mathematically to take into account all relevant considerations, would be difficult.[108] This was precisely why CPW proposed setting CRS prices through the

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[102]Ofcom letter to the CC, 19 May 2010, Comments on CPW transcript.
[103]Ofcom letter to the CC, 27 May 2010.
[104]BT letter to the CC, 19 May 2010, Comments on CPW transcript.
[105]CPW letter to the CC, 25 May 2010, Comments on Ofcom transcript.
[106]CPW letter to the CC, 25 May 2010, Comments on CPW transcript.
[107]CPW letter to the CC, 25 May 2010.
[108]See, for example, W/S Houpis I, §60; CPW's comments at its own bilateral hearing on 30 April 2010, transcript, p83, line 31, and p84, line 1.

use of the LRIC+EPMU approach.[109] For reasons already given, CPW believed that this approach represented an appropriate and pragmatic balance between the different efficiency considerations, and could also address Ofcom's concerns, by minimizing any productive inefficiency risks.

2.94 CPW said, for the avoidance of doubt, that CPW did not dispute that Openreach should be allowed to recover its efficiently incurred costs, under any structure of prices, and had not argued that prices should be structured to facilitate market entry.[110]

2.95 With regard to new entrants, CPW argued[111] that Ofcom was incorrect to assert that a consistent use of technology between access and core prices would result in proper entry signals. CPW argued that new entrants only used new technology and if prices were based on old technology, this could result in inefficient entry signals. For example, new entrants were effectively foreclosed from competing with WLR, since old technology costs were used to set prices.

Sky's letter of 26 May 2010

2.96 Sky said that BT had argued that CPs purchasing WLR services from BT in order to be able to offer voice services to their customers were able to offer innovative services.[112] Whilst Sky said it was correct that there was some limited scope for a CP purchasing WLR services to differentiate its voice services to customers, it considered that MPF-based competition provided a much greater opportunity to do so.

The differential between MPF and WLR

Ofcom's Decision

2.97 Ofcom noted[113] in the LLU Statement that the differential between MPF and WLR was particularly important to decisions around the use of MPF for providing voice-only services (as opposed to voice and broadband).

2.98 In the WLR statement, Ofcom said[114] that the differential between MPF and WLR would be an important consideration if the size of the differential appeared likely to create significant productive inefficiencies. However, Ofcom said that in practice it was unlikely that any productive inefficiency would occur if the difference in the charges for WLR and MPF did not reflect LRIC because it was not clear that it would be economic for an LLU operator to provide voice-only services given the economies of scale involved relative to the value of the service.

2.99 As part of the WLR Statement, Ofcom[115] undertook an assessment of the costs and charges for MPF and WLR with a view to establishing whether the differential between them covered LRIC. Ofcom argued that the result of this analysis suggested that the MPF and WLR charges resulted in a differential that broadly reflected the difference in the LRICs. In its WLR Statement, Ofcom calculated[116] the difference in

[109] CPW letter to the CC, 25 May 2010.
[110] CPW letter to the CC, 25 May 2010, Comments on Ofcom transcript.
[111] CPW letter to the CC, 25 May 2010, Comments on Ofcom transcript.
[112] Sky letter to the CC, 26 May 2010, Comments on BT bilateral hearing transcript.
[113] LLU Statement, §§A4.77 & 4.78.
[114] WLR Statement, §5.16.
[115] WLR Statement, §5.17.
[116] WLR Statement, §5.87.

CCA FAC for MPF and WLR in 2012/13 at around £10, which was broadly similar to its estimate of the LRIC differential (£8 to £12).

CPW's Appeal

2.100 Dr Houpis agreed[117] that Ofcom was correct to identify static (ie productive and allocative) efficiency and dynamic efficiency considerations as the key criteria guiding its pricing decisions for the LLU and WLR services. However, he argued that Ofcom was not correct to suggest that productive efficiency considerations were less relevant when comparing the costs of WLR and MPF.

2.101 In response to Ofcom's argument that operators would not wish to use MPF to provide voice-only services since the scale economies would make it unattractive, Mr Heaney[118] claimed that this assertion was incorrect because an LLU operator would leverage economies of scope between using MPF to offer voice-only services as well as voice + broadband services.

2.102 Mr Heaney also noted[119] that CPW had been requesting a product variation that would allow CPW to use MPF to offer voice-only services for over two years.

2.103 CPW also argued[120] that to the extent that Ofcom sought to pursue a social goal rather than one based on promoting economic efficiency, that should be done through other mechanisms, such as explicit funded subsidies, rather than an artificially low price cap.

Ofcom's Defence

2.104 Ofcom[121] considered the differential between MPF and WLR to be less important than the differential between MPF and WLR+SMPF, as it was unlikely to result in a distortion in CPs' choice of wholesale input. Ofcom argued this based on its assertion that MPF was unlikely to be used for providing voice services. Despite this view, Ofcom expressly considered the MPF vs WLR differential and found that the differential was broadly similar to that implied by LRIC. As such, the charges set therefore avoided inefficiencies being created by CPs choosing to use MPF to deliver voice-only services when this had higher total costs to society.

2.105 In the WLR Statement, Ofcom[122] said that the differential between MPF and WLR charges would be an important consideration, if the size of the differential appeared likely to give rise to significant productive inefficiencies. However, Ofcom[123] considered it unlikely that any productive inefficiency would occur if the difference in the charges for WLR and MPF did not reflect LRIC.

2.106 Ofcom[124] believed that there were good reasons to think it unlikely that there would be demand for using MPF for voice-only services when the differential between MPF and WLR was broadly equivalent to the LRIC differential between those services.

[117] CPW W/S Houpis III, §13, referring to WLR Statement, §§5.1 & 5.2.
[118] CPW W/S Heaney I, §§50 & 51.
[119] CPW W/S Heaney I, §52.
[120] CPW WLR NoA, §102.
[121] Ofcom WLR Defence, Annex, §§8 & 9.
[122] Ofcom WLR Defence, Annex, §14.
[123] Ofcom WLR Defence, Annex, §15.
[124] Ofcom WLR Defence, Annex, §19.

2.107 In the event that there was demand for MPF for voice-only services, Ofcom[125] concluded that productive efficiency considerations would be more important than any allocative efficiency considerations, for the same reasons as for the differential between the price of MPF and the price of WLR+SMPF.

2.108 Ofcom[126] argued that it would be inefficient, and against consumers' interests, to accept a very wide differential between MPF and WLR on the basis that it could encourage CPs to use MPF to deliver voice services when this would have higher total costs to society than if CPs used WLR.

2.109 Ofcom noted that CPW had requested a product variation from Openreach to allow a voice-only service.[127] Ofcom[128] stated that CPW proposed a target price for a voice-only MPF product significantly below the standard MPF charge. As this would increase the differential between MPF and WLR by £15 more than was currently the case, in Ofcom's view, this would not be appropriate.

2.110 Regarding CPW's arguments about the pursuance of social goals, Ofcom[129] argued that it was its principal duty, in carrying out its functions, 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. Ofcom argued that it did not see it as reasonable or proportionate for voice-only consumers to have to pay more to fund the costs of new technology from which they received no substantive benefit above what they could obtain from the existing technology.

2.111 Ofcom also argued[130] that raising the WLR charge further would tend to increase charges for voice-only consumers, including those on social telephony schemes, and this should be considered in setting the relative levels of charges.

2.112 Ofcom[131] did not consider it appropriate to increase the MPF or WLR charges further by means of a steeper glide path or a bigger adjustment to charges in the first year on the basis that operators using MPF made a significant contribution to the competitiveness of the retail broadband market and hence to the benefits which consumers got from broadband service. In Ofcom's judgement, the consumer interest would not be best served by a larger increase in the MPF charge than Ofcom had applied, although this was a matter of judgement and there were some arguments in favour of a larger increase.

2.113 On balance, Ofcom[132] did not consider that it would be appropriate to raise the WLR charge further, and argued that charges set by Ofcom already narrowed the wholesale differentials sufficiently to avoid significant economic inefficiencies.

BT's Intervention

2.114 BT supported[133] Ofcom's conclusion that there was no reason to force Openreach to provide an xMPF product. In addition, BT suggested that it would be particularly inappropriate to consider changing relative pricing of existing products (eg WLR, MPF)

[125] Ofcom WLR Defence, Annex, §17.
[126] Ofcom WLR Defence, Annex, §21.
[127] Generally referred to as an 'xMPF product', that is a voice-only product which could be provided by a LLU operator to use MPF for voice-only.
[128] Ofcom WLR Defence, Annex, §20.
[129] Ofcom WLR Defence Annex, §63.
[130] Ofcom LLU Defence, Annex D, §33.
[131] Ofcom LLU Defence, Annex D, §31.
[132] Ofcom LLU Defence, Annex D, §34.
[133] BT W/S Dolling III, §32.

in order to make an xMPF product commercially attractive. This would amount to artificially skewing the market to encourage inefficient investment.

2.115 BT argued[134] that it was clear that CPW was able to demand MPF from Openreach and directly market a voice-only service over MPF while reselling broadband over MPF on to a third party wholesaler or vice versa if CPW considered it economically viable. If CPW considered it economic, it was able to use the Openreach MPF service to develop a number of different product variants, and effectively mimic the product variants provided by Openreach. Mr Dolling noted that this happened in practice rarely, if at all.

2.116 At the bilateral hearing with BT, Mr Shurmer on behalf of BT said:

> One of the things that struck me when preparing for this, is if you look at our installed base something like around 21 million WLR lines in total, of which around [✂] of those only have WLR on the line. The remainder have SMPF as well, so they have a combination of voice and broadband, but [✂] of our 21 million base is voice only.[135]

CPW Reply V (29 March 2010)

2.117 CPW claimed[136] that Ofcom sought to dismiss the relevance of the MPF vs WLR price difference by saying that a higher price difference between MPF and WLR would result in economic inefficiency. CPW considered this to be a circular argument, suggesting that Ofcom appeared to be arguing that since there was no demand to offer voice-only services today and a large price change would be required to make it commercially viable and induce entry, there could be no productive inefficiency. CPW claimed that the mistake in Ofcom's argument was that, if the price difference was correct, then there would be entry.

2.118 Although Ofcom had asserted[137] that there was likely to be no benefit from the price difference between MPF and WLR even being equal to the LRIC cost difference, CPW argued that, because Ofcom had ignored the significant economies of scope between using MPF to deliver both broadband and voice and MPF to deliver voice alone, it was incorrect for Ofcom to assert that it was unlikely that there would be any productive inefficiencies if the price difference between MPF and WLR was smaller than the LRIC cost difference.

2.119 In response to Ofcom's concern that increased voice prices could lead to higher retail prices for some 'vulnerable' voice-only customers, Dr Houpis suggested[138] that such customers were likely to represent only a very small proportion of voice-only customers, and an even smaller proportion of all customers. Moreover, Dr Houpis indicated that there were other regulatory tools available to Ofcom to protect vulnerable customers which would not lead to distortions for all customers across the market.

Ofcom's hearing (6 May 2010)

2.120 Ofcom argued[139] that the charges set avoided inefficiencies being created by CPs choosing to use MPF to deliver voice-only services, when this had higher total costs

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[134] BT W/S Dolling III, §32.
[135] BT hearing transcript, 13 May, p11, lines 10–19.
[136] CPW W/S Heaney VII, §85.
[137] CPW Reply V, §6.
[138] CPW W/S Houpis IV, §31.
[139] Ofcom hearing transcript, 6 May, p22, lines 30–36.

to society. This was based on Ofcom's view[140] that it was unlikely to be economic for a CP to provide voice-only services with MPF, given the economies of scale involved relative to the value of the service.

2.121 Ofcom argued[141] at its bilateral hearing that there were 15 million customers who depended on voice services based on the WLR service and hundreds of companies that used WLR as an input. Ofcom stated that if changes were made of the sort that CPW proposed, the economics of those businesses would be threatened fundamentally.

2.122 Ofcom argued[142] that if the price differential between MPF and WLR was changed to a set of prices that reflected a £40 difference suggested by CPW, as opposed to the £10 or so difference that was established in the price controls, the second order effects were likely to mean that the demand characteristics for these services would change markedly. In itself, that would lead to instability in the cost recovery system.

2.123 Ofcom stated[143] that it did not agree with CPW's argument that NGN costs that were essentially about providing enhanced functionality in relation to broadband should find their way into increasing the estimated costs and the prices of delivering core telephony services using existing technology.

2.124 Ofcom was not convinced[144] there was a good economic reason for agreeing to a new charge control that would increase prices for voice-only products (WLR). While Ofcom considered that its position stood up on economic grounds, the social impacts of such a price increase were supportive of its position.

Ofcom's letter of 19 May 2010

2.125 Ofcom argued[145] that in the unlikely event that BT reverted to its earlier plan of providing NGN-linked access products (rather than moving straight to NGA), it would have used MPF as an input. However, while this would require the development of a technical solution to allow the continuation of SMPF by third parties, it would not necessarily lead to the creation of an xMPF product for all CPs as this would be technically different from the BT solution and, therefore, would only be warranted if there was a separate policy/business case for its development.

2.126 Ofcom noted that Mr Heaney had said 'If they [BT] did do an NGN with convergent MSANs then they would have to use MPF and they would also then have to create an xMPF product, probably, and therefore there would be a level playing field'. Ofcom said that[146] this statement was based on a number of assumptions and confused the possible requirement for BT to be able to continue supporting WLR and SMPF-type services and the creation of an xMPF product which could be used by all CPs.

[140]Ofcom hearing transcript, 6 May, p22, lines 30–36.
[141]Ofcom hearing transcript, 6 May, p89, line 28, to p90, line 32.
[142]Ofcom hearing transcript, 6 May, p50, lines 4–31.
[143]Ofcom hearing transcript, 6 May, p89, line 28 to p90, line 32.
[144]Ofcom hearing transcript, 6 May, p57, line 21 to p58, line 5.
[145]Ofcom letter to the CC, 19 May 2010, Comments on CPW transcript.
[146]Ofcom letter to the CC, 19 May 2010, Comments on CPW transcript.

CPW's letter 25 May 2010

2.127 CPW confirmed [147] that it had asked for an xMPF product so that it could offer customers a voice service and allow them to take broadband from another supplier, and in doing so compete on a level playing field with BT. CPW indicated[148] that it had engaged in a range of discussions with Openreach on the xMPF product from late 2007 to early 2009.

2.128 CPW disagreed[149] with a suggestion made by Ofcom at its hearing that providing voice-only services using MPF was not an efficient way of using the network and that the cost of monitoring/policing would more than offset the savings from the line having fewer faults. CPW suggested that the cost of monitoring would be small since it could be covered by a contractual commitment and those companies that could use xMPF were large companies and were unlikely to breach contract provisions. The reduction in faults that would occur from removing the broadband product would be, according to Ofcom, worth around £3. It was wholly implausible, therefore, that the additional monitoring cost would offset the fault cost reduction.

2.129 In response to Ofcom's assertion that CPW suggested that the price of xMPF should be calculated as the MPF less the price of SMPF, CPW stated that that was not its view. CPW indicated that a previous quote on the issue (that CPW provided to BT in October 2007) was superseded by many other discussions, in greater detail, about the xMPF product and pricing.[150]

2.130 CPW argued[151] that Ofcom's suggestion that increasing WLR charges would threaten a large number of smaller businesses was fallacious because businesses could offset increases in their input costs and some of these businesses would benefit from falls in the price of services.

CPW's letter of 26 May 2010

2.131 In response to BT's suggestion that MPF could be used to offer voice-only services,[152] CPW indicated[153] that although this was technically correct, it did not present the complete picture. CPW said that to use MPF to provide a voice-only product, the customer would be unable to take a broadband service from another provider; hence the need for the xMPF product.

LRIC+EPMU vs CCA FAC

Ofcom's Decision

2.132 In its WLR Statement, Ofcom confirmed,[154] in line with other regulatory charge-setting exercises (in particular, determining the appropriate charges for MPF and SMPF rental in the LLU Statement), that it decided to use CCA FAC data for setting WLR charge controls. As set out in Annex 4 of the LLU Statement, Ofcom considered CCA FAC appropriate based on the following:

[147] CPW letter to the CC, 25 May 2010, Comments on Ofcom transcript.
[148] CPW letter to the CC, 25 May 2010, Comments on Ofcom transcript.
[149] CPW letter to the CC, 25 May 2010, Comments on Ofcom transcript.
[150] Ofcom transcript, 6 May, p86, line 34 to p87, line 7.
[151] CPW letter to the CC, 25 May 2010, Comments on Ofcom transcript.
[152] BT transcript, 13 May, p18, lines 24–26.
[153] CPW letter to the CC, 26 May, Comments on BT bilateral hearing transcript.
[154] WLR Statement, §§5.9 & 5.10.

(a) It was a widely understood concept and had been the anchor point for many previous price controls.

(b) It used data that could be reconciled to the regulatory financial statements which were published and audited.

2.133 Ofcom stated[155] in the LLU Statement that it preferred to use CCA FAC as a cost standard to using long-run incremental costs with an equal proportionate mark-up (LRIC+EPMU), because CCA FAC used data that could be reconciled to the regulatory financial statements, which had been audited and were in the public domain.

2.134 Ofcom believed[156] that setting charges on a CCA FAC basis was broadly neutral as regarded the choice between wholesale products because the differential between MPF and WLR+SMPF was broadly reflective of LRIC, and was certainly not less than it.

2.135 Ofcom argued[157] that, given that LRIC+EPMU was not conceptually superior to CCA FAC, and that CCA FAC was more practical and transparent, it considered that FAC remained preferable to LRIC+EPMU. Ofcom noted that using CCA FAC was also consistent with other charge controls set for Openreach and BT more generally, which was important for ensuring sustainability, in the sense that a consistent approach ensured that all common costs could be recovered and BT could earn its cost of capital.

2.136 Ofcom also concluded[158] that there were not strong efficiency reasons for moving away from CCA FAC.

2.137 Should the MPF charge make a significantly lower contribution to recovery of common costs than WLR+SMPF, Ofcom believed that this would create distortions that would reduce efficiency:[159]

> For example, for LLU operators to choose between MPF and WLR+SMPF on their merits, the difference in charges should be comparable to the differences in incremental costs for Openreach. We considered the potential distortions to competition in the longer term could be significant. Such distortions were, in our opinion, likely to be the most important static efficiency consideration. We considered that charging on the basis of CCA FAC was likely to be broadly consistent with removing these static distortions.[160]

2.138 In addition to considering the potential impact on competition, Ofcom said[161] that it considered the need to ensure that investment incentives were not distorted by the regulatory process, including how it evolved over time. Ofcom argued that this tended to provide support for a CCA FAC basis for determining charges in the longer term, but with any increase being phased in gradually.

[155] LLU Statement, §A4.6.
[156] Ofcom LLU Defence, Annex D, §38.
[157] LLU Statement, §A4.6
[158] LLU Statement, §A4.7.
[159] LLU Statement, §A4.9.
[160] LLU Statement, §A4.9.
[161] LLU Statement, §A4.11.

CPW's Appeal

2.139 CPW argued that for reasons of both productive and allocative efficiency the WLR+SMPF vs MPF and WLR vs MPF differentials should both be larger than the differences in their LRICs.[162]

2.140 By relying on BT's CCA/FAC data, Dr Houpis considered[163] that Ofcom was placing too great a weight on simplicity and continuity with the current regulatory regime and that Ofcom attached an unjustifiably high weight to productive efficiency considerations, compared with allocative and dynamic efficiency considerations. He argued that the forward-looking LRIC would be the appropriate cost standard since it reflected the true opportunity cost to society of using either MPF, or WLR+SMPF, for the provision of retail broadband and voice services.

2.141 In CPW's view,[164] allocative and dynamic efficiency considerations were equally important as, if not more important than, productive efficiency, and that the potential impact from productive efficiency distortion was small.

2.142 Dr Houpis considered[165] that Ofcom's use of CCA FAC was extremely unlikely to provide an accurate estimate of the relevant differential because:

(a) Ofcom used a cost allocation methodology for some of the largest element of costs which did not reflect true incremental costs;

(b) Ofcom relied on annualized capital charges based on straight-line depreciation for existing assets which were now fully depreciated, which did not reflect forward-looking LRICs; and

(c) costs had been projected forwards from their current level without taking account of efficiency gains in provision of the MPF products.

2.143 Dr Houpis accepted[166] that it was necessary to provide an adequate degree of stability, but this did not justify the use of an out-of-date or inaccurate cost methodology or model.

2.144 Dr Houpis considered[167] that the use of Ofcom's CCA FAC approach resulted in prices for WLR that did not reflect the true underlying difference in the LRICs of WLR and MPF and, therefore, resulted in a price for WLR that was too low relative to MPF. He expected this to result in a less efficient price structure than could otherwise be achieved.

2.145 CPW claimed[168] that Ofcom failed to provide an explanation as to why the cost difference should not merely be 'broadly reflective' of LRIC rather than at a minimum reflective of LRIC differences.

2.146 CPW noted[169] that Ofcom had stated that the difference between MPF and WLR+ SMPF should 'broadly reflect incremental costs differences' and its MPF and WLR charges result in 'a differential that broadly reflects the differences in LRICs'. CPW

[162]WLR NoA, §78.2.
[163]CPW W/S Houpis I, §21.
[164]CPW hearing transcript, 30 April, p24, lines 1–8.
[165]CPW W/S Houpis I, §29.
[166]CPW W/S Houpis I, §85.
[167]CPW W/S Houpis III, §14.
[168]CPW WLR NoA, §87.4.
[169]CPW WLR NoA, §85.

argued[170] that Ofcom had provided no positive reason why, as a matter of economic principle, one would intentionally depart from using LRIC. Nor had Ofcom provided any assessment of the potential size of any distortion, and why it could be safely discounted.

Ofcom's Defence

2.147 Ofcom[171] defended the use of CCA FAC by arguing that the methodology was widely understood and was able to be reconciled to the audited regulatory financial statements. Ofcom expressly recognized that despite these advantages, CCA FAC might not necessarily lead to the most efficient outcome. Ofcom therefore considered whether there were any strong objections to CCA FAC on efficiency grounds. As part of this assessment, Ofcom considered differentials between the wholesale charges.

2.148 Ofcom argued that the CCA FAC was preferable to a LRIC methodology because:[172]

(a) CCA FAC data could be reconciled to the regulatory financial statements which were audited and in the public domain. CCA FAC therefore had important advantages of transparency and practicality over unaudited and unpublished LRIC+EPMU data.

(b) Whilst LRIC+EPMU had been used in the past, more recent controls, including those on BT's partial private circuit and network charges, had been based on CCA FAC data. These were services with which MPF and WLR were likely to share significant common costs.

(c) Using a consistent definition of costs across charge controls ensured sustainability and avoided possible over-recovery of common costs which could result from using inconsistent cost concepts. This was because it allowed common costs to be just fully recovered over all the controls taken together.

(d) The use of CCA FAC helped to provide a stable regulatory framework, because it was what Ofcom had used in the past for setting MPF, WLR and other charges. Regulatory stability was important to give operators the confidence to invest in networks.

2.149 Ofcom suggested[173] that using CPW's approach of setting individual charges on a LRIC basis would lead to a possible cost recovery issue because of the problems associated with attempting accurately to forecast volumes for the MPF and WLR+SMPF. If volumes were very different to those forecast, then Openreach may be unable to recover its total common costs even if, at forecast volumes, revenues would have been sufficient.

2.150 Ofcom believed[174] that the price differentials generated by setting charges equal to CCA FAC were reasonable and broadly consistent with considerations of economic efficiency. It considered that it would not be practicable to attempt to optimize charges in any more detailed way. Moreover, the charges resulting from Ofcom's approach were consistent with other policy considerations, such as the desire not to raise MPF charges too sharply or undermine retail narrowband competition, and with

[170]CPW WLR NoA, §91.
[171]Ofcom WLR Defence, Annex, §§4 & 5.
[172]Ofcom LLU Defence, Annex D, §40.
[173]Ofcom LLU Defence, Annex D, §§42 & 43.
[174]Ofcom LLU Defence, Annex D, §50.

minimizing the increases in charges for voice-only consumers, including those on social telephony schemes.

2.151 Ofcom proposed[175] to increase charges to the level of CCA FAC gradually over time by means of a glide path. This would strike an appropriate balance between considerations of static and dynamic efficiency. Gradual changes helped avoid shocks and provide stability. Because of the importance of the potential distortion between wholesale charges (productive efficiency), Ofcom concluded that an 'accelerated glide path' was appropriate. The phased approach underlying the contested decisions showed the weight that Ofcom placed on dynamic efficiency considerations.

BT's Intervention

2.152 BT supported[176] the use of CCA FAC for the purposes of calculating the cost stacks of the products in question.

2.153 In contrast to the CCA FAC approach, Mr Esslin-Peard argued[177] that the LRIC plus EPMU model would not be audited nor transparent and was inevitably complex. In addition, an external audit of an 'LRIC model' for the entire business would be difficult, time-consuming, labour-intensive and costly. In essence, the use of LRIC for pricing purposes would, if applied in the same way as BT's reporting obligations, require BT to maintain two separate models, to the same standards, one used for reporting and one used for pricing. It would in any event mark a large step to move away from BT's published audited accounts as the basis for price control models.

CPW's Reply V (29 March 2010)

2.154 Dr Houpis believed[178] that Ofcom exaggerated the benefits of using CCA FAC compared with the alternatives for three reasons:

(a) LRIC+EPMU estimates could be produced with at least as good a level of transparency on a forward-looking basis. For example, mobile termination rates were set by reference to a LRIC+EPMU model which was publicly available, notably in contrast to the forecast model used to set the CRS price controls.

(b) In fact, the level of transparency of the CCA FAC estimates was poor—in part, given the approach used by Ofcom in depending on a model supplied by BT.

(c) The two most important inputs for the CRS, the costs of duct and cable, were calculated on a regulatory asset value (RAV) adjusted basis, which differed from the CCA FAC basis that was used for the purposes of setting CRS prices. The RAV adjustments applied by BT were made outside the regulatory accounts and, as such, were not subject to the same degree of transparency and certainty as the accounts. It was also possible that the adjustments had impacts on other RAV-based cost allocations. This difference in cost approach prevented a direct reconciliation between the CCA FAC accounts and the base year cost information provided during the consultation process. This reduced any alleged benefits, in terms of regulatory certainty, that would arise from having the CRS prices based directly on the CCA FAC accounting data.

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[175]Ofcom LLU Defence, Annex D, §44.
[176]BT WLR SoI, §26.
[177]BT W/S Esslin-Peard III, §§12–14.
[178]CPW W/S Houpis IV, §39.

2.155 While Mr Heaney accepted[179] that CCA FAC and LRIC[180] could in principle result in similar levels of cost if exactly the same underlying assumptions had been used, the correct assumptions to use to calculate LRIC[181] costs (such as use of NGN technology, inclusion of migration costs and no line-card cost sharing) were different from the assumptions Ofcom used to prepare the CCA FAC costs. In addition, Mr Heaney suggested that the allocation of common costs was done differently between LRIC and CCA FAC approaches; CCA FAC used allocation bases such as revenue, assets and headcount, whereas in LRIC+EPMU common costs were allocated in proportion to LRIC costs.

2.156 Mr Heaney argued[182] that even looking at Ofcom's assumptions, it was clear that there were several cases where Ofcom's CCA FAC cost estimates were very different from Ofcom's LRIC cost estimates:

- Line length adjustment: CCA FAC £1.06; LRIC: £0.00.
- Network repair costs: CCA FAC £1.65; LRIC: £0.00.
- Line card: CCA FAC £12.69; LRIC: £15–£20.
- Directory cost: CCA FAC ~£1.80; LRIC: £0.50.

2.157 Based on this analysis, Mr Heaney argued[183] that Ofcom's claim that CCA FAC and LRIC costs were the same, or similar, was not correct.

2.158 In response to Mr Esslin-Peard's witness statement regarding the difficulty in estimating CCA FAC costs compared with constructing a model to estimate LRIC costs,[184] Mr Heaney argued[185] that a full LRIC model would not be required in order to calculate the cost differences. Instead, Mr Heaney suggested that Ofcom could use a relatively simpler model that focused on the costs that differed and the calculation of the relevant differences.

Ofcom's WLR hearing (6 May 2010)

2.159 At its bilateral hearing, Ofcom suggested[186] that CPW's EPMU methodology was not based on any particularly robust economic principle, and that approach would result in some consumers paying more for existing services when they had no need to do so.

CPW's letter of 25 May 2010

2.160 At its bilateral hearing, Ofcom suggested[187] that EPMU (ie allocating common costs in proportion to the LRIC costs) 'is not based on any particularly robust economic principle' and was 'arbitrary'. In response, CPW said[188] that in the case that (super-) elasticities for services were equal, a LRIC+EPMU mark-up would be the theoretically appropriate way to recover fixed and common costs to achieve efficient out-

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[179] CPW W/S Heaney VII, §26.
[180] Or LRIC+EMPU.
[181] Or LRIC+EMPU.
[182] CPW W/S Heaney VII, §28.
[183] CPW W/S Heaney VII, §29.
[184] BT W/S Esslin-Peard II, §§10–20.
[185] CPW W/S Heaney VII, §30.
[186] Ofcom WLR bilateral transcript, p17.
[187] Ofcom hearing transcript, 6 May, p17, lines 6 & 117.
[188] CPW letter to the CC, 25 May 2010, Comments on Ofcom transcript.

comes. In contrast, CPW suggested that the CCA FAC approach would, even under these conditions, produce a set of prices that were inefficient unless they happened by coincidence to be equal to the LRIC+EPMU prices.

2.161 While CPW said[189] it did not suggest that EPMU provided optimal prices, it was a widely-used convention for the recovery of common costs which provided transparency, and that it provided more appropriate pricing than CCA FAC. CPW noted that where Ofcom used a LRIC approach to set prices, some form of EPMU recovery of common costs was generally used. CPW suggested that if the concern were to be whether the chosen methodology was based on robust economic principle, it would argue that CCA FAC was more 'arbitrary' as both incremental and common costs were allocated on the basis of what BT considered 'reasonable' using backwards-looking data, and this did not have the virtue of the same level of transparency.

CPW's letter of 26 May 2010

2.162 CPW did not[190] agree that CCA FAC was a proxy for LRIC+EPMU. CPW accepted that the two methods might happen by chance to produce similar results, but that did not mean that the two methods were proxies for each other.

Estimation of LRIC—technology assumptions

Ofcom's Decision

2.163 In the WLR Statement, Ofcom said,[191] given that the cheapest way to provide voice services would be to maintain the existing 'legacy' TDM technology, it considered one reasonable approach to setting charges would be on that basis.

2.164 While Ofcom considered[192] using NGN technology (ie multi-service access nodes or MSANs) as the MEA, it suggested that should charges be set on that basis, a decision would have to be made as to how the MSAN costs could be recovered, as MSANs provided both voice and data services. Under that scenario, Ofcom considered that the costs recovered from voice-only customers should be capped at the level that would be implied by hypothetical continued use of the existing TDM technology. Ofcom argued that that was because it would hypothetically be possible to continue to provide voice-only services with the existing TDM technology. Ofcom did not consider it appropriate that voice-only customers should pay more as a result of using more cost-effective technology.

CPW's Appeal

2.165 CPW considered[193] that Ofcom erred in its calculation of LRIC because it had not used a forward-looking long-run MEA, which in this case it believed was NGN technology (rather than the older TDM technology BT currently used).

2.166 CPW argued[194] that Ofcom had departed from the normal regulatory practice of basing costs on the MEA, and Dr Houpis argued[195] that:

[189] CPW letter to the CC, 25 May 2010, Comments on Ofcom transcript.
[190] CPW letter to the CC, 26 May, Comments on BT bilateral hearing transcript.
[191] WLR Statement, §5.23.
[192] WLR Statement, §5.23.
[193] CPW WLR NoA, §103.
[194] CPW WLR NoA, §92.
[195] CPW W/S Houpis III, §21.

> when considering the costs of services that are based on the deployment of assets that are expected to be used for a number of years, the relevant cost concept where these services are, or could realistically be, offered competitively are the most efficient forward looking costs that are, or would be, incurred by an operator providing these services (rather than the sunk costs of any assets in operation). Prices based on such costs are likely to better approximate prices that could be expected in a competitive market, the level of which would be constrained by potential entrants or existing rivals using the most efficient technology. This concept of basing costs on the use of the most efficient technology is encapsulated in the MEA (modern equivalent asset) approach.

2.167 Dr Houpis asserted[196] that in the case of provision of WLR, it was well accepted that an NGN was the relevant MEA. In support of this argument, Dr Houpis quoted the European Regulators Group (ERG): 'NGNs will become, or are already, the accepted modern equivalent asset (MEA) for core networks'.

2.168 Dr Houpis criticized[197] Ofcom for deciding to estimate costs based on legacy technology for a number of reasons:

(a) Ofcom's approach could be expected to result in WLR being priced at less than the MEA cost and, potentially, usage charges rising above their MEA costs to allow overall cost recovery. This could be expected to have a number of detrimental implications for economic efficiency, including:[198]

(i) Costs would be recovered in a way that implied that the price of certain services would be set below efficient cost, and of others above efficient cost, leading to allocative inefficiency.

(ii) The speed of investment in NGN could be unnecessarily delayed, leading to loss of potential productive efficiencies, as the NGN technology was expected to result in lower costs.

(iii) Competitors (including mobile) that could be able to offer voice services potentially more efficiently than BT to voice-only customers could be discouraged or prevented from doing so, where it could have been efficient to do so.

(b) A policy of setting the prices of WLR below the MEA costs would also imply that the cost difference between MPF and WLR would be capped at the level implied by the use of the current legacy technology (TDM) to set the WLR charge. An efficient entrant (who would or could only use NGN) may not be able to compete in the provision of voice services with BT, if it could not profitably replicate the equivalent product to WLR using the relevant MPF product and NGN technology to offer voice services. Therefore, such efficient providers may not be able to compete with BT for such customers, even though they could offer voice services over NGN potentially more efficiently than BT itself.

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[196]CPW W/S Houpis III, §21.
[197]CPW W/S Houpis III, §22.
[198]CPW W/S Houpis III, §27.

(c) The deployment of next-generation technology was expected to lead to lower overall costs for the provision of voice and data services for BT. BT itself had estimated overall cash cost savings of £1 billion a year from roll-out of NGN.[199]

2.169 Dr Houpis noted[200] that the cost structures of NGN differed from legacy networks. Under a legacy TDM network, Dr Houpis argued that the cost of the equivalent technology should be recovered from subscriptions, call services and broadband services. Under the NGN, the cost of the equivalent technology[201] should be recovered solely from subscription charges. Therefore, even though the overall cost from the deployment of NGN was lower, there was no reason to expect that the costs of each and every individual service should be lower in an NGN than a legacy network.

2.170 CPW suggested that setting prices for WLR lines based on NGN costs would not be against the interests of voice-only customers based on the following:[202]

(a) Setting prices for WLR on the basis of costs which reflected appropriately the efficient MEA costs was consistent with a significant number of current voice-only customers paying less for the voice services they consumed, and an even greater number of voice-only customers paying less over their customer lifetime. This effect was a result of lower usage charges and an expectation that many current voice-only customers would become voice + broadband customers.

(b) Setting prices based on NGN MEA costs would reduce the risk of a slow deployment of NGN, leading to improved productive efficiency for the delivery of both voice and broadband services.

(c) Setting prices based on NGN MEA costs would avoid undermining efficient competition by ensuring that an appropriate margin existed for rivals to be able to compete profitably with BT for the provision of voice-only services.

(d) Setting the WLR charges on a legacy cost basis would discourage competitors (including mobile), which would be able to offer voice services potentially more efficiently than BT to voice-only customers.

(e) Setting the WLR charge on a legacy cost basis was also much more likely to lead to an efficient consumption of services delivered using the next generation networks.

(f) To the extent that it was necessary to protect vulnerable consumers from any potential price increases, there were other instruments available to Ofcom which could achieve this objective with significantly less market distortion.

2.171 After Ofcom's financial models for the WLR Statement were finalized, BT decided to delay its planned NGN roll-out. As such, Mr Heaney suggested that Ofcom's financial model no longer accurately reflected BT's expected outcome—for example:[203]

(a) BT's modelled costs were based on existing technology, which BT was not planning to continue to deploy. Therefore, CPW argued that the modelling did not reflect an MEA approach, or forward-looking costs.

[199] CPW W/S Houpis III, §25.
[200] CPW W/S Houpis III, §26.
[201] ie MSANs.
[202] CPW W/S Houpis III, §40.
[203] CPW W/S Heaney I, §224.

(b) In some of the calculations, Ofcom had assumed that the line card was shared with broadband. CPW considered this inaccurate given that BT's revised 21CN plans involved providing some voice services on voice-only MSANs.

(c) CPW said that Ofcom ignored the incremental cost of certain migrations, which would have to be recovered through the WLR/WLR+SMPF rental charges.

(d) Ofcom appeared to have assumed the same, or higher, fault rate on MPF compared with WLR and SMPF, when both theory and practice supported the view that fault rates would be higher on WLR than MPF and even higher again on WLR+SMPF than MPF.

2.172 Mr Houpis noted[204] that Ofcom had previously suggested that due to the development of NGA, the benefits of competition based on MPF might be transitory, as NGA might limit remaining life of existing technologies. However, Dr Houpis claimed that this did not provide a rationale for setting wholesale charges in such a way as protected existing SMPF+WLR providers when on the basis of today's technology MPF appeared to provide the more efficient solution.

Ofcom's Defence

2.173 Ofcom[205] did not accept that using MEA costs would result in a higher charge for WLR. To the extent that MEA arguments were relevant, Ofcom argued that the value of a modern asset which was the equivalent of a TDM line card (that is, the MEA) was one which did not have additional functionality, and might be well proxied by estimates based on the cost of the current technology. In this way, Ofcom argued that to estimate the MEA it would be necessary to adjust the cost of NGN assets downwards, to remove the value of extra functionality.

2.174 Ofcom[206] argued that cost-effective investment was encouraged if prices were left unchanged by the introduction of new technology, as this gave the regulated business an incentive to minimize costs. By contrast, if the introduction of new technology was allowed to lead to higher charges, inefficient investment could be encouraged.

2.175 Ofcom[207] stated that it pursued a 'technology-neutral'[208] approach to setting charges:

> This means that it continues to set charges based on the existing or legacy technology until the new technology becomes established. Once a new technology has been established, charges can gradually be moved to reflect the new technology, in terms of both the level and structure of charges.

2.176 The key advantage Ofcom[209] saw with this 'technology-neutral' approach was that it provided BT (and LLU operators) with good incentives in terms of whether, and when, to invest in a new technology. If all relevant charges were set on the basis of continued use of the existing or legacy technology, Ofcom suggested that companies

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[204]CPW W/S Houpis I, §82.
[205]Ofcom WLR Defence, Annex, §26.
[206]Ofcom WLR Defence, Annex, §25.
[207]Ofcom WLR Defence, Annex, §§31 & 32.
[208]On 19 February 2010, CPW made an application to the Tribunal for a formal declaration that, in the absence of Ofcom being granted permission to amend its LLU Defence, Ofcom could not advance the 'technology neutrality' point in the LLU Appeal. On 5 March 2010, the Tribunal wrote to CPW's solicitors, Osborne Clarke, stating that, in the Tribunal's judgment, Ofcom's pleading (ie the LLU Defence) was sufficient to raise the issue of technology neutrality.
[209]Ofcom WLR Defence, Annex, §32.

would have an incentive to invest in the new technology only if it lowered costs compared with the old technology.

2.177 Ofcom drew[210] a distinction between dealing with 'business as usual' technological change, where regulation could be based on an RPI–X approach, and a 'paradigm shift' where the technology was new and possibly untried.

2.178 Ofcom[211] argued that its technology-neutral approach provided better incentives for both productive and dynamic efficiency, which, over time, should result in lower prices to consumers. Ofcom said that it gave less weight to allocative efficiency, because it considered that trying to set prices correctly at every point in time would be extremely difficult, and involved a much higher risk of regulatory failure. Ofcom[212] considered that this approach would not delay deployment of more efficient NGN technology.

2.179 Ofcom noted[213] that there were significant practical challenges to setting charge controls on the basis of a technology that had not yet become well established. For example, it would not always be clear what was the most efficient new technology at any point in time, and the lack of robust data, particularly in the early stages of adoption of that technology, made setting charges very difficult.

2.180 Ofcom noted[214] that uncertainties meant that there would be a significant risk of setting an inappropriately high or low price, leading to a windfall gain or loss. If the price were set too high, then this would fail to adequately protect consumers. But if it were set too low, this could undermine the incentive to invest.

2.181 In addition, Ofcom argued[215] that setting prices based on a technology that was not established would provide poor incentives to invest in efficient technology. In particular, this approach would make it difficult to ensure a reasonable expectation of cost recovery over time, and reduce the returns to investing in a more cost-efficient technology in the shorter term.

2.182 Ofcom[216] also noted that it set charges for all BT's regulated products on the same basis as the WLR charge under appeal, that is, on a legacy cost basis. Ofcom argued that this consistency of approach across regulated products was important if the new technology was cheaper overall, even though some particular services were higher cost. In this case, a technology-neutral approach, both BT and other CPs would have an incentive to invest in the new technology.

2.183 Ofcom[217] argued that its approach allowed a new entrant using a more efficient technology to enter the market, if the technology was lower cost across all relevant charge controls. As such, Ofcom rejected CPW's view that the approach would lead to distortions and a weakening of competition because a new entrant would be forced to compete with an artificially-constrained WLR price.

2.184 Ofcom[218] suggested that the fact that BT had not yet moved to NGN, despite good incentives to do so if it was cheaper, suggested that it was not a 'clear-cut' issue of

[210]Ofcom WLR Defence, Annex, §42.
[211]Ofcom WLR Defence, Annex, §§42 & 43.
[212]Ofcom WLR Defence, Annex, §47.
[213]Ofcom WLR Defence, Annex, §40.
[214]Ofcom WLR Defence, Annex, §41.
[215]Ofcom WLR Defence, Annex, §42.
[216]Ofcom WLR Defence, Annex, §§35 & 36.
[217]Ofcom WLR Defence, Annex, §48.
[218]Ofcom WLR Defence, Annex, §60.

efficiency to move to NGN now. Ofcom also said[219] that it was not clear what the MEA was, and BT was considering 'leapfrogging' MSAN technology.

2.185 Ofcom[220] argued that if MSANs provided better value overall, then CPs like CPW which had invested in them should be able to offer packages to consumers that were better value than comparable packages offered using the legacy technology. Accordingly, there would be good incentives for BT and other CPs to invest in MSANs. Ofcom therefore considered that the way it had set charges provided good incentives in terms of encouraging efficient investment in new technology for both BT and other CPs.

2.186 Ofcom did[221] not consider it appropriate that voice-only customers should pay more as a consequence of the availability of new technology that might be more cost effective for providing voice and data services together, but which represented a more expensive way of offering voice-only services and did not provide voice-only customers with a significantly better quality of service than could be achieved using the existing technology.

2.187 Regarding CPW's argument that low-usage consumers would be disincentivized from switching to lower-cost alternatives, Ofcom[222] believed that, on the contrary, it might be efficient for voice-only customers to continue to be served using PSTN cards. Running costs appeared likely to be low and the opportunity cost of continuing to use TDM line cards to provide voice services. Therefore the costs avoided by BT when a low-use voice-only customer switched to a competitor were unlikely to be greater than the costs incurred in connecting that customer to a new network. Appropriate signals were likely to be given by setting charges on the basis of TDM costs and, in these circumstances, increasing the WLR charge in the way suggested by CPW would in fact create an inefficient and excessive incentive for voice-only customers to leave BT's fixed network.

2.188 In relation to CPW's argument that NGN technology would result in many voice-only customers facing lower overall prices as a result of lower-cost calls (even though the access charge would increase), Ofcom[223] noted that, over the long term, the incentives established by the technology-neutral policy should result in lower prices for consumers using CPW's approach. In addition, Ofcom argued that its approach might also lead to lower prices in the short term compared with CPW's approach because it was possible that it might be more efficient to continue using the existing technology and wait until NGN technology became cheaper, or perhaps to follow an alternative investment strategy. This was especially so given that the transitional costs of moving from one technology to another were likely to be considerable.

2.189 Regarding CPW's argument that prices would be constrained by obsolete legacy technology, Ofcom[224] argued that the existing technology was not obsolete and would be used by BT for many years, and if investments in NGN networks would allow services to be provided more cheaply, then CPs would have a strong commercial incentive to make that investment and provide cheaper services than BT.

[219]Ofcom letter 28 May, p22.
[220]Ofcom WLR Defence, Annex, §§37 & 38.
[221]Ofcom WLR Defence, Annex, §24.
[222]Ofcom WLR Defence, Annex, §54.
[223]Ofcom WLR Defence, Annex, §§57–59.
[224]Ofcom WLR Defence, Annex, §61.

BT's Intervention

2.190 Until March 2009, BT had [225] plans to migrate its WLR products and its calls products on to the 21CN. However, BT now expected the PSTN, and the associated line cards using TDM technology, to be in service for long after the end of the current charge control period. This was disclosed to industry in March 2009. Mr Esslin-Peard stated[226] that this reflected the company's ability to maintain its PSTN network at a lower cost than initially expected, as well as the advent of fibre-based broadband and associated voice services and the overall changed economic outlook.

2.191 BT argued[227] that, given the increasingly complex voice needs of the market, a systematic migration of PSTN services to NGN was unlikely to meet changing market requirements and, potentially, the scale at which BT must operate.

2.192 BT argued[228] that a technology had to be technically and commercially viable and lower cost to justify being the MEA, and at the present time NGN would fail such a test for voice services.

2.193 Mr Tickel argued[229] that the change in BT's strategy away from 21CN was not driven by any desire to avoid moving BT to an MPF basis. In fact, the current low price of MPF provided a somewhat distorted incentive for operators to switch to an MPF basis, and BT remaining on WLR+SMPF created an inbuilt handicap for BT's retail business as it competed against MPF-based competitors that were effectively subsidized by the low price of MPF. Rather, BT's decision to change its strategy for voice services was motivated by a recognition that large-scale investment in new technology to support traditional voice services was an increasingly risky investment. This reflected both the wider investment climate and also a background of increasing uncertainty as to the future scale and duration of demand for traditional voice access services.

CPW's Reply V (29 March 2010)

2.194 In response to Ofcom's 'technology-neutral' argument, CPW argued[230] that this was post-hoc rationalization by Ofcom since nowhere in the WLR Decision (or LLU Decision) did Ofcom refer to a 'technology-neutral' approach.

2.195 In addition, CPW argued[231] that there was nothing 'technologically neutral' about setting the structure of prices based on legacy technology in circumstances where there was an alternative (and more efficient) technology. CPW argued that it was no more or less a judgement about a particular technology to use for this purpose than doing so on the basis of NGN technology.

2.196 CPW also argued[232] that Ofcom failed to define what it meant by 'established' (see paragraph 2.179 above). If Ofcom meant 'once adopted by the regulated incumbent monopoly', CPW considered that such an approach was wrong in principle.

2.197 In response to Ofcom's argument that using legacy costs would protect consumers from excessive charges which arose from the use of NGN technology, CPW

[225] BT W/S Esslin-Peard II, §25.
[226] BT W/S Esslin-Peard II, §26.
[227] BT W/S Esslin-Peard II, §28.
[228] BT W/S Esslin-Peard II, §28.
[229] BT W/S Tickel, §30.
[230] CPW Reply V, §14.1.
[231] CPW Reply V, §14.3.
[232] CPW Reply V, §14.4.

suggested[233] that using NGN technology as the basis for setting price differentials should lead to lower prices overall for consumers, as supported by the view of the ERG.

2.198 Mr Heaney noted[234] that BT itself considered NGN to be ‘commercially-proven’, and NGN costs to be lower, as it included NGN costs in its CCA FAC estimates (prepared for the second consultation, eg Annex, §10.79). Mr Heaney suggested[235] that the delay in BT’s roll-out plans accounted for the shift in Ofcom’s view in the WLR Statement that legacy costs should be used to calculate BT’s costs.

2.199 As evidence that the NGN was the MEA, CPW noted[236] that CPs were expanding their NGN networks and were migrating existing customers off legacy networks on to NGNs. For instance:

(a) TalkTalk had been operating an NGN for almost four years and was moving customers from legacy networks to its NGN network.

(b) Sky was migrating customers from legacy networks to its NGN network in 2009.

2.200 CPW argued[237] that Ofcom’s suggestion that basing costs on a new technology could create windfall gains or losses for an incumbent suffered from a number of flaws:

(a) BT’s total return did not depend on the structure of prices, but on total costs recovery, and there was thus no risk of windfall gains or losses arising in the present context.

(b) BT’s choice of technology should not affect the price control, because each price control should be set on the basis of the most efficient forward-looking costs, irrespective of whether the incumbent monopolist was.

(c) Ofcom’s approach of determining costs based on BT’s actual behaviour would tend to distort incentives, since BT would know that moving to NGN technology would cause Ofcom to consider that NGN technology was thereby ‘established’, leading to a reduction in the allowable total costs from those based on older, less efficient technology. This would reduce the returns from that investment and act as a disincentive to adopting the more efficient technology.

2.201 In response to Ofcom’s argument that the methodology for taking account of technology should be consistent across regulatory price-setting decisions, CPW argued[238] that Ofcom’s approach was a ‘recipe for regulatory paralysis’ on the basis that this argument would mean that the methodology would never be changed.

2.202 CPW argued[239] that there was no credible case to suggest that NGNs were not sufficiently commercially proven to constitute the MEA. CPW suggested that BT’s choice as to the speed at which it rolled out its NGN could not be taken to be determinative of, or even particularly relevant to, whether the technology was sufficiently proven to constitute the MEA.[240]

[233] CPW Reply V, §14.2.
[234] CPW W/S Heaney VII, §13.
[235] CPW W/S Heaney VII, §15.
[236] CPW Reply V, §17(c).
[237] CPW Reply V, §19.
[238] CPW Reply V, §30.
[239] CPW Reply V, §32.3
[240] CPW W/S Heaney VII, §§20–22.

2.203 In response to Ofcom's argument that it was difficult in practice to estimate costs for a new technology, Dr Houpis argued[241] that this would be no more difficult than forecasting a number of key drivers of future costs, such as efficiency gains or the volumes of lines. Dr Houpis noted that Ofcom had access to, and had used, NGN costs and had undertaken similar exercises of forecasting the costs of new technology in the recent past.

2.204 Dr Houpis argued[242] that at the time of setting the price control there was a significant amount of evidence on which to conclude that the NGN technology was well used, and that the deployment of NGNs would lead to lower costs.

2.205 Dr Houpis noted[243] that Ofcom seemed to be linking the timing of its decision about when to use NGN costs to set prices to when BT deployed its NGN, and argued that this would create a disincentive for BT to invest in the new technology, as BT would expect that a faster move to the new technology would trigger Ofcom to set new, lower prices. Ofcom's proposal therefore, by establishing a link between the use of the NGN technology costs to set prices and the actual deployment of NGN by BT, increased the risk of a technologically non-neutral approach, by prolonging the use of a legacy, inefficient technology.

2.206 Dr Houpis argued[244] that linking the timing of Ofcom's decision to the use of NGN costs to set prices to BT's deployment decision (if applied more generally beyond merely the structure of prices) created a disincentive for BT to invest in the new technology, as BT would expect that a faster move to the new technology would trigger Ofcom to set new, lower prices.

2.207 Dr Houpis considered[245] that CPW's proposal of using the MEA to calculate the differential between the costs of MPF and WLR in 2012/13 remained a superior approach to Ofcom's approach of using legacy technology, because:

(a) CPW's approach minimized the risk of creating a distortion in the relative price of MPF, and WLR+SMPF, by pricing WLR unduly low, through the use of a legacy technology;

(b) it allowed BT to recover fully its costs; and

(c) it provided the correct economic signals to entrants using access to BT's infrastructure, in terms of their decisions to invest in the efficient technology for the provision of retail voice and voice + broadband services.

2.208 Dr Houpis argued[246] that as long as Ofcom did not induce an expectation that investments in efficient technology would reduce the return which a regulated company could earn, or that such investments could not be expected to lead to adequate returns to justify them, the estimation of costs used for setting prices should not affect the regulated company's incentives to invest efficiently. As such, Dr Houpis suggested that if the delivery of services by the use of a new technology could be expected with a reasonable degree of confidence to be cheaper than using existing technology, then setting the prices according to a regulator's best estimate of the future costs of the new, or a combination of old and new, technology should make no difference to the incentives of the regulated company to switch to using the more

[241] CPW W/S Houpis VI, §9(a).
[242] CPW W/S Houpis VI, §21.
[243] CPW W/S Houpis VI, §18.
[244] CPW W/S Houpis VI, §9(c).
[245] CPW W/S Houpis VI, §9(d).
[246] CPW W/S Houpis VI, §17.

efficient technology, compared with setting prices according to the costs of the legacy technology.

2.209 Dr Houpis argued[247] that the approach proposed by Ofcom had no more superior efficient investment promotion properties (or was no more 'technology neutral') than the approach proposed by CPW, as NGN was a sufficiently established technology with known and lower costs.

2.210 Dr Houpis stated[248] that Ofcom's argument that using TDM costs promoted productive and dynamic efficiency was only valid if estimating the cost of the legacy technology was subject to less uncertainty than NGN. Dr Houpis argued that because there was no readily observable market information for TDM equipment, there was no reason to expect that Ofcom's estimates of costs using TDM equipment would be a more accurate estimate of the forward-looking incremental costs than an NGN estimate.

2.211 Further, CPW argued[249] that an MEA approach should be followed in relation to the setting of the differential between MPF and WLR (and between MPF and WLR/SMPF) for economic efficiency reasons, whilst ensuring that BT recovered its efficiently-incurred costs. Dr Houpis argued that the risk from the setting of the differential in charges between WLR and MPF, and MPF/SMPF to reflect the MEA leading to windfall gains or losses when charges were reset, as Ofcom seemed to be arguing, was at best negligible.

2.212 In response to Ofcom's assertion that the use of legacy technology costs would result in lower prices for consumers, Dr Houpis argued[250] that this was not likely to be the case because it would increase the likelihood of BT continuing to use the legacy technology for longer, implying higher costs for consumers purchasing voice and broadband services in the long run and a risk of reducing the effectiveness of deeper network-based competition as it would deter investment in, for instance, MPF-based competition.

2.213 Dr Houpis suggested [251] that Ofcom's approach of setting charges for WLR customers below incremental cost, given the need for overall cost recovery, would lead to a competitive distortion in favour of customers taking only voice services from the NGN, and hence CPs using WLR +SMPF.

2.214 In respect of the question as to whether NGN technology was more efficient, Mr Heaney noted that:[252]

(a) Ofcom had said previously that NGNs were lower cost;

(b) the ERG recognized that NGNs were more efficient;

(c) BT itself estimated the savings from moving to an NGN at £1 billion a year; and

(d) other operators were already using NGNs, expanding their NGN networks and were migrating existing customers off legacy networks on to NGNs.

[247]CPW W/S Houpis VI, §24.
[248]CPW W/S Houpis VI, §25.
[249]CPW W/S Houpis VI, §33.
[250]CPW W/S Houpis VI, §38.
[251]CPW W/S Houpis VI, §43.
[252]CPW W/S Heaney VII, §17.

2.215 Mr Heaney noted[253] that it would not be correct to reach a conclusion on the most efficient technology based solely on BT's roll-out decision. He argued that the reasons BT delayed its NGN roll-out were not driven by any doubt as to the efficiency of NGNs, but rather by other factors including BT's prioritization of capital expenditure in other areas (ie NGA), BT's labour policy, technical problems in supplying voice technology and also BT's ability to 'game' the regulatory system.

2.216 Mr Heaney argued[254] that these factors demonstrated that BT's decision to delay its NGN roll-out could not be relied upon as invalidating the conclusion that NGN technology was the most efficient technology. Instead, Mr Heaney suggested that evidence overwhelmingly indicated that NGNs were the most efficient technology, and Ofcom's approach of basing BT prices on the technology that BT was using was tantamount to saying that if BT was not planning to be efficient, then it could recover inefficient costs.

2.217 Mr Heaney suggested[255] that Ofcom had misinterpreted the Byatt Report in concluding that it was necessary to reduce the cost of an NGN line card to adjust for its higher functionality. Mr Heaney argued that the Byatt report did not say that 'allowing for differences' necessarily meant adjusting downwards by removing the value of the extra functionality, or that this would be appropriate in a context such as the present. Mr Heaney suggested that the report should be interpreted as saying that the cost of replacing a TDM/PSTN line card with a 'technically up to date new one with the same service capability' was the full cost of an NGN combi-line card.

2.218 Dr Houpis suggested[256] that Ofcom seemed to argue that it would be efficient for the prices of the fixed technology to be based on a level of costs that was (inappropriately) low, because it reflected the opportunity cost of the use of the TDM technology, which was low, given the fact that the TDM technology was no longer the MEA. Dr Houpis argued that this argument suggested that although a technology was obsolete, there was still some economic life left in it so the regulator should not set prices on the basis of forward-looking costs of delivering the service. Dr Houpis argued that while this might deliver some short-term benefits in terms of lower prices for WLR, it would provide a disincentive for BT to invest in the more efficient NGN.

CPW's WLR bilateral (30 April 2010)

2.219 At its hearing, CPW said that it would not be appropriate to reflect what an efficient new entrant would do because a new entrant would be 100 per cent NGN from the start. Mr Heaney said:

> I think obviously the fact it that a new entrant would not have to make any of these migrations across so they would start with 100 per cent NGN on day one whereas BT needs to go through a migration programme just as mobile operators go through from a 2G to a 3G migration programme. So, I think it would take a number of years before they could move to this new thing.[257]

2.220 CPW said that Ofcom's approach had been to base price controls on the technology that BT was using or was planning to use. Mr Heaney said:

[253] CPW W/S Heaney VII, §§20 & 21.
[254] CPW W/S Heaney VII, §23.
[255] CPW W/S Heaney VII, §82.
[256] CPW W/S Houpis VI, §47.
[257] CPW hearing transcript, 30 April, p62, lines 21–28.

> I think the concept of what standard or what technology to use to work out the efficient cost in our view should not be based on what BT or indeed what we happen to be doing … It is based on a generic assessment of what the most efficient technology is because the problem is … that by doing what Ofcom does, which is basing the technology on what BT is doing or planning to do, actually it is both not technology neutral because it is quite technology specific bit is also gives BT a disincentive to actually innovate and become efficient because they know that they can actually recover inefficient costs.[258]

2.221 CPW gave some possible reasons unrelated to efficiency considerations as to why BT delayed the roll-out of NGN, as BT had a policy of no compulsory redundancies which restricted its ability to benefit from the efficiency savings promised by NGN.[259]

2.222 CPW said that whilst Ofcom did not 'have to follow word by word what ERG says, the ERG provides good guidance in the absence of anything clear from Ofcom'.[260]

Ofcom's WLR bilateral (6 May 2010)

2.223 At its hearing, Ofcom said that the MEA might be a wireless network or a fibre-to-cabinet network or a fibre-to-premises network. Mr Culham said, 'another question is: what is MEA? That is particularly relevant to this case because in the access network it is not entirely clear what the MEA would be. It might be a wireless network, it might be a fibre-to-cabinet network; it might be a fibre-to-premises network'.[261]Ofcom spoke to a number of slides, including a slide which stated: 'Incentive for Productive and Dynamic Efficiency Technology Neutrality vs MEA'.[262]

2.224 Ofcom told us that

> the evidence seems to be from a number of different countries that operators have found that the NGN in principle offers a great deal of benefits, and they have been able particularly to take advantage of that in core networks. However, when it's come to replicating a lot of the existing legacy services and migrating people from those services to the new networks, that has been a more challenging experience than they have expected. Now that's a conclusion that BT have come to. I think there have been [sic] somewhat similar experience in other countries as well.[263]

2.225 Ofcom stated that both FTTC and FTTP would make investment in MSANs redundant.[264]

2.226 Ofcom said[265] that although it attached considerable significance to the ERG advice, ultimately it was not bound absolutely by it.

2.227 Ofcom said[266] that it could not identify the MEA, apply it 'mechanically', and set a price for a number of reasons, for example holding losses, the cost of migration, and

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[258]CPW hearing transcript, 30 April, p36, lines 12–24.
[259]CPW hearing transcript, 30 April, p58, lines 31&32, p60, lines 1-26.
[260]CPW hearing transcript, 30 April, p49, lines 24–32.
[261]Ofcom hearing transcript, 6 May, p6, lines 31–36.
[262]Ofcom WLR bilateral hearing slide pack, slide 6.
[263]Ofcom hearing transcript, 6 May, p35, lines 9–25.
[264]Ofcom hearing transcript, 6 May, p16, lines 1–5.
[265]Ofcom hearing transcript, 6 May, p11, lines 13–23.
[266]Ofcom hearing transcript, 6 May, p6, lines 13–30.

parallel running. Ofcom said that this was particularly true in times of changing technology.

2.228 Ofcom believed[267] that the choice of efficient technology should be made by the firm rather than the regulator. However, Ofcom wanted to set up arrangements that allowed the firm to gain the benefit of minimizing its costs and moving to a more efficient technology.

2.229 Ofcom believed[268] that it should not second guess the industry as to what the most efficient fundamental technology was for the future deployment of the network.

2.230 Ofcom asserted that whatever the approach to technology, it must be adopted consistently across all regulated services affected by CPs' decisions as to which technology to use. If not, it could create unanticipated holding losses, which would be undesirable for regulatory stability and investment incentives.[269]

2.231 Ofcom considered[270] that, if a TDM asset was considered to be the MEA, there were a number of ways to estimate how the network should be maintained going forward.

2.232 Ofcom said[271] that the view within the industry was that the fundamental economics of rolling out fibre into the local access network had changed in a period of only four or five years.

2.233 Ofcom's view[272] of BT's investment plans was that BT planned to move to a multi-service network but encountered so many problems that it reassessed its plans and instead focused on FTTC and FTTP.

BT's WLR bilateral (12 May)

2.234 BT said[273] that its planned investment in NGN line cards did not go ahead because it had a view that using the existing line cards was more efficient. BT indicated that, in part, this was because it was likely that the next generation of voice services would be fibre based. At its hearing, BT told us that:

> We announced plans in March 2009 to scale back the roll out and migration of WLR. I think you may have seen reference to the Path Finder trials in South Wales and a number of lines that we were looking to move across. I think that has now sort of 'paused'. So we still have those lines running, and we have about [✂] lines in South Wales, but that's where it got to.[274]

Sky's WLR bilateral (13 May 2010)

2.235 Sky believed[275] that NGN was the most efficient technology, and argued that having the ability to merge all your products and services on to a single network had scale and scope economies, irrespective of the size of your network.

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[267] Ofcom hearing transcript, 6 May, p38, lines 3–9.
[268] Ofcom hearing transcript, 6 May, p36, lines 2–6.
[269] Ofcom hearing transcript, 6 May, p7, lines 9–14.
[270] Ofcom hearing transcript, 6 May, p66, line 32 to line 15 on p67.
[271] Ofcom hearing transcript, 6 May, p13, lines 13–37.
[272] Ofcom hearing transcript, 6 May, p15, lines 12–36.
[273] BT hearing transcript, 12 May, p24, lines 5–22.
[274] BT hearing transcript, 12 May, p24, lines 27–29, and p25, lines 1–4.
[275] Sky hearing transcript, 13 May, pp14&15, lines 16–30.

2.236 In terms of BT's incentives to invest in new technology, Sky said:

> BT have a very old voice network and do not spend much money on it in terms of capex, but they have slightly higher opex to look after the ageing voice network. In doing that effectively BT get a return on their old voice network and it is very cash flow positive for them. It is fully depreciated. It is money for old rope to some extent, so they are sitting on a high margin cash flow positive business and they are capex constrained. They are presented with the choice of replacing it with something that cedes margin control and they have only a certain amount of money to spend and have more appealing projects. All in all, it makes it quite easy for them to take the foot off the pedal in terms of NGNs and converged networks and invest elsewhere.[276]

2.237 Sky also noted that Virgin had chosen not to invest fully in an NGN for voice, and continued to use PSTN assets primarily because BT's prices set by Ofcom filtered through into what everyone else could earn or pay in terms of moving calls from their network.[277]

2.238 Sky said[278] that the new fibre-based products were pushing them away from their previous MPF-based model, towards a WLR CPS plus fibre-based broadband model.

2.239 With regard to overseas examples, Sky noted:

> what alternative European incumbent telecoms operators have done. France Telecom is a very good example. They are a lot further down the route than BT. Different companies have different reasons for doing things. One of the nuances is that one tends to find other incumbent fixed operators have a mobile business. BT do not have such a business. I think that is one of the factors that has played into their thinking around the extent to which they should go into NGN, but that should not be related to the fact that it is the most efficient way of building a network if you are starting from the ground up.[279]

CPW's Reply VI (21 May 2010)

2.240 With reference to Reply VI (Submissions by CPW on Confidential Materials disclosed by BT), CPW stated that the disclosed documents contained a 'myriad' of references to the benefits to BT of moving to NGN, and to the cost savings that BT hoped to achieve by doing so. CPW noted that the documents made clear that:[280]

(a) BT had done no more than delay its planned roll-out.

(b) The reason for this delay was that 'The funding required for delivery of the current plan ... based on national migration to complete by December 2010, is substantial, and both the extent and timing of expenditure cannot be reasonably justified by BT given the current economic environment'.

[276] Sky hearing transcript, 13 May, p17, lines 18–31.
[277] Sky hearing transcript, 13 May, p19, lines 24–30.
[278] Sky hearing transcript, 13 May, pp25&26, lines 27–31.
[279] Sky hearing transcript, 13 May, p17, lines 4–15.
[280] CPW Reply VI, §34.

2.241 CPW noted[281] that the documents made no suggestion that NGN was not the MEA. Additionally, CPW argued[282] that the documents supported CPW's position that the decision to delay roll-out had been caused or contributed to by factors internal to BT, such as poor-quality installations, weaknesses in migration plans and delivery systems.

Ofcom's Response to Reply VI

2.242 In its response to CPW's Reply VI, Ofcom[283] stated that it did not agree that the documents supported CPW's position. Ofcom argued[284] that there was no evidence in the documents to suggest that the delay in BT's roll-out was because 'NGN is not the MEA'.

2.243 Ofcom did not consider[285] that the document supported the view that NGN technology in the access network was the established technology, or a clear efficient technological choice for access services. In particular, Ofcom argued that the documents made clear that while the backbone elements of 21CN were continuing to be developed (albeit this development had been delayed), there was an indefinite suspension of the access voice products (Wholesale Broadband Connect Converged (WBCC) and Wholesale Voice Connect (WVC)) as these had proved to be uneconomic, and that BT needed to explore options presented by new technology, which would include NGA.

BT's response to Reply VI

2.244 In response to CPW's Reply VI, BT argued[286] that the documents did not shed any new light on the question of whether 21CN was the MEA. BT said that the documents cited by CPW simply confirmed the position as BT had previously explained it, which was that BT decided to delay the roll-out of 21CN for voice because it believed that NGN was not the efficient way to proceed in the (then) current climate.

2.245 In response to CPW's assertion that the BT's decision to delay roll-out had been caused by factors internal to BT, BT argued[287] that this information simply identified risks associated with 21CN roll-out, and the existence of such documents in connection with a substantial migration from one technology to another was not surprising.

CPW's letter of 12 May

2.246 CPW agreed[288] that, overall, the ERG guidelines on the application of MEA were 'not so helpful' in the current context.

2.247 Instead, CPW said[289] that it was instructive to go back to first principles and consider the objective of the price control, that is, to mimic a competitive market and send correct price signals to efficient new entrants. In that case, CPW said that the appropriate cost standard was the efficient forward-looking LRICs (plus a mark-up).

[281] CPW Reply VI, §34.
[282] CPW Reply VI, §35.
[283] Ofcom response to Reply VI, §23.
[284] Ofcom response to Reply VI, §24.
[285] Ofcom response to Reply VI, §25.
[286] BT Response to Reply VI, §50.
[287] BT Response to Reply VI, §53.
[288] CPW letter to the CC, 12 May 2010.
[289] CPW letter to the CC, 12 May 2010.

CPW believed that, in that case, the efficient network to operate in the long run was an NGN (even though BT may in the short run decide to continue its legacy network). Further, CPW believed that NGN costs should not be abated (eg by sharing cost of line card with broadband or usage) since, if they were so abated, the resultant cost would not represent the incremental cost caused in providing the service, and would imply that a new entrant, even if it was efficient, would not be able to trade profitably in the provision of voice services to voice-only customers, based on the use of MPF. This 'no sharing' approach was consistent with Ofcom's approach to covering the cost of the copper loop where there was no sharing of the loop cost with broadband or calls and all the cost was recovered from WLR.

Ofcom's WLR hearing (6 May 2010)

2.248 At its hearing, Ofcom told us that single jumpering did not exist, so setting the price on that basis would seem like a rather strange thing to do.[290] Ofcom said that until this appeal no CP at any time had ever suggested that this current wiring arrangement was inefficient.[291]

BT's WLR hearing (12 May 2010)

2.249 At its hearing, BT said that single jumpering was not cheaper, it was not more effective and other CPs had not requested it.[292]

BT's letter of 19 May 2010

2.250 In response to Mr Heaney's assertion[293] that 'NGNs are proven ... they are more efficient', BT said[294] that while NGNs offered some benefits in the core network this was not relevant to the charge control. BT considered that what was relevant was the impact of NGN on WLR costs, and in this context, it did not consider NGN to be more efficient.

CPW's letter of 25 May 2010

2.251 CPW emphasized[295] that it was not appropriate to determine the most efficient technology by reference to the behaviour of the dominant incumbent and ignore the behaviour of other market participants.

Estimation of LRIC—calculations

2.252 This part provides a brief summary of the key areas where CPW claimed[296] Ofcom had erred in calculating the LRIC cost differential, including in respect of:

(a) allocation of line-card costs;[297]

[290] Ofcom hearing transcript, 6 May, p75, lines 11–25.
[291] Ofcom hearing transcript, 6 May, p76, lines 27–35.
[292] BT hearing transcript, 12 May, p35, lines 3–15.
[293] CPW WLR bilateral transcript, p29, line 27.
[294] BT letter to the CC, 19 May 2010, Comments on CPW transcript.
[295] CPW letter to the CC, 25 May 2010, Comments on CPW transcript.
[296] 27 April 2010 CPW letter to the CC, p2.
[297] CPW W/S Houpis III, §§57–59.

(b) servicing and fault repair cost difference;[298]

(c) migration costs;[299]

(d) wiring, frame costs and tie cable allocations;[300] and

(e) product management cost difference.[301]

2.253 In addition, a brief summary of CPW's estimation of the appropriate differential is provided.

2.254 CPW supplied an estimate of the differential between the LRICs of providing MPF and providing WLR or WLR +SMPF in Mr Heaney's first witness statement. However, this analysis did not provide a basis for estimating charges that had a differential equal to LRIC+EPMU (as CPW stated was appropriate). However, CPW said[302] that given access to the Oak model they would be able to do so.

2.255 The Ofcom CCA FAC model was provided to CPW which it used to further its arguments on several aspects of the LLU case.[303] Having noted that CPW had not in its Reply V said what the charges should be, or how they should be calculated, the CC asked CPW what it was asking us to do if we were to accept its arguments in relation to the structure of charges.

2.256 Frontier, on behalf of CPW, provided[304] a report to the CC on 27 April 2010 which outlined CPW's view on the estimate of LRIC+EMPU cost differences. This report (and the underlying model subsequently provided to the confidentiality ring) revised Mr Heaney's previous estimate of LRIC differentials.[305] CPW indicated that its estimate had been revised in light of Ofcom's financial models, which had previously been unavailable to CPW.

2.257 CPW provided the (slightly revised) model underlying the LRIC+EPMU calculations on 20 May and a further (amended) version of the model on 1 June. CPW stated that the Frontier model figures superseded the figures provided by Mr Heaney in the witness statement attached to the LLU NoA.[306]

Line cards

Ofcom's Decision

2.258 As summarized by Ofcom,[307] line cards were the electronic equipment that telephone lines connect to in the local exchange. They represented an important input for WLR but were not required for the provision of MPF. BT used TDM technology. This involved PSTN line cards that only recognized voice traffic. The costs were therefore directly attributable to WLR services.

[298] CPW W/S Heaney VII, §68.
[299] CPW W/S Houpis III, §§60–68.
[300] CPW W/S Heaney VII, §31.
[301] CPW W/S Heaney VII, §62.
[302] WS Heaney I, Annex I, and WS Houpis I, §88.
[303] See, for example, WS Houpis II.
[304] CPW letter to the CC, 27 April 2010.
[305] CPW W/S Heaney I, §89.
[306] CPW transcript, 30 April, p87, lines 19–29.
[307] WLR Statement, §5.32.

2.259 At the time of the Second Consultation, BT planned to replace most PSTN line cards with 'combi cards' (using MSANs), which could be used by multiple products or services in three ways:[308]

(a) to generate a voice-only service, using only the voice capability of the card (currently WLR);

(b) a data-only service using only the data capability of the card (BT did not currently provide such a service); or

(c) a voice and data service using the full capability of the card (currently WLR and broadband).

2.260 Openreach estimated the line-card cost to be recovered via the WLR charge on the basis of the number of services provided. Ofcom considered[309] that this methodology was reasonable and, compared with the results reported in previous Regulatory Financial Statements, the resulting unit cost values were also considered reasonable.

2.261 After BT suspended its plans for the roll-out of 21CN, Ofcom considered[310] the case where BT replaced PSTN cards with combi cards. In this case, Ofcom said that the charges for combi-card use needed to reflect *(a)* that they were installed to support both voice and broadband services, and *(b)* that the move to combi cards was necessary only if the network was required to support more services than just voice.

2.262 In Ofcom's view,[311] three principles were relevant to the question of how these costs should be recovered. They were consumer protection, incentives to invest in efficient cost-reducing technology, and the efficient choice of inputs:

(a) In relation to the issue of customer protection, Ofcom considered[312] that it would be inefficient for an investment in new lower-cost technology to result in customers having to pay more for their service than they did previously. This suggested that it would be equitable and efficient to cap the charge for the combi card when used for voice at the cost of continuing to provide voice services over the dedicated voice network.

(b) In relation to investment incentives, Ofcom considered[313] that cost-reducing investment was induced if prices were left unchanged by the introduction of new technology, as this gave the firm an incentive to minimize costs. By contrast, if the introduction of new technology were allowed to lead to higher charges, inefficient investment could be encouraged.

(c) In relation to the issue of the efficient choice of inputs, Ofcom believed[314] that it was important that the charging arrangement was consistent with the minimization of the total costs of providing voice and broadband services. This implied that the charge for a combi card for voice-only services should be capped at the cost of providing voice services (ie a PSTN line card). If the charge were set above this level, CPs could be induced to use MPF and install a PSTN line card. This could lead to the total cost of cards, including subsequent upgrades of lines

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[308]WLR Statement, §5.33.
[309]WLR Statement, §5.36.
[310]WLR Statement, §5.39.
[311]WLR Statement, §5.39.
[312]WLR Statement, §5.40.
[313]WLR Statement, §5.41.
[314]WLR Statement, §5.42.

for broadband, being greater than if combi cards were installed on all lines in anticipation of a significant number of lines being upgraded to broadband.

2.263 Based on this analysis, Ofcom decided[315] that it would be appropriate to cap the costs recovered from voice-only customers at the level that would be implied by hypothetical continued use of the existing TDM technology.

CPW's Appeal

2.264 CPW claimed[316] that Ofcom continued to base its LRIC cost estimates on a mix of TDM and NGN technology even after BT suspended its plans to roll out its 21CN network over the time frame of the price controls.

2.265 CPW argued that Ofcom failed[317] to adopt a reasonable and reliable basis for determining line-card costs which was available to it, which would have shown that its WLR costs were underestimated.

2.266 Dr Houpis suggested[318] that Ofcom's objective of maintaining stable access charges could have been achieved by estimating the cost of line cards using a depreciation methodology that would better approximate economic depreciation. For mobile networks, which also have this characteristic as investment is concentrated in the period when each generation of network is being rolled out, Ofcom chose to use economic depreciation, which attempted to ensure that unit capital charge movements reflected underlying movements in the replacement cost of assets.

2.267 Dr Houpis noted[319] that the key element of WLR costs, over and above those costs which were also relevant to the MPF service, were represented by the line-card costs. Dr Houpis suggested that the relationship between the number of active access lines connected to the network and the number of line cards required was essentially linear, and was unrelated to the traffic generated over these access lines. Due to this relationship, line-card costs could be considered to be incremental with respect to the number of access lines, and hence for reasons of allocative efficiency were recovered from the WLR access service.

2.268 Dr Houpis also argued[320] that CCA depreciation, as implemented by BT, resulted in capital charges for individual assets falling over the lifetime of the asset as capital employed fell, with the depreciation charge remaining constant. Such assets which remained in service past the end of their assumed useful lives generated no capital charge, as the capital employed was zero and there was no depreciation charge.

2.269 CPW argued[321] that it was likely that the majority of line cards in operation were either: *(a)* reaching the end of their economic lives, with the result that capital charges were relatively low; or *(b)* at the end of their economic lives, with the result that capital charges for these line cards were zero. As a result, the level of CCA capital charges would be below the true economic capital costs of operating these line cards. To the extent that other indirect and common costs were assigned on the basis of mark-ups on these (direct) capital charges, the level of these common costs allocated to line cards would be similarly underestimated.

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[315] WLR Statement, §5.43.
[316] CPW WLR NoA, §105.3.
[317] WLR NoA, §105.2.
[318] CPW W/S Houpis III, §§53 & 54.
[319] CPW W/S Houpis III, §50.
[320] CPW W/S Houpis III, §50a.
[321] CPW W/S Houpis III, §50(g).

2.270 Dr Houpis noted[322] that for many asset classes where network elements were installed and replaced on a relatively continuous basis, the aggregate charge across all assets might be considered to be a reasonable proxy for the true economic depreciation, as the relatively high charges for recently installed assets were offset by lower capital charges for assets reaching the end of their assumed lives. In addition, the zero capital charges for assets which remained in operation past their assumed asset lives were offset by charges for retirements for assets which were removed from service before the end of the assumed life.

2.271 In summary, Dr Houpis argued[323] that setting prices on a forward-looking basis using CCA FAC costs would be inefficient as even an operator as efficient as BT would not be able to recover investment in equivalent TDM equipment over the lifetime of the line cards if the cost recovery was set below the level of economic costs.

2.272 Dr Houpis[324] noted that Ofcom used the assumption that 21CN line-card costs should be attributed to customers on the basis of the number of services used by customers (with narrowband access and broadband access being separate services). The number and hence costs of line cards were proportional to the number of access lines rather than to the services used over these access lines. The effect of this cost attribution methodology was that some of the line-card cost was recovered from, for instance, broadband service irrespective of whether the line was used to offer broadband services or not. This was also inconsistent with Ofcom's approach of recovering subscriber-sensitive costs fully in the line rental charge. The correct approach of recovering the whole cost of the line card in WLR was recognized in the LLU Statement, where Ofcom used the full costs of the line card to estimate LRIC differentials. However, the LRIC differential in the WLR Statement[325] was based on the inappropriate attribution methodology.

2.273 In addition, CPW noted[326] that there was some evidence suggesting that the useful economic lives assigned to TDM line cards could have been significantly underestimated.

Ofcom's Defence

2.274 For the CCA FAC figures, Ofcom[327] had used line-card estimates resulting from BT's forecast mix of PSTN line cards (based on TDM technology) and a per-service allocation of 21CN combi-cards (based on NGN technology) as a proxy for the costs of continuing with PSTN line cards. Ofcom considered that this was a reasonable proxy as it gave per-line costs within the range of PSTN line-card costs in the regulatory accounts in recent years, and were broadly constant in real terms compared with current costs.

2.275 Dr Houpis[328] argued that these figures were likely to underestimate the appropriate depreciation for line cards, as they were already heavily depreciated. However, Ofcom[329] noted that PSTN line cards were depreciated over a ten-year life and in 2007/08, PSTN line cards were probably just past their steady state and were starting to be heavily depreciated.

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[322] CPW W/S Houpis III, §50.
[323] CPW W/S Houpis III, §50(h).
[324] CPW W/S Houpis III §57.
[325] WLR Statement, §5.44.
[326] CPW W/S Houpis III, §50(f).
[327] Ofcom WLR Defence, Annex, §66.
[328] CPW W/S Houpis III, §§48–54.
[329] Ofcom WLR Defence, Annex, §67.

2.276 To consider the LRIC costs of a line card, Ofcom started from the assumption that the LRIC figures would be around 90 per cent of the CCA FAC number, in line with the ratio in BT's regulatory accounts. If this ratio were to continue to hold when the CCA FAC figure was forecast to be £12.30 in 2012/13, it would imply a LRIC of around £11 per line card. However, Ofcom[330] explicitly recognized that it was possible that this may understate the LRIC cost because the depreciation component might be understated. It therefore considered a range that involved increasing the upper end of the LRIC cost to £13.

BT's Intervention

2.277 Mr Dolling agreed[331] with Ofcom that the regulatory financial statement (RFS) estimate of the LRIC for the line-card component was about 90 per cent of the FAC estimate.

CPW Reply V (29 March 2010)

2.278 Dr Houpis doubted[332] the accuracy of the Ofcom LRIC estimate on the basis that Ofcom applied a 10 per cent reduction to the CCA FAC value for TDM line cards, and also then applied an unclear and unsourced upwards adjustment because 'the depreciation component might be understated'.

2.279 Dr Houpis considered[333] that Ofcom's approach could not be relied upon because:

(a) where it had used NGN technology it had not allocated all of the combi-card cost to WLR and therefore the cost used did not represent the LRIC cost rather than basing the incremental line-card costs on an NGN and the full cost of the combi-card;

(b) it had not fully used the correct technology (NGN); and

(c) it had underestimated depreciation.

BT's letter of 19 May 2010

2.280 BT did not[334] agree that NGN line cards were, for the moment at least, a more efficient way to deliver voice services.

Servicing and fault repair

Ofcom's Decision

2.281 With regard to fault rates, Ofcom estimated[335] these based on Openreach's actual experience of reported faults, which showed overall MPF having more faults than WLR. While Ofcom acknowledged that CPW did provide evidence that faults on its WLR lines were higher than on its MPF lines, Ofcom did not consider CPW's experience representative of lines as a whole.

[330] Ofcom WLR Defence, Annex, §69.
[331] BT W/S Dolling I, §94(e).
[332] CPW W/S Houpis VI, §51.
[333] CPW W/S Houpis VI, §52.
[334] BT letter to the CC, 19 May 2010, Comments on CPW transcript.
[335] WLR Statement, §§5.75 & 5.76.

2.282 In the WLR Statement, Ofcom noted[336] that another reason to expect MPF to have higher repair costs than WLR was that there was generally a higher standard of care associated with MPF (and also for SMPF) than WLR. In particular, the fault repair standard for an MPF line was for it to be repaired within 40 hours (Monday to Sunday), compared with 96 hours for a *WLR Basic* line.

CPW's Appeal

2.283 Mr Heaney argued[337] that fault rates on MPF should be no more than WLR because any additional faults on MPF related to broadband were not relevant. Since WLR included more elements (ie line card) then he would expect the number of faults to be higher on WLR.

2.284 Mr Heaney also noted[338] that Openreach was planning to modify its service standards under a new programme, which would result in the basic WLR product service level commitment to fix a fault by end of next working day plus one day (ie 48 to 72 hours), while the basic MPF product would have a service level commitment to fix a fault by the end of the next working day (ie 24 to 48 hours). Mr Heaney argued that because Ofcom assumed the current fault repair time rather than this new programme would result in an overestimate in the per fault repair cost as between MPF than WLR.

2.285 Mr Heaney argued[339] that because the Ofcom estimate of the fault service/repair cost appeared to use 2007/08 CCA FAC costs (and not efficient LRIC) and did not take account of other factors, such as Openreach's new standard service levels programme or differences in repair cost per fault, Ofcom's estimate was not a reliable indicator of the efficient cost difference in 2012/13.

BT's Intervention

2.286 With regard to fault rates, BT noted that MPF was in practice used to provide a bundle including both voice and broadband services (and not voice-only services) and therefore generated repair costs in both respects. BT argued[340] that CPW's omitting these faults in its calculation was entirely self-serving.

2.287 Mr Dolling disagreed[341] with Mr Heaney's comments on fault repair, and said that the MPF product had a higher incidence of fault rates than WLR and therefore fault costs flowed to MPF at a higher cost per unit than for WLR. Mr Heaney argued for a voice-only MPF product to be used for comparison purposes, but this did not reflect the product actually supplied.

Ofcom's Defence

2.288 With regard to fault rates, Ofcom suggested[342] that Mr Heaney appeared to accept that higher faults were expected on a copper line that was used for broadband than one that was used only for voice, since the broadband service was more susceptible to, and less tolerant of, faults.

[336] WLR Statement, §5.74.
[337] CPW W/S Heaney III, §41.
[338] CPW W/S Heaney III, §43.
[339] CPW W/S Heaney III, §49.
[340] BT WLR SoI §30(c).
[341] BT W/S Dolling III, §43.
[342] Ofcom WLR Defence, Annex, §97.

2.289 While Mr Heaney argued that when considering the differential between MPF and WLR it was necessary to assess the differences in the scenario where MPF was being used to provide a voice-only service, as opposed to voice and broadband services, Ofcom rejected[343] this assumption. Ofcom argued[344] that it would be necessary that a voice-only MPF product was actually supplied for this assumption to be valid. Ofcom noted that this might be infeasible, was probably undesirable and was not the basis on which MPF was currently sold. In contrast, Ofcom set the MPF charge to cover the costs of using MPF as it was currently used, namely to supply voice and broadband.

2.290 Moreover, Ofcom indicated[345] it was not clear that different charges for different uses of MPF was feasible, given that there would probably be a need to monitor usage to ensure the lower-priced input in only being bought when appropriate.

CPW's Reply

2.291 Mr Heaney argued[346] that the implied fault repair cost differences between MPF vs WLR/SMPF were overestimated because Ofcom's fault repair costs were based on data for fault rates from 2007 and 2008 which were unlikely to be reliable for estimating fault repair cost differences in 2012/13 because:[347]

(a) actual MPF fault rates would have reduced since 2007/08 (compared with WLR) since the MPF product was maturing;

(b) more recent data that was available to Ofcom at the time of the WLR Decision that showed the MPF fault rate (when used for broadband and voice) was to be about 10 per cent lower than the WLR fault rate;

(c) logically, it was likely that the fault rate for MPF would be lower than WLR (even when the MPF line was also used for broadband) since MPF involved fewer network elements and therefore there was 'less to go wrong'; and

(d) it might be that there were a relatively higher number of faults for MPF than WLR due to the use of the current wiring approach rather than single jumpering. Since the current wiring approach was efficient, it followed that any additional fault repair costs associated with this wiring approach were not efficient either and so should be adjusted for.

2.292 Mr Heaney argued[348] that neither Ofcom nor BT provided any reasoning to support the use of the out-of-date and inaccurate data on which they relied, especially when better data was available.

2.293 Mr Heaney agreed[349] that Ofcom correctly highlighted that the higher level of care[350] for MPF than WLR would increase the fault repair cost of MPF relative to WLR since the cost per fault was higher. Though it was appropriate to reflect this factor in the calculations, the impact it would have on incremental fault repair costs was likely to be small.

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[343]Ofcom WLR Defence, Annex, §91.
[344]Ofcom WLR Defence, Annex, §97.
[345]Ofcom WLR Defence, Annex, §91.
[346]CPW W/S Heaney VII, §70.
[347]CPW W/S Heaney VII, §71.
[348]CPW W/S Heaney VII, §72.
[349]CPW W/S Heaney VII, §73.
[350]ie faster fault repair.

2.294 Mr Heaney noted[351] that fault rate data used in Ofcom's model was for MPF lines which were used to provide voice and broadband services. In the case where an MPF line was used to provide voice-only services, the fault rate and so fault repair costs would be lower; broadband made the line more susceptible to faults than a line that was only used for voice. This difference should be reflected in a lower fault repair cost for MPF in the derivation of the MPF vs WLR cost difference (ie when a line was used for voice only). This adjustment had not been made by Ofcom in its calculations since the MPF fault repair costs Ofcom used were based on MPF when it was used for voice and broadband.

2.295 Mr Heaney disagreed[352] with Ofcom that this adjustment would necessitate an MPF product with a lower price that could only be used for voice and that this would be 'infeasible' and 'undesirable' since it might result in arbitrage. Mr Heaney noted that a voice-only MPF product with a lower price could be feasible by, for instance, Openreach only providing repair on faults that were necessary to allow a voice service to be provided and not the higher level of quality that was required to provide broadband as well. In any case, Mr Heaney argued that absence of a BT product was not a reason not to set the prices correctly.

2.296 Mr Heaney suggested that it was to achieve economic efficiency that it was important that the price difference between MPF and WLR (ie when providing voice-only services) was set with reference to the actual costs incurred, which in the case of MPF must reflect the fact that the line would have a lower level of faults since it was not being used to provide broadband.

Migration costs

Ofcom's Decision

2.297 In the WLR Statement, Ofcom did not agree that WLR charge should include around £7 per line per year for migration costs because:[353]

(a) Migration costs were driven by the move from the old technology to a new technology. A new technology should not increase costs for existing users who could have continued to be served with the old technology.

(b) A key part of the rationale for NGN technology was to reduce costs in the core network by having a single voice and data network rather than two separate networks. If migration costs should be recovered at all, Ofcom said that they should be through prices of core services, and these migration costs should be recovered through cost savings from the new more efficient network, not price rises.

CPW's Appeal

2.298 CPW argued[354] that Ofcom had wrongly excluded migration costs because replacing the TDM network with an NGN network would require the disconnection of copper

[351]CPW W/S Heaney VII, §74.
[352]CPW W/S Heaney VII, §75.
[353]CPW WLR Statement, §§5.49–5.52.
[354]CPW WLR NoA, §105.4.

loops from the current TDM line cards and connecting them to the corresponding MSAN line cards.[355]

2.299 Dr Houpis[356] understood that the migration of some WLR customers to 21CN would likely lead to an increase in the costs for these customers, both due to the costs of the migration itself and also due to the (temporary) costs of adopting and refining new operating procedures. However, Dr Houpis argued that Ofcom chose to exclude the costs of migration from the calculation of the cost differential between CRS products without clearly stating the rationale for this exclusion.

2.300 CPW argued[357] that telecommunications equipment had a finite economic life and at some point must be replaced, and as migration charges were incremental to the number of users it was likely to be more efficient to recover this cost evenly across all customers rather than recovering the cost disproportionately from one or other groups of customers. Otherwise, the recovery of a subscriber-driven cost from usage charges would imply that relatively heavier users would be required to fund indirectly the migration of relatively less heavy users, which could be inefficient.

2.301 Regarding Ofcom's claim that BT would actually complete few migrations in the period, Dr Houpis said[358] that it was not clear how the actual number of migrations in the period up to 2012/13 was relevant to a forward-looking efficient cost of operating a network. The migration costs in 2012/13 should reflect what would be the rate of migration of an efficient operator up to 2012/13, and from that point forward, suitably smoothed or amortized over the life of the customer and/or equipment, rather than BT's actual plans.

2.302 To the extent that the speed and level of migration, and therefore the level of migration costs, was not affected by the way in which Ofcom determined they should be recovered, Dr Houpis argued[359] that the overall costs should be the same irrespective of the way in which they were recovered. There was therefore no question of the relevant overall charges being higher under the NGN if migration costs were recovered from WLR, compared with migration costs being recovered from usage charges, as Ofcom seemed to imply.

2.303 CPW said[360] that regarding Ofcom's claim that the customers who did not benefit should not be charged, many of the voice-only customers that Ofcom claimed would pay higher charges due to the migration would, in fact, benefit from lower costs due to the fact that they also spent on lower-cost voice calls, or would take lower-cost broadband in future.

2.304 In response to Ofcom's suggestion that it was not appropriate to recover migration costs from WLR charges because they were already being allowed for in the setting of BT's core (conveyance) charges (the network charge controls), Dr Houpis argued[361] that this did not seem a valid reason to set the WLR charges inefficiently. Dr Houpis considered that if it was efficient to recover the migration costs from WLR charges, then Ofcom should have done so in coming to a view on the appropriate level of WLR charges, noting that network charge controls could then be adjusted appropriately at the next time Ofcom reviewed the network control charges.

[355] CPW W/S Houpis III, §60.
[356] CPW W/S Houpis I, §32.
[357] CPW W/S Houpis III, §§63 & 64.
[358] CPW W/S Houpis III, §65.
[359] CPW W/S Houpis III, §66.
[360] CPW W/S Houpis III, §67.
[361] CPW W/S Houpis III, §68.

Ofcom's Defence

2.305 In response to CPW's argument that some migration costs would be incurred as a result of finite equipment lives (rather than a move to a new technology), Ofcom[362] recognized the need to include some costs as a result of maintaining the existing technology. However, these costs were likely to be small and were considered to already be included in the existing line-card costs, and not as additional items in the WLR cost stack.

2.306 Ofcom[363] also noted that it had not explicitly included migration costs in the network charge controls. Rather, it set the network charge controls on the assumption of continued use of the existing technology, and not migration to new technology.

BT's Intervention

2.307 Mr Dolling said[364] that he supported Ofcom's position that migration charges from existing to 21CN technology should be excluded from WLR costs on the basis of the 'technology-neutral' approach that Ofcom had adopted. For this reason, it was not appropriate for these migration costs to be allocated to the WLR rental product for the purposes of a LRIC calculation, and indeed, BT had not sought to include such migration costs in the WLR cost stack.

CPW's Reply

2.308 Mr Heaney contended[365] that migration costs should be included in WLR costs, and Ofcom had erred by excluding them. Ofcom indicated[366] that it had excluded migration costs because of the assumed use of legacy technology since, in the case where legacy technology was used, Ofcom argued that there would be no migration costs.

2.309 Mr Heaney suggested[367] that Ofcom seemed to agree that migration costs should be included in the case where new technology was assumed (and the transition to it would result in migration costs). However, Mr Heaney noted[368] that Ofcom seemed to contradict that acceptance of the need to account for migration costs if using an MEA approach since it also said that, rather than basing costs on new technology costs and migration costs, costs should be based on legacy costs and the hope that reduced ongoing costs would be enough to cover migration costs when they occurred. Mr Heaney did not believe that this was the correct approach, and LRIC costs should be based on the most efficient technology including all the relevant costs of providing services using that technology (eg migration costs).

2.310 Dr Houpis argued[369] that Ofcom did not address the fundamental argument that migration costs were clearly required and were efficiently incurred and were incremental to WLR, for example, in the case of an external WLR customer who did not use BT's broadband service. As the objective was to set the appropriate cost (and price) differential between WLR and MPF (and between WLR+SMPF and MPF),

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[362]Ofcom WLR Defence, Annex, §71.
[363]Ofcom WLR Defence, Annex, §72.
[364]BT W/S Dolling III, §47.
[365]CPW W/S Heaney VII, §58.
[366]Ofcom WLR Defence, Annex, §70.
[367]CPW W/S Heaney VII, §59.
[368]CPW W/S Heaney VII, §60.
[369]CPW W/S Houpis VI, §56.

decisions made by BT as to the appropriate recovery of these costs were not relevant.

2.311 CPW argued[370] that the reason to migrate to NGN was that the current equipment was reaching the end of its life and that NGN was the most efficient technology for serving the current mix of demand in the future. The cost of migration was simply a cost of the normal replacement cycle which would be incurred whether or not the replacement assets provided new functionality.

Wiring, frame costs and tie cables

CPW's Appeal

2.312 CPW claimed[371] that Ofcom's treatment of wiring, frame costs and tie cables was erroneous and/or inappropriate.

2.313 Dr Houpis claimed[372] that Ofcom used the unit cost based on BT's cost CCA FAC forecast to estimate the LRIC of these elements. However, because of the historical legacy of BT's TDM network and BT's lack of incentives to reduce the costs for MPF lines, as BT's use of MPF was expected to be limited, this resulted in cost differences that were overstated with respect to the efficient forward-looking costs of providing MPF and WLR and which did not encourage productive efficiency, either in the provision of the components or in the wider provision of voice services.

2.314 CPW also claimed[373] that BT was planning substantially to redesign exchange building wiring and frames leading to a reduction in the additional costs currently required on MPF lines and these costs were expected to be fully recovered under Ofcom's proposal,[374] along with a proportion of fixed and common costs. CPW argued that BT therefore had no incentive to reduce the additional wiring required to serve MPF except in the case where this allowed BT to reduce its own costs. By contrast, as MPF was being used increasingly by BT's downstream rivals, BT had an incentive to incur an inefficient level of such costs to weaken competition.

2.315 CPW argued[375] that in order to ensure productive efficiency, a forward-looking LRIC estimate for these costs for MPF and WLR, respectively, should be based on efficient forward-looking costs similar to that previously proposed under the 21CN program. Under this scenario, the wiring required for provision of services through WLR or for MPF would be essentially similar and hence the LRIC cost included would also be similar.

Wiring approach

CPW's Appeal

2.316 CPW believed that the efficiently-incurred cost in this case was the use of the 'single jumper' approach. Mr Heaney estimated[376] that under the single jumper approach the cost of MPF was at least £5 less than using the current jumpering approach.

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[370]CPW letter to the CC, 25 May 2010, Comments on CPW transcript.
[371]CPW WLR NoA, §105.5.
[372]CPW W/S Houpis III, §69.
[373]CPW W/S Houpis III, §70.
[374]CPW W/S Houpis III, §71.
[375]CPW W/S Houpis III, §71.
[376]CPW W/S Heaney III, §16.

2.317 Given that operators using MPF would compete with other operators using WLR (or WLR+SMPF), Mr Heaney argued[377] that it was necessary that the costs of MPF and WLR were consistent and there was a level playing field and the best way to achieve this would be to use a 'single jumper' approach.

Ofcom's Defence

2.318 In response to Mr Heaney's suggestion[378] that Openreach had an incentive not to pursue a single jumpering approach when BT was planning to use MPF, Ofcom[379] believed that there were other reasons why Openreach considered a single jumpering approach in order to support significant use of MPF by BT. For example, in many exchanges there was not enough space on the MDF to support a significant increase in MPF volumes. There would also be additional cost in some exchanges to find space for the intermediate frame. Given the complexity of the change and the uncertainty that it offered sufficient cost advantages, Ofcom did not consider it appropriate to assume that single jumpering was the appropriate basis for costing MPF.

2.319 Ofcom indicated that in any assessment about the cost of a new technology, assumptions would be required in relation to the design of the new arrangement as well as future demand, which might cause doubt over the actual future costs. However, Ofcom emphasized[380] that even if a lower-cost arrangement was available, 'the idea that we would set a lower charge for the current more expensive arrangement could potentially undermine people's incentives to want to move to a lower cost technology'.

BT's Intervention

2.320 In relation to CPW's argument for assuming single jumpering, Mr Dolling argued[381] that it was uncertain whether a single jumper approach to wiring for MPF would actually result in a lower overall cost for CPs consuming MPF, because there were a number of other costs that CPs would need to incur if they chose to move to a single jumper approach.

2.321 Mr Dolling noted[382] that some exchanges had been upgraded to 21CN and therefore had the capacity to use single jumpering, meaning that in theory all CPs could have configured their co-mingling installations in 21CN and EvoTAM-enabled exchanges in such a way to achieve single jumper MPF. Mr Dolling noted that there were 850 exchanges that had been upgraded for 21CN technology and to date, no CPs had converted to the single jumper MPF approach.

2.322 Mr Dolling argued[383] that it was difficult to assert that the introduction of a single jumper MPF wiring configuration would result in a more efficient process than the existing current wiring approach, given that the product did not exist (and costs would be incurred to develop it) and that other counterbalancing costs would also need to be taken into account.

[377] CPW W/S Heaney III, §20.
[378] CPW Heaney W/S III, §19.
[379] Ofcom WLR Defence, Annex, §85.
[380] Ofcom hearing transcript, 6 May, line 11, p75, to line 8, p76.
[381] BT W/S Dolling III, §§9–11.
[382] BT W/S Dolling III, §13.
[383] BT W/S Dolling III, §22.

2.323 Mr Dolling said[384] that a single jumper configuration required CPs to invest in a 21CN LLU tie cable (with connector plugs) to connect to the EvoTAM. Due to low tie pair utilization, Mr Dolling said[385] that a CP would have to buy more 21CN tie cables and the EvoTAM would need to have a higher port capacity, both increasing costs.

2.324 In addition, Mr Dolling argued[386] that a further cost would be the inefficient use of exchange space, which was a finite resource.

2.325 In response to Mr Heaney's statement that the single jumper approach for MPF was designed by Openreach for use by BT in the deployment of BT's NGN, Mr Dolling argued[387] that single jumper wiring was a design option for downstream BT consumption of MPF, although ultimately this was not pursued as the continuation of the existing voice and broadband wiring approach was seen as the more favourable design. The EvoTAM and associated 21CN LLU tie cables would have been dimensioned based on downstream BT installed base for voice and broadband services, thereby achieving a high utilization of 21CN tie cables and the EvoTAM, at least for the time being.

2.326 Mr Dolling noted[388] that the single jumper option applied only to BT exchanges that had been updated to 21CN technology. In these circumstances, Openreach had been able to reconfigure test access matrices (TAMs) so that CPs could connect directly to the TAM via tie cables, reducing the number of jumpers on the frame. However, in order to achieve this, CPs were required to invest in additional tie cables. To date, no CP had made this decision to invest and therefore no MPF lines were 'single line jumpered'. As such, Mr Dolling argued that it was not appropriate to adjust Openreach's costs to take account of a new solution that was not available on all exchanges and was not being taken up by CPs.

CPW's Reply V (29 March)

2.327 In response to Mr Dolling's argument that the 'single jumper' approach should not be reflected in Openreach's costs because it was not available at all exchanges and it was not being taken up by CPs, Mr Heaney argued that despite this, there was a more efficient way of providing jumpering for MPF which was cheaper, and this saving would more than offset the fact that the new approach involved a more expensive '21CN external tie cable' to be purchased by the CP. Mr Heaney argued that the reason why no CP had yet migrated to using the more expensive 21CN tie cables was that BT currently offered only a single MPF product, which it charged at a price based on the old jumpering approach. There was, therefore, no benefit for a CP in purchasing a more expensive 21CN tie cable, because the CP then had the worst of both worlds—the more expensive charge from Openreach and the more expensive 21CN tie cable. Mr Heaney argued that in a competitive market, a competing provider would be expected to provide the cheaper alternative, undercutting the price of the old technology by more than the additional cost of the 21CN tie cable.

2.328 Mr Heaney also noted[389] that Openreach was planning a roll-out of EvoTAMs which were necessary only for single jumpering, suggesting that the EvoTAM roll-out indicated that Openreach was planning a transition to single jumpering and so

[384] BT W/S Dolling III, §18.
[385] BT W/S Dolling III, §21.
[386] BT W/S Dolling III, §24.
[387] BT W/S Dolling III, §§27 & 28.
[388] BT W/S Dolling I, §94(b).
[389] CPW W/S Heaney IV, §117.

reinforced the view that Openreach's costs should be based on the use of single jumpering.

2.329 CPW noted[390] that BT itself was planning to use single jumpering in its 21CN deployment, and the option to use single jumpering was currently available in 850 exchanges.

2.330 In relation to Ofcom's argument that single jumpering would not result in lower cost because it would lead to lower utilization (and so higher costs) of evoTAMs, Mr Heaney argued[391] that the added cost resulting from lower evoTAM utilization was likely to be far less than the saving in frame and tie cable cost. Mr Heaney indicated that the net saving from frame and tie cable was about £6 a year, yet the cost from lower evoTAM utilization would probably be about 10p if efficiently managed, which CPW believed it could be.

2.331 Mr Heaney believed[392] that the fact that BT itself was planning to use single jumpering was prima facie evidence that single jumpering was in fact the most efficient wiring approach for MPF.

2.332 While BT argued that no LLU operator was currently using single jumpering for MPF, Mr Heaney[393] suggested that this provided no evidence against the conclusion that single jumpering was the most efficient approach. Mr Heaney suggested[394] that the reason why no LLU operator was using single jumpering today was because it would have to pay the cost of the more expensive tie cable, but would receive none of the cost saving from lower frames and tie cable cost.

2.333 While Mr Heaney agreed[395] that it would be necessary for a new product to be developed to allow the use of single jumpering, this should not be seen as an excuse for BT not to act efficiently.

2.334 With regard to BT's incentives for single jumpering, Mr Heaney believed[396] that under Ofcom's approach, because BT itself did not use MPF, BT had no incentive to act efficiently and introduce single jumpering for MPF lines. If BT were to carry on acting inefficiently and keeping MPF lines on the current jumpering approach, Mr Heaney suggested that it would be profitable for BT:

(a) by pursuing this inefficient approach, and being permitted by Ofcom to recover these inefficient costs, to fully recover its inefficient costs from MPF customers (ie it was profit neutral); and

(b) by acting inefficiently, to 'saddle' its competitors with added costs that BT itself did not incur, thereby weakening competition and so increasing its profits.

Ofcom's bilateral hearing (6 May)

2.335 With regard to Ofcom's objections to basing LRIC estimates on single jumpering, Ofcom said:[397]

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[390] BT W/S Dolling III, §13.
[391] CPW W/S Heaney VII, §§39 & 40.
[392] CPW W/S Heaney VII, §44.
[393] CPW W/S Heaney VII, §46.
[394] CPW W/S Heaney VII, §47.
[395] CPW W/S Heaney VII, §50.
[396] CPW W/S Heaney VII, §51.
[397] Ofcom bilateral hearing transcript, 6 May, p75, lines 11–25.

I guess the most obvious one is that single jumpering does not exist, so setting the price on the basis that it did would seem like a rather strange thing to do. It is quickly worth saying what the logic sequence here is. Carphone is sort of saying, 'There is this alternative jumpering arrangement which would be cheaper and because it is cheaper you should set the basis for the current service I use which does not use this arrangement at this lower level' and I guess our response would be firstly it is not clear to us that there is a cheaper arrangement because we can see pros and cons, but in order to actually work out whether it is cheaper or not you would have to design it, work out the demand for it and so on because you can change a lot of things.

BT's bilateral hearing, 16 May 2010

2.336 At its bilateral hearing, BT, summarizing, said:[398]

> One of the things that strikes us is that in the normal course of events you'd expect a CP who believes there is a more efficient means of delivering a service to place what's known as a statement of requirement to us … Normally also what would happen where this is an option is that a number if CPs consider it a more efficient way of doing things, it would end up becoming an industry SoR … there has been no statement of requirement, whether from the CP or Carphone Warehouse for single line jumpering. The reasons really behind the lack of economic reasoning behind single line jumpering being cheaper technology is single line jumpering in the circumstances we have with MPF would require that the test access matrix, the TAM, is over-specified, because of the technology that is used. Each other lines that a CP would install for its MSAN would have to be directly wired into the TAM, so therefore the TAM would have to be specified where the demand was, rather than the demand being managed by some flexibility point. That would obviously increase the cost of single line jumpering. The CP tie cables that they use to tie into the Tam would be underutilized, and there'd be the cost of the product development, product management and of course, if we wanted to add a flexibility that would allow the efficient development of the TAM, rather than one that was over-specified, we'd have to add an extra flexibility point which Ofcom mention in their defence of the intermediate frame—which again, would be an extra cost. So no means has it been decided, approved, assessed, that single line jumpering is the lower cost and commercially efficient MEA. So that's why we disagree with Carphone.

BT's letter of 19 May 2010

2.337 In response to Mr Heaney's statements at the CPW WLR bilateral hearing,[399] BT said[400] that if any other CP disagreed, then the normal course of action would be for it to submit a formal Statement of Requirements for Openreach to undertake a formal evaluation. BT noted that, to date, no CP had done so and it considered that that lent support to its position that the case that 'single jumpering is more efficient' was not proven.

[398]BT bilateral hearing, 12 May.
[399]CPW hearing, 30 April, lines 22–32, p100.
[400]BT letter to the CC, 19 May 2010, Comments on CPW transcript.

Internal tie cable costs

CPW's Appeal

2.338 Internal tie cables costs are incurred by Openreach to provide certain services.[401] For instance, under the current jumpering arrangement, two internal tie cables are used in producing MPF though under a single jumper approach no tie cables are required for MPF. One tie cable is used for WLR. No tie cables are used for SMPF.

2.339 Mr Heaney argued[402] that the tie cable used for WLR should be based on MEA technology, which he believed was an NGN. Where an NGN was used, a more expensive tie cable was required (with an inline or evoTAM). In the case of the difference between MPF and WLR+SMPF, there were no additional tie cables used for SMPF. Therefore, the LRIC cost difference was the same, ie £3.00.[403]

Ofcom's Defence

2.340 Ofcom[404] argued that even with the single jumpering approach, only a relatively cheap tie cable should be assumed, on the grounds that the existing TDM technology should act as a cap on the WLR charge control.

BT's Intervention

2.341 Mr Dolling argued[405] that the costs associated with investment into tie cables were actually included in the line-card component and so there was no additional differential for tie cables.

Frame costs

Ofcom's Decision

2.342 In the WLR Statement, Ofcom decided[406] that MPF and WLR should be allocated different frame costs, pointing to evidence in the regulatory accounts which suggested that MPF had more frame costs than WLR. Ofcom said that this result was because MPF currently involved more jumpering on the exchange than WLR.

2.343 While CPW argued that in the future a different option for jumpering for MPF would be used that would result in MPF using the main distribution frame to the same extent as WLR, Ofcom noted[407] that no MPF lines were currently jumpered in this way, and no evidence to suggest that this was how most MPF lines would be connected in future networks was provided.

CPW's Appeal

2.344 Mr Heaney argued[408] that the number of jumpers used by MPF and WLR under an efficient single jumper approach were the same—a single jumper was used in both

[401] CPW W/S Heaney III, §28.
[402] CPW W/S Heaney III, §29.
[403] CPW W/S Heaney III, §30.
[404] Ofcom WLR Defence, Annex, §§88 & 89.
[405] BT W/S Dolling I, §94(c).
[406] WLR Statement, §§5.53–5.57.
[407] WLR Statement, §5.60.
[408] CPW W/S Heaney III, §25.

cases, and therefore there was no cost difference as between MPF and WLR. In the case of WLR+SMPF, additional jumpers were required for SMPF. Mr Heaney also argued[409] that Ofcom should have relied on the 2007/08 regulatory accounts, and suggested that there was a discrepancy between the 2008/09 RFS numbers and Ofcom's modelling.

Ofcom's Defence

2.345 In response, Ofcom argued[410] that the CCA FAC figures in its model were derived by a more reasonable allocation method than the RFS, as the model was based on an allocation of frame costs by usage of that frame.

BT's letter of 28 May 2010

2.346 Under the case that single jumpering represented the MEA, BT suggested[411] that due to a mistake in the RFS, Mr Heaney used incorrect cost data to calculate the frame cost differential.

CPW's letter of 28 May 2010

2.347 While CPW accepted[412] that Mr Heaney had relied on incorrect data to calculate frame costs, CPW suggested that the existence of such material errors in the final model, and BT's and Ofcom's inability to identify and correct them, reinforced CPW's contention that the models were not properly scrutinized.

Product management

Ofcom's Decision

2.348 In the WLR Statement, Ofcom decided[413] that WLR did not involve higher product management, servicing and fault repair costs than MPF. In summary, Ofcom believed that WLR was an established product with users who had fairly homogenous demands, leading to comparatively low product development and management costs. In contrast, MPF users tended to have diverse requirements, and accommodating these tended to increase product development and management costs.

CPW's Appeal

2.349 CPW believed[414] that Ofcom's analysis of product management, serving and repair costs was erroneous and/or inappropriate.

2.350 Mr Heaney[415] gave several reasons why product management costs would be higher for WLR than MPF, including that the basic WLR product had a number of features or services such as call barring and caller ID which were not required for MPF, which would incur some cost to product manage; that WLR included added functionality and more service levels (eg time to repair faults) when compared with MPF; and that

[409] CPW W/S Heaney III, §27.
[410] Ofcom WLR Defence, Annex, §87.
[411] BT letter to the CC, 28 May 2010, Frame Costs.
[412] CPW's letter to the CC, 28 May 2010, Comments on Frame Costs.
[413] WLR Statement, §5.73.
[414] CPW WLR NoA, §105.6.
[415] CPW W/S Heaney III, §36.

the customer base for WLR was highly fragmented, with hundreds of customers. Conversely, for MPF the customer base was highly concentrated, with three customers probably accounting for over 99 per cent of volume. This should result in lower sales/account management costs.

2.351 Mr Heaney also argued[416] that the fault rate on MPF should be no more than WLR. For the assessment of the LRIC cost difference between MPF and WLR (ie when the line was being used for voice only), Mr Heaney considered that any additional faults on MPF related to broadband were not relevant—since WLR included more elements (ie line card), then one would expect the number of faults to be higher on WLR. Mr Heaney suggested that a source of Ofcom's error may have been that it was using out-of-date data from 2007/08.

Ofcom's Defence

2.352 CPW's argument assumed a scenario where MPF voice-only services were provided. Ofcom[417] rejected this scenario, and considered the MPF charge on the basis on which it was currently used, which was to provide voice and broadband services.

2.353 Ofcom[418] argued that although WLR had some specific product management costs, it was also the case that there were some MPF-specific product management costs and therefore there was no clear rationale why WLR management costs should be substantially higher than MPF.

2.354 Ofcom[419] considered that development costs for WLR could not be materially higher than for MPF. This was because the MPF product was used to support a wide, and increasing, range of retail services and accordingly there were high demands on the MPF product. In contrast, the WLR product only supported retail voice services and was a fairly well-established product.

2.355 Ofcom's[420] analysis concluded that the CCA FAC figures for product management in aggregate (including both sales and development) were almost the same for MPF and WLR.

2.356 With regard to fault rates, CPW appeared to accept that higher faults were expected on a copper line that was used for broadband than one that was used only for voice since the broadband service was more susceptible to, and less tolerant of, faults.[421] However, Ofcom[422] disagreed with CPW's assumption that as a basis for setting charges it would be necessary that a voice-only MPF product was actually supplied, arguing that this would mean that Openreach would have to supply two separate and distinct MPF products, one for voice-only use, charged for on the basis of a voice-only fault rate, and another for broadband + voice use, charged for on the basis of a higher fault rate. Ofcom noted that this might be infeasible, was probably undesirable and was not the basis on which MPF was currently sold.

2.357 Ofcom[423] considered that using the latest historical fault rate ratio in the forecasts for 2012/13 was the appropriate basis for estimating fault rates, as opposed to using a

[416] CPW W/S Heaney III §42.
[417] Ofcom WLR Defence, Annex, §90.
[418] Ofcom WLR Defence, Annex, §92.
[419] Ofcom WLR Defence, Annex, §94.
[420] Ofcom WLR Defence, Annex, §95.
[421] CPW W/S Heaney III, fn 24.
[422] Ofcom WLR Defence, Annex, §97.
[423] Ofcom WLR Defence, Annex, §98.

forecast of how fault rates might differ between MPF and WLR in 2012/13 as suggested by CPW.

2.358 Ofcom[424] did not accept that there was an adequate basis for Mr Heaney's assertion[425] that there would be a significant reduction in the difference in care levels between MPF and WLR as a result of the service harmonization programme.

2.359 With regard to service standards, Ofcom[426] argued that the current CCA FAC numbers did not capture the current difference in SLAs, and therefore they would not overstate the difference if the difference between SLAs changed. Rather, the current CCA FAC numbers did not fully capture the difference in SLAs and so tended to understate the additional fault repair costs associated with MPF compared with WLR. They would continue to do this, even if the difference between the service standards narrowed.

BT's Intervention

2.360 BT regarded[427] Ofcom's approach to the issue of the cost differential as robust and appropriate, having regard to a number of economic and practical considerations.

2.361 Mr Dolling agreed[428] with Ofcom that the appropriate scenario to consider was where MPF was being used to provide voice-only services because MPF was not in practice used for voice-only services.

2.362 Mr Dolling argued[429] that there were at least two flaws in Mr Heaney's argument that there was more pricing innovation in relation to WLR. The first was that he was using an ancillary product (WLR connection), with its own pricing and cost stack, as an example of pricing innovation compared with a completely separate rental product (MPF rental). The second was that the CRS prices were all subject to and determined by the price controls being appealed by CPW in this process, which meant that prices would rise/fall in given years according to the RPI+/–X per cent per the price control and not any direct pricing innovation by BT.

2.363 Mr Dolling disagreed[430] with Mr Heaney's argument that the fragmented customer base of WLR compared with the relatively concentrated MPF base should result in lower sales/account management costs for MPF, with a greater share of sales and product management costs flowing to WLR. Mr Dolling said that account management of customers by Openreach's sales personnel was determined by a combination of the revenue earned, the revenue potential and the complexity of the products provided. Multiple smaller (fragmented) CP customers of WLR were managed by single sales account directors, whereas single large MPF customers were managed by dedicated account directors.

2.364 Mr Dolling agreed[431] with Ofcom's description of the differences between MPF lines and WLR/WLR+SMPF, and regarded MPF as having similar or higher costs than WLR but less than WLR+SMPF.

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[424]Ofcom WLR Defence, Annex, §§99 & 100.
[425]W/S Heaney III, §§44 & 45.
[426]Ofcom WLR Defence, Annex, §§101 & 102.
[427]BT WLR SoI, §25.
[428]BT W/S Dolling III, §33.
[429]BT W/S Dolling III, §§37 & 38.
[430]BT W/S Dolling III, §39.
[431]BT W/S Dolling I, §94(g).

CPW's Reply

2.365 Based on Mr Heaney's estimate of the product management cost per line, CPW argued: [432]

(a) The cost of product management on SMPF seemed implausibly low. For example, there was no reason to believe that the product management cost per SMPF line was just one-fifth that of MPF.

(b) The assumption that WLR only required 25 per cent more product management cost per line than MPF seemed implausible given that there were a number of cogent reasons to expect the product management cost of WLR to be higher than MPF, for example WLR had more additional features and functionality than MPF.

(c) Ofcom's comment that MPF would have a higher cost since it supported more retail services was misplaced because the extra capabilities provided in retail products were not an inherent part of the MPF product but were features added by LLU operators.

(d) WLR was provided to smaller customers who were proportionately more expensive to manage.

CPW's bilateral hearing 30 April

2.366 With respect to product management, CPW acknowledged[433] at its bilateral that 'in the scheme of things product management is relatively small. So although we don't think it should just be ignored, you know, in terms of the focus of effort it may be won't warrant as much effort as some of the other issues'.

BT's letter of 19 May 2010

2.367 In response to Mr Heaney's suggestion that WLR product management costs should be much higher than those for MPF because WLR included 'call features, includes voicemail and lots of other things, and numbering and number management', BT argued[434] that none of these cost categories was included in the WLR rental cost stack, and none of them was related to product management costs.

CPW's letter of 26 May 2010

2.368 CPW argued[435] that:

(a) The WLR cost per line (versus MPF) did not reflect adequately the impact that its additional features, functionality, complexity and fragmented customer base should have on its product management costs.

(b) The SMPF cost per line was far too low. It probably required as much product management as MPF, and certainly there was no reason to believe that it required only one-sixth of the product management that MPF did.

[432]CPW W/S Heaney VII, §66.
[433]CPW bilateral hearing transcript, 30 May, p106, lines 2–9.
[434]BT letter to the CC, 19 May 2010, Comments on CPW transcript.
[435]CPW letter to the CC, 26 May 2010, Comments on BT transcript.

2.369 While CPW accepted[436] that the magnitude of product management cost error was relatively small compared with other errors identified, as CPW previously argued, this did not mean that the error should not be corrected, as the cumulative impact of such errors may be great.

Accommodation and power cost

2.370 Mr Heaney claimed[437] that CPW's estimate of the line-card cost category (£16.50) included only the cost of the line card and MSAN and did not include accommodation and power. Adopting Ofcom's approach of including accommodation and power costs in the line-card category, then Mr Heaney's estimate for the line-card cost was £19.82 (= £16.50 + £3.32) as against Ofcom's estimate of £11–£13.

2.371 Ofcom[438] argued that Mr Heaney's assertion that the line-card cost excluded accommodation and power was incorrect, as he ultimately based CPW's estimate on a figure in Ofcom's Second Consultation,[439] which included accommodation and power.

2.372 Mr Dolling agreed[440] with Ofcom that accommodation/power costs were included in the line-card cost, and therefore there was no additional differential.

Depreciation

CPW Appeal

2.373 Dr Houpis stated[441] that the starting CCA-based unit costs of line cards was likely to be too low to allow an efficient operator to make a reasonable return, due to a high proportion of fully depreciated assets. CCA depreciation as implemented by BT resulted in capital charges for individual assets falling over the lifetime of the asset as capital employed fell, with the depreciation charge remaining constant. Assets which remained in service past the end of their assumed useful lives generated no capital charge, as the capital employed was zero and there was no depreciation charge.

2.374 Dr Houpis argued[442] that the forecast annualized capital charges for the line-card element of the WLR service, and for other cost elements, were based on BT's regulatory accounts which were based on straight-line depreciation. But for many assets, capital charges (depreciation plus an allowance for the cost of capital) calculated by this method were zero because these assets were reaching the end of their accounting lives, had not yet been replaced and had been written down to zero. Dr Houpis supported this by examining the trend in reported costs for PSTN line cards where the unit cost of a PSTN line card in BT's CCA regulatory accounts was reported to have fallen from £14.89 a year in 2004/05, to £9.48 a year in 2007/08.

2.375 CCA depreciation as implemented by BT resulted in capital charges for individual assets falling over the lifetime of the asset as capital employed fell, with the depreciation charge remaining constant. Assets which remained in service past the end of their assumed useful lives generated no capital charge, as the capital employed was zero and there was no depreciation charge.

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[436] CPW letter to the CC, 26 May 2010, Comments on BT transcript.
[437] CPW W/S Heaney III, §§13 & 14.
[438] Ofcom WLR Defence, Annex, §§103 & 104.
[439] CPW W/S Heaney, §14, and CPW W/S Heaney I, §258.
[440] BT W/S Dolling I, §94(d).
[441] CPW W/S Houpis I §50.
[442] CPW W/S Houpis I §30.

Ofcom's Defence

2.376 In response to Dr Houpis's argument that Ofcom's figures were likely to under-estimate the appropriate depreciation for line cards, as he argued they were already heavily depreciated, Ofcom noted[443] that PSTN line cards were depreciated over a ten-year life, and in 2007/08, PSTN depreciation and return on capital employed formed less than half of aggregate line-card costs. 21CN line cards and other operating costs (including maintenance) presented the biggest cost heading.

[443] Ofcom Defence, Annex §67.

Section 3: Analysis

Part 1: Reference Question 1

3.1 This part sets out our conclusions as to whether Ofcom erred in setting the level of WLR price controls as claimed by CPW in §§76–107 of the WLR NoA.

3.2 For the reasons given below in paragraphs 3.37 to 3.51, 3.55 to 3.65, 3.75 to 3.84, 3.96 to 3.110, 3.120 to 3.127, 3.137 to 3.139, 3.151 to 3.158 and 3.161 to 3.162, our determination is that Ofcom has not erred in setting the level of WLR price controls as claimed by CPW in §§76–107 of the WLR NoA.

Reference Question to answer

3.3 Reference Question 1 asks:

> Whether, for reasons set out within paragraphs 76 to 107 of the Notice of Appeal, the WLR Price Controls have been set at a level which is inappropriate because OFCOM failed to set the controls in such a way as to secure that the differential between, on the one hand, the price for WLR and/or WLR + SMPF and, on the other hand, MPF was at least equivalent to the long run incremental cost ("LRIC") difference between those services:
>
> (i) by reason of OFCOM setting the price differentials on a current cost accounting and fully allocated costs basis rather than on a LRIC basis, as explained, in particular in paragraphs 87 and 88 of the Notice of Appeal; or
>
> (ii) by reason of OFCOM having erred in its calculation of LRIC for the reasons set out in paragraphs 92 to 105 of the Notice of Appeal.

3.4 §§76–107 of the NoA concern Ofcom's approach to setting the level of the WLR price controls. §§87 and 88 of the NoA specifically concern Ofcom's approach of setting the price differentials on the basis of a CCA and FAC basis rather than on a LRIC basis. §§92–105 of the NoA specifically concern Ofcom's approach to determining the LRIC differential.

Structure of the determination of Reference Question 1

3.5 Reference Question 1 raises two issues:

(a) whether, because Ofcom set the prices on a CCA FAC basis rather than on an LRIC basis, it failed to set the WLR price control in such a way as to secure differences between:

- the price of the combination of WLR and SMPF,[1] and the price of MPF;[2] and
- the price of WLR and the price of MPF[3]

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[1]We abbreviate 'the combination of WLR and SMPF' to 'WLR+SMPF' for the rest of this document.
[2]We abbreviate 'the comparison of the price of the combination of WLR and SMPF, and the price of MPF' to 'WLR+SMPF vs MPF' for the rest of this document.
[3]We abbreviate 'the comparison of the price of WLR, and the price of MPF' to 'WLR vs MPF' for the rest of this document.

that were at least equivalent to the difference in the LRICs of these services; and

(b) whether Ofcom erred in its calculation of LRIC as a means of cross-checking its CCA FAC approach.

3.6 In the WLR NoA, CPW argued that the WLR+SMPF vs MPF and WLR vs MPF price differential must not be less than the LRIC cost differential.[4] CPW also argued that for reasons of both productive and allocative efficiency the WLR+SMPF vs MPF and WLR vs MPF price differentials should both be larger than the differences in their LRICs.[5]

3.7 Ofcom used CCA FAC as its basis of calculating the charges in both the LLU and WLR price controls. However, its methodology also involved what it termed a 'cross-check' to its estimates of LRICs. Ofcom found that the difference between the charges for WLR and MPF for 2012/13 was in line with the estimated range[6] of the LRIC differences and that the difference between charges in 2012/13 for MPF vs WLR+SMPF was larger than the estimated LRIC difference.[7]

3.8 CPW did not accept this because it considered that Ofcom had miscalculated the LRIC differentials.[8]

3.9 In our view, the appropriateness of Ofcom's CCA FAC basis is largely determined by the reliability of its estimates of the LRICs required for the cross-check approach. We therefore examine that issue first, addressing part (ii) of the Reference Question before part (i).

Has Ofcom erred in its calculation of the LRIC differentials?

Introduction

3.10 CPW said that the appropriate cost standard for determining the structure of charges was the efficient forward-looking LRIC and that, in this case, the efficient network to operate in the long run was an NGN even if BT might in the short run decide to continue to operate its legacy network. CPW said that Ofcom's LRIC estimates were therefore incorrect because:

- line-card costs should be based on WLR being allocated the full cost of an NGN line card;
- migration costs, the cost of disconnecting WLR lines from BT's current network and connecting them to an NGN network, should be included in WLR costs;
- cost differences should be based on the use of single jumpering and tie cable costs should be based on the costs of a particular type of tie cable;[9] and
- Ofcom's assumptions as to fault repair and product management cost differences between WLR and MPF were incorrect.[10]

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[4] WLR NoA, §78.1.
[5] WLR NoA, §78.2. This is discussed further in the answer to Reference Question 2.
[6] These figures were prepared as ranges rather than point estimates.
[7] WLR Statement, §§5.86–5.91.
[8] CPW W/S Heaney VII, §26.
[9] CPW said that the use of 21CN-100 pair enhanced internal Tie Cable-HDF should be assumed—see paragraph 122.
[10] CPW letter to the CC dated 12 May 2010.

3.11 CPW said that Ofcom's approach of setting WLR charges on the basis of legacy costs could be expected to result in WLR being priced at less than the appropriate forward-looking cost and, potentially, charges for usage rising above the appropriate forward-looking cost in order to enable cost recovery. This could be expected to have a number of detrimental effects on economic efficiency:[11]

- Costs would be recovered in a way that implied that the price of certain services would be set below efficient cost, and others would be set above efficient cost, leading to allocative inefficiency.

- Investment in NGN could be unnecessarily delayed, leading to a loss of potential productive efficiencies, as the NGN technology was expected to result in lower costs.

- Competitors (including mobile network operators), which could offer voice services to voice-only customers, potentially more efficiently than BT, could be discouraged or prevented from doing so, even though it might have been efficient for them to do so.

3.12 CPW also said that Ofcom had erred in its LRIC estimates as it had excluded the cost of assets whose lifetime had exceeded expectations.[12] More generally, it said that Ofcom had based its projections on the current level of costs reported by BT, which might not be a good basis for estimating forward-looking costs.[13] CPW said that Ofcom had provided no information as to how it estimated the adjustment made to line-card costs in order to allow for fully depreciated assets.[14,15] In addition, CPW noted that the existing tie cables were largely depreciated in the CCA accounts.[16]

Frontier Economics analysis

3.13 On 27 April 2010, CPW sent us a report prepared by Frontier. CPW had prepared various quantitative estimates of the errors it claimed Ofcom had made and this report provided CPW's final and best estimates.[17] We reproduce some of the figures here to provide an illustration as to the size of CPW's claim.

3.14 Table 3.1 below shows Ofcom's and Frontier's estimates of the LRIC differentials for MPF vs WLR, and MPF vs WLR+SMPF. The table shows that including the full costs of a combi-card and migration cost[18] accounts for a large proportion of CPW's estimates of the LRIC differential. The top part of the table shows Ofcom's and Frontier's estimates of the LRIC differentials for MPF vs WLR and MPF vs WLR+SMPF and the difference between these numbers. In relation to MPF vs WLR+SMPF, CPW estimated the LRIC differential to be £30.68 rather than the £17.50 estimated by Ofcom. The lower part of the table provides a breakdown of Frontier's estimates of the LRIC differentials. It shows the effect of each adjustment Frontier made on the LRIC differential. CPW also raised issues of line-card depreciation and product management which were not reflected in the Frontier figures.

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[11] CPW W/S Houpis III, §28.
[12] CPW LLU NoA, §96b.
[13] CPW W/S Heaney I, §224b.
[14] CPW W/S Houpis III, §§48 & 49.
[15] These arguments on the treatment of line-card costs are only relevant if we do not accept CPW's arguments on the appropriate cost base.
[16] CPW LLU NoA, §96b.
[17] CPW WLR bilateral hearing transcript, p14, line 9.
[18] CPW W/S WS Heaney I, §234.

TABLE 3.1 **CPW's claim: MPF vs WLR residential and MPF vs WLR residential +SMPF differentials (2012/13)**

£ in 2012/13

	WLR vs MPF LRIC	*WLR+SMPF vs MPF LRIC*
Total Ofcom*	10.00	17.50
Total CPW/Frontier†	23.35	30.68
Difference in approach	13.35	13.18
Constituent differences:		
Line card‡	[✂]	[✂]
Migration	[✂]	[✂]
Fault rate adjustment§	[✂]	[✂]
Test equipment equalize¶	[✂]	[✂]
Transfer charges#	[✂]	[✂]
Single jumpering	[✂]	[✂]
Total (of these)~	[✂]	[✂]

Source: CC analysis of Frontier model.

*This is the mid-point of Ofcom's estimates of the differential. Ofcom's WLR Statement §§ 5.86 and 5.87.
†CPW letter 1 June 2010 Annex table 1.
‡The difference between CPW's LRIC estimate of £16.50 and the mid-point of Ofcom's estimated range for the LRIC of £11 to £13.
§This estimates the effect of not correcting the error that Frontier said it had found in Ofcom's data input. Thus the fault rate assumptions that Ofcom used are put into the model rather than the values that Frontier stated Ofcom intended to use. See page 21 of the Frontier model report.
¶This reverses the Frontier assumption that test equipment cost of capital should be allocated equally to the services to match the Ofcom test equipment depreciation assumption (Frontier report, p28).
#The LRIC effect here may be created by directories. To show the effect of the LRIC assumption the Frontier LRIC assumption is compared to the LRIC figure for directories in Heaney WS 1 (i.e. 0.5).
~ Several of the cost elements have a lower LRIC in the Frontier model than in Ofcom's analysis so this number overestimates the total LRIC by not including these negative values. However, the negative values are removed in the cost category by cost category mark-up which equates the increment for those costs to the Ofcom FAC numbers.

3.15 The Frontier numbers show the effect of the use of NGN by including in the WLR costs the cost of a combi-card and the costs of migrating WLR lines from one access network to another and the single jumpering wiring approach. Frontier made adjustments it considered necessary to ensure that the assumptions that Ofcom said it had made on fault rates were implemented correctly[19] and the mean capital employed allocation for test equipment to be equal for each service to match the depreciation allocation.[20] In addition, the full fixed costs of directories were allocated to WLR.[21,22]

Assessment

3.16 We do not consider that Ofcom erred in the calculation of the LRIC differentials as a cross check of its CCA FAC approach. We consider that each of CPW's claims, in respect of how Ofcom incorrectly calculated LRIC, was unfounded. These claims were that:

- Ofcom failed to base its calculation of LRIC on the costs associated with NGN technology;

[19]Frontier report, p21.
[20]Frontier report, p28.
[21]Frontier report, p25 and footnote 7. CPW W/S WS Heaney I, Figure 18.
[22]CPW submitted the evidence produced by Frontier at a relatively late stage of the WLR Appeal. Whilst we have carefully considered this evidence, it has not been possible for us to scrutinize the calculations and assertions as rigorously as we would have done had such evidence been submitted to us earlier on in the WLR Appeal. For example, we were not able to test the evidence in any of the bilateral hearings with the other parties in the WLR Appeal. Nevertheless, we have considered the evidence and used it in our assessment where we considered it appropriate to do so.

- Ofcom made an error in calculating LRIC by not assuming costs to be based on single jumpering;
- in calculating LRIC based on legacy costs, Ofcom failed to take adequate account of fully depreciated line cards and tie cables; and
- Ofcom failed to allocate the correct amount of product management and service costs to WLR compared with MPF.

We set out below our assessment of each of these claims.

(a) Did Ofcom err in failing to calculate the LRIC differentials based on NGN technology rather than legacy technology?

Introduction

3.17 CPW argued that the LRIC differential should be estimated based on the use of NGN technology. As set out above (paragraph 3.10), the effect of CPW's argument would be to include in the WLR costs the full cost of a combi-card and migration costs. According to Frontier's calculations, this would increase the differential between the LRIC estimates for MPF and WLR+SMPF by £[✄] (£[✄] + £[✄]).

3.18 Ofcom said that its approach was to base the price controls on the costs of maintaining the legacy technology. It said that its approach had the advantage of promoting efficient choices by CPs between MPF and WLR and, more importantly, between MPF and WLR+SMPF, and it avoided undermining incentives for BT to invest in new technology.

3.19 Ofcom said that it was not entirely clear that NGN should be regarded as the efficient forward-looking technology. Ofcom said that this might be a wireless network or a fibre-to-cabinet network or a fibre-to-premises network.[23] Ofcom also argued that CPW had applied incorrectly the principles of an MEA evaluation of existing assets.[24]

3.20 We consider that these arguments raise two discrete issues: (i) whether Ofcom erred in its use of a legacy cost-based approach; and (ii) whether the efficient forward-looking costs for BT's access network would be NGN based. We consider each of these arguments in turn.

(i) Did Ofcom err in adopting a legacy cost approach

Introduction

3.21 Ofcom explained that what it referred to as a 'technology-neutral' approach meant that it would set charges based on the costs of continuing to provide existing services using the legacy technology until some new technology became established. Once a new technology had been established, charges could gradually be moved to reflect the new technology, in terms of both the level and structure of charges.[25] We refer to this approach as Ofcom's legacy cost approach, which distinguishes it from CPW's approach based on the costs of technology that should be expected to be employed

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[23] Ofcom WLR bilateral hearing transcript, lines 31–36, p6.
[24] Ofcom WLR Defence, Annex, §26.
[25] Ofcom WLR Defence, Annex, §32.

going forward. We note that CPW considered Ofcom's 'technology-neutral' terminology to be potentially misleading.[26]

3.22 Ofcom considered that its legacy cost approach encouraged efficient investment in new technology by both BT and other CPs. In particular, Ofcom said that:

- if all relevant charges were set on the basis of the continued use of the existing or legacy technology, then companies would have an incentive to invest in the new technology only if it lowered costs compared with the old technology;[27]

- this approach would induce efficient choices by CPs between MPF and WLR or WLR+SMPF, and thereby minimize the total costs incurred by BT and other providers in providing access products;[28] and

- if prices were based on the costs of future technology there would be a danger that BT's actual investment plans would inform expectations of future costs. To base prices on these costs could distort BT's incentives to invest in new technology.[29,30]

3.23 Ofcom said that the incorrectness of CPW's approach was demonstrated by the fact that it would result in higher costs of providing voice-only services using WLR lines, reflecting largely the different cost structure of employing MSANs in the local exchange, at a time when these were not being used and so end-consumers were not enjoying the benefits that this technology might bring.[31]

3.24 CPW said that Ofcom erred because its legacy cost approach would distort incentives for BT and other CPs to invest in new technology in the access network.

3.25 Ofcom characterized CPW's approach as an incorrect application of an MEA-based methodology where it had correctly valued existing assets at replacement cost, but had incorrectly failed to adjust for additional functionality, capacity or other enhancements.

3.26 CPW said that it was not arguing for an approach based on existing assets valued on an MEA basis. Rather, CPW's argument was that an efficient BT would not be operating with legacy assets and that the forward-looking asset base would be NGN based.[32]

Assessment

3.27 We do not consider that Ofcom erred by adopting a legacy-cost-based approach to estimating the LRIC differentials. This is for two reasons:

- We do not consider that CPW demonstrated that Ofcom's legacy cost approach would distort incentives for BT and other CPs to invest in new technology in its access network.

[26] CPW Houpis W/S VI, §9(a) and 14
[27] Ofcom WLR Defence, Annex §33.
[28] Ofcom WLR bilateral hearing slide pack, slide 6.
[29] Ofcom and CPW referred to this problem as a 'feedback loop'.
[30] Ofcom WLR bilateral hearing transcript, p7, line 15 and onwards.
[31] Ofcom WLR bilateral hearing transcript, p47, lines 10–25
[32] CPW WLR bilateral hearing transcript, p34, line 20, to p35, line 7.

- We do not accept the points made by CPW in response to Ofcom's argument on the implications of CPW's approach for voice-only services.

3.28 Under each of these headings we summarize what we consider to be the key arguments made by the parties.

The incentives to investment in new technology created by Ofcom's approach

3.29 We do not accept CPW's argument that Ofcom's approach would distort incentives for BT or other CPs to invest in new technology in its access network.

3.30 Ofcom said that it was important to recognize that it had set all other regulated BT charges which might be affected by the possible change in technology on the same legacy cost basis. Ofcom gave the examples of recently-set controls for wholesale fixed-call origination and termination and leased lines. The significance of these examples was said to be that if a new technology was cheaper overall (even though the costs of some particular services might be increased), then both BT and other CPs would have an incentive to invest in it.

3.31 Ofcom characterized CPs' choices between MPF and WLR or, more likely, MPF and WLR+SMPF as being a decision about whether to use equipment owned and operated by BT or to invest in supplying, to themselves, certain equipment located in BT's exchanges.[33] Ofcom argued that its legacy cost approach, as well as providing efficient investment incentives to BT, would also send efficient price signals to other CPs as to whether to invest in MPF. In particular, if the relative costs of MPF vs WLR and/or WLR+SMPF reflected the costs to BT of providing these services, CPs would only invest in supplying equipment if they could do so more cheaply than BT.[34]

3.32 Ofcom said that CPW's approach, which resulted in higher charges for WLR and lower charges for MPF, could encourage CPs to invest in MPF technology even when the costs of doing so would be greater than the costs saved in the provision of WLR lines. The result would be higher overall costs for the provision of access services (see Section 3: Part 2, paragraph 3.242).

3.33 CPW said that, if the delivery of services by the use of a new technology could be expected with a reasonable degree of confidence to be cheaper than using existing technology, then setting the prices according to a regulator's best estimate of the future costs of the new, or a combination of old and new, technology should make no difference to the incentives of the regulated company to switch to using the more efficient technology, compared with setting prices according to the costs of the legacy technology. Therefore, Ofcom's proposal of setting prices on the basis of the legacy technology should not be expected to provide a stronger incentive for BT to move to the NGN technology, compared with an alternative of setting prices on the basis of the new technology, if the new technology was cheaper.[35] CPW said that Ofcom's approach had no more superior efficient investment promotion properties (or was no more 'technology neutral') than the approach proposed by CPW, as NGN was a sufficiently established technology with known and lower costs.[36]

[33] Ofcom WLR bilateral hearing, slide 6.
[34] Ofcom WLR Defence, Annex, §§35–38.
[35] CPW W/S Houpis VI, §17.
[36] CPW W/S Heaney VII, §24.

3.34 CPW also did not agree that Ofcom's approach provided efficient signals to investment. On this point, CPW made the following arguments:[37]

- Ofcom's approach could result in investment in NGN being inefficiently delayed if WLR prices were set below efficient MEA costs and BT could not recover the shortfall in WLR revenues from higher call charges for at least some voice-only customers.[38]

- Linking, as Ofcom had, the use of NGN costs for setting prices to BT's deployment of new technology would, if applied more generally beyond merely the structure of prices, create a disincentive for BT to invest in the new technology. This was because BT would expect that a faster move to the new technology would trigger Ofcom to set new, lower prices.

- Ofcom's approach, which underestimated BT's costs, would, if applied more generally beyond the structure of prices, provide incorrect signals to investment decisions.

3.35 In relation to the incentives for CPs to invest in new technology, CPW argued that, in contrast to Ofcom's approach, its proposal of using the efficient forward-looking technology to calculate the differential between the costs of MPF and WLR in 2012/13 minimized the risk of creating a distortion in the relative price of MPF and WLR+SMPF by setting a charge for WLR that was unduly low, through the use of a legacy technology.[39]

3.36 CPW said that Ofcom's approach of using legacy technology to estimate costs in order to promote productive and dynamic efficiency could only be valid if Ofcom's estimates of the costs of providing WLR when using the legacy technology were subject to greater certainty than the estimates of using NGN. CPW's view was that estimating the incremental cost of providing the WLR service using the legacy technology was inherently difficult, as there was no readily observable market information on the price of the related legacy equipment. Therefore, there was no reason to expect Ofcom's estimates of the costs of using legacy equipment to be more accurate estimates of the forward-looking incremental costs of delivering WLR using the legacy technology than the estimates it would obtain using NGN. In fact, CPW expected the reverse to be true.[40]

3.37 We do not agree with CPW that Ofcom's approach would not create efficient investment incentives. We have taken into account the following six reasons.

3.38 First, Ofcom said that it had set other regulated charges on the same legacy cost basis. We agree with Ofcom that if the price controls applying to BT access and core network services are set in this way, and if investment in an NGN network would be expected to result in lower costs overall, BT would have a financial incentive to make this investment. CPW made the same point. In particular, CPW said that if the delivery of services by the use of new technology could be expected to be cheaper, then setting prices based on future or legacy technology costs should make no difference to the incentives (see paragraph 3.33 above).

3.39 Second, CPW argued that NGN investment would be inefficiently delayed because BT would, with Ofcom's approach, be unable to recover the costs of providing WLR

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[37] CPW W/S Houpis VI, §9.
[38] CPW W/S Houpis III, §§29 & 30.
[39] CPW W/S Houpis VI, §9(d)(i).
[40] CPW W/S Houpis VI, §§24–26.

services using NGN technology (see paragraph 3.34 above). We do not agree with this because the total revenue raised from the charges being set (ie those for MPF, SMPF and WLR services) would be the same with both CPW's and Ofcom's approaches since the total revenue raised by the charges for MPF, SMPF and WLR services was determined by Ofcom's use of the Oak model. This method of establishing total revenues was not challenged. What is in dispute here is just the structure of charges, ie the relative charges for MPF, SMPF and WLR. As a result, CPW's NGN-cost-based approach would not provide more funds for financing NGN investment in the access network. Other arguments put forward by CPW were explicitly conditional on Ofcom's approach applying more generally beyond merely the structure of prices (see paragraph 3.34 above).

3.40 We consider this to be important as the incentives to invest in new technology in the access network created by different approaches to setting CRS charges will be determined less by the structure of charges and more by the overall level of revenues raised by the charges. We recognize that if actual line volumes differ from the assumptions made in the model, then a different structure for charges would be likely to result in a difference in the total revenue generated by CRS services, but we consider this effect to be of secondary importance as it would be limited to the price control period and the size of the variations from the volume forecasts. In its response to the provisional determination, CPW disagreed with our view on the structure of charges. CPW argued that if BT's ability to recover any under-recovery of WLR costs from MPF and SMPF line rental were undermined by a loss of MPF and SMPF volumes to other platforms there would be an effect on BT's investment incentives. CPW's argument was that Ofcom's approach would, in practice, result, over time, in an under-recovery of CCA FAC costs as BT could not sustain MPF and SMPF line rental volumes at the price levels allowed by the price controls. CPW had not previously made this argument or presented evidence to support this case. However, we would expect reductions in line volumes to be reflected in volume projections—as was the case in this price control period.

3.41 Third, whilst we agree with CPW[41] that, generally, incentives are strongest when price controls are set independently of actual behaviour or performance, in practice, regulators are frequently required to strike a balance between maintaining incentives and the need periodically to reset charges so as to ensure that they allow firms to recover efficiently-incurred costs or consumers do not pay excessive prices. This approach is expected to give companies an incentive, in the form of higher profits, during the period between reviews to become more efficient and in so doing to reveal the efficient costs that can be reflected in future price controls, to the benefit of consumers.

3.42 In this case, Ofcom said that the level and structure of prices would, for a period, be set by reference to existing technology costs, even if BT were to invest in new technology over this period. Charges would be brought into line with the costs of this new technology only when it was established and, even then, this would be achieved gradually by a glide path. It is this deliberate regulatory lag that creates the financial incentive to invest in cost-reducing technology, as BT would retain the cost savings in these years in the form of higher profits.

3.43 In its response to the provisional determination, CPW said that Ofcom's 'legacy cost' approach, when Ofcom knew at the time of setting the price control with a reasonable degree of certainty that the move to NGN would lead to overall lower costs, unequivocally allowed BT to retain excessive profits from moving to NGN, which was

[41] See CPW W/S Houpis VI, §9(c)(ii).

economically inefficient. CPW's argument relies on Ofcom being certain that NGN investment across BT's network including its access network is the efficient way forward. For the reasons given in 3.37 to 3.51, 3.75 to 3.84 and 3.96 to 3.110, we do not accept CPW's arguments that an efficient BT would have rolled out NGN to its access network and that, as a result, Ofcom could not be certain that BT would move to NGN. CPW, in its response to the provisional determination, also said that it was notable that the European Commission, in its *Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU* of 20 May 2009[42] (published just two days before Ofcom's LLU Statement), observed (at recital 12[43]) that: 'the cost model should be based on the efficient technological choices available in the time frame considered by the model, to the extent that they can be identified. Hence a bottom up model built today could in principle assume that the core network for fixed networks is Next-Generation-Network (NGN)-based'*.* In our view, this statement is consistent with Ofcom's approach. Ofcom's 'cost models are based on the efficient technological choices available …. to the extent that they can be identified'. Also, the last sentence in the text highlighted by CPW refers to 'could': it states that 'bottom up cost model **could** in principle …. NGN-based' (emphasis added).

3.44 Fourth, we consider that CPW's approach of setting prices independently of the technology employed by BT would be difficult practically as it would require a good external benchmark for BT's efficiently-incurred costs. CPW argued implicitly that other networks, including its own, provided a benchmark against which to determine the efficient deployment of technology. CPW referred to what it and other network operators in the UK had done in its argument that NGN was the efficient technology for providing access services. In response to the provisional determination, CPW said that new entrants were good benchmarks provided that account was taken of the speed of migration (which could be done through the use of a glidepath or other means). For the reasons given below (paragraphs 3.75 to 3.81), we do not consider that the other UK fixed-line telecommunications networks provide a good benchmark against which to compare BT in determining whether it would be efficient for BT to invest in NGN equipment in its access network. CPW also accepted that other networks might not be reasonable benchmarks against which to compare BT.

3.45 Fifth, we considered CPW's argument that Ofcom had adopted an inconsistent approach: Ofcom had stated that it adopted a legacy approach when it actually used NGN costs to estimate line-card costs for WLR lines.[44,45] We recognized that Ofcom made a number of references in the LLU and WLR Statements to this issue. We consider that the key references are those made in the WLR Statement where there is a more detailed discussion of Ofcom's approach and reasoning. The WLR Statement is also the most recent of the two decisions published by Ofcom.

3.46 In the WLR Statement, Ofcom explained that it used the costs of NGN technology in estimating the line-card costs in the WLR costs using a weighted average of PSTN line-card costs, as reported in the CCA accounts, and combi-card costs. Ofcom explained in the WLR Statement that, in the absence of reliable information on the future costs of maintaining PSTN line cards, this approach was used as a proxy for these costs**.** By comparing the results with line-card costs reported in previous

[42](2009/396/EC) OJ 20.5.2009 L 124/67.
[43]See also Recommendation 4.
[44]Heaney said (CPW W/S Heaney VII, §15) that 'It appears that it was this delay in BT's roll-out plans, subsequent to the Second Consultation, that accounts for the shift in Ofcom's view in the WLR Decision and in the Defence that legacy / TDM costs should be used to calculate BT's costs'.
[45]CPW WLR bilateral hearing transcript, p36, lines 12–24.

Regulatory Financial Statements, Ofcom said that it satisfied itself that this approach was reasonable.[46]

3.47 We considered that this approach to estimating the line-card costs was consistent with Ofcom's legacy costs approach. We recognized, however, that in the LLU Statement Ofcom gave a different description of its approach to estimating the line-card costs included in the WLR costs. In particular, Ofcom said that it proposed that the WLR charge be set to recover both the legacy and PSTN cards costs and a contribution to the combi-card costs as they were phased in.[47] Ofcom considered this to be a reasonable approach to the recovery of combi cards as it took account of the fact that voice-only customers did not benefit from the investment in them.

3.48 We also noted that in some places in the WLR Statement. Ofcom made reference to BT's decision to suspend plans to roll out 21CN and that following this, Ofcom considered what the costs would be of maintaining the existing TDM technology and considered that the weighted average of the PSTN line cards and per-service allocation of the 21CN costs could be used as a proxy for this.[48] However, Ofcom also gave an alternative interpretation of this approach as considering a case where BT replaced the PSTN line cards with combi cards as part of a plan to replace the PSTN network and that, in this case, the combi cards would be the MEA adjusted to reflect their additional functionality.[49]

3.49 Our view is that whilst some of the references made by Ofcom as to how it estimated line-card costs may appear to some as inconsistent, we consider that the approach that Ofcom in fact adopted was consistent with its legacy cost approach. In particular, Ofcom concluded that, for reasons of consumer protection and efficiency, it would be appropriate to limit costs recovered from voice-only service to the level that would be implied by the hypothetical continued use of the existing technology which it estimated as set out above.[50]

3.50 Finally, we agree with Ofcom that if the differential between charges for WLR+SMPF and MPF reflected the relative legacy technology costs, this would provide efficient incentives for CPs to invest in new technology. In particular, CPs would have a financial incentive to switch to MPF products, which would require them to invest in MSANs, if by doing so they could reduce their costs of delivering voice and broadband services or offer their customers a better service at a price that would more than compensate them for any additional costs incurred.

3.51 In its response to the provisional determination, CPW said that the CC had not shown that using the legacy cost approach improved incentives for BT to invest in NGN (merely that using legacy cost did not create strong disincentives). However, this is not a proposition we are required to demonstrate. As discussed at .1.58, our role is to determine whether CPW has demonstrated that Ofcom has erred for the reasons set out in the NoA. For the reasons given in paragraph 3.37 to 3.51, we do not consider that CPW has shown that Ofcom's legacy cost approach would create a disincentive for BT to invest in new technology[51] and could result in NGN investment being inefficiently delayed.[52]

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[46] WLR Statement, §5.38.
[47] LLU Statement, §§6.187 & 6.188.
[48] WLR Statement, §5.37.
[49] WLR Statement, §5.39.
[50] WLR Statement, §5.43.
[51] CPW W/S Houpis VI, §9.
[52] CPW W/S Houpis III, §§29 & 30.

The effect of CPW's approach on charges for voice-only customers

3.52 Ofcom accepted that, if BT were to adopt NGN in local exchanges, it might be appropriate for the prices of some services to increase.[53] Ofcom and CPW do not therefore disagree that, if BT were to invest in a new technology—such as NGN—that resulted in a change in cost structure, that this could lead to some customers paying higher prices.[54] However, under Ofcom's approach, this question would only need to be addressed when the investment in new technology had taken place.

3.53 Ofcom said that CPW's approach would result in some customers paying higher prices during the price control for voice services that were no different from before, at a time when no CPs or their customers were receiving the benefits associated with the use of NGN technology in BT's access network. Ofcom said that this common sense illustration showed that CPW's application of MEA principles was incorrect.

3.54 In response, CPW argued that it would not be against the interests of voice-only customers to set prices for WLR lines based on NGN costs because:[55]

- WLR prices being set on the basis of costs which reflected appropriately the efficient MEA costs would be consistent with a significant number of current voice-only customers paying less for the voice services they consumed, and an even greater number of voice-only customers paying less over their total time as customers. This effect was a result of lower usage charges and an expectation that many current voice-only customers would become voice + broadband customers.

- setting prices based on NGN costs would reduce the risk of a slow deployment of NGN, leading to improved productive efficiency for the delivery of both voice and broadband services;

- setting the WLR charges on a legacy cost basis would discourage competitors (including mobile network operators), which would be able to offer voice services potentially more efficiently than BT;

- setting the WLR charge on a legacy cost basis was also much more likely to lead to inefficient consumption of services delivered using NGNs; and

- to the extent that it was necessary to protect vulnerable consumers from any potential price increases, there were other instruments available to Ofcom which could achieve this objective with significantly less market distortion.

3.55 We do not accept these arguments for the following five reasons.

3.56 First, we consider that CPW was wrong to consider the overall impact on customers of voice services of investment in NGN in the core and access networks. CPW's argument is that higher WLR charges would be offset by lower usage charges.Absent any increased investment in NGN (see paragraphs 3.37 to 3.1), the different structure of charges for access services proposed by CPW of itself would not give rise to lower usage charges. We consider therefore that any benefits to customers from lower usage charges relating to NGN investment cannot be attributed to higher WLR charges.

[53]Ofcom WLR bilateral hearing transcript, pp46&47.
[54]CPW W/S Houpis III, §24, does not disagree with Ofcom that prices for some services will rise.
[55]CPW W/S Houpis III, §40.

3.57 Second, we do not agree, for the reasons given above (see paragraph 3.37 to 3.51), that setting prices based on legacy technology would result in inefficient delay in deployment of NGN technology by BT in the access network.

3.58 Third, we do not agree that Ofcom's legacy cost approach will undermine efficient competition in the provision of voice-only services by not providing MPF-based CPs or mobile networks with sufficient margin to allow them to compete profitably with BT in the provision of voice-only services.

3.59 For the reasons given above (see paragraphs 3.37 to 3.51), we consider that Ofcom's approach would provide efficient incentives for CPs providing fixed-line services, or operators of mobile networks, to provide voice-only services in competition with BT Retail. In particular, if they are able to reduce the costs of providing voice-only services by using new or different technology they would be able to undercut BT or other CPs providing voice-only services using WLR lines.

3.60 In addition, we agree with Ofcom[56] that, unless there are strong competition arguments for doing so, to set a differential in order to allow MPF providers to compete with WLR-based providers in the provision of voice-only services could encourage inefficient investment in MPF services resulting in higher costs being incurred in the provision of voice-only services (see Section 3: Part 2, paragraphs 3.242). We have seen no evidence that there would be strong competition benefits from encouraging MPF-based delivery of voice-only service. Ofcom said that it had recognized this in its recent retail narrowband market review statement and, as a result of the growth in competitive pressures based largely on the use of WLR, it had now deregulated the retail narrowband market.[57]

3.61 In its response to the provisional determination, CPW disagreed with our view. It reiterated that there were unequivocal advantages resulting from voice competition based on MPF rather than WLR due to greater ability for innovation and greater cost pressure across more of the value chain. CPW said that Ofcom and BT agreed that by using MPF, an operator could innovate in the provision of voice services to a greater degree than it could with WLR, and CPW referred to statements made by both BT and Ofcom to support this view. CPW referred to a statement made by BT in the course of this appeal (see paragraph 2.72): 'Such benefits were not therefore confined to MPF, although an MPF operator may have more scope for innovation across a broader range of services than by using WLR alone'*.* BT further stated that 'CPW did not reflect the importance of WLR in also providing these benefits [innovation and choice] to consumers'. Also BT's statement set out that 'MPF … may have more scope for innovation …'. CPW referred to Ofcom's Second Consultation[58] where Ofcom states that its 'view is that in the short and medium term MPF is likely to become increasingly important to the future of broadband competition'. Ofcom also states that 'most of the broadband competition from LLU is currently through SMPF, rather than MPF. …. This raises the question of how important the level of the MPF charge is for broadband competition, given that SMPF is currently the dominant form of LLU'.[59]

3.62 Our view remains unchanged. As we state above, no party to this appeal has shown that, given the strength of competition in the provision of voice services, there would be strong competition benefits from encouraging MPF-based delivery of voice-only

[56]Ofcom LLU Defence, Annex D, §39.
[57]WLR Statement, §5.92.
[58]Second Consultation, §A5.75.
[59]Second Consultation, §A5.83.

services which would be sufficient to outweigh the potential costs of encouraging inefficient use of MPF lines to provide voice-only services.

3.63 CPW also contended that we had not recognized the benefits in competition with WLR for wholesale line rental services which would result in deregulation. In CPW's view, this would be similar to the way in which LLU allowed competition with whole-sale broadband (eg IPStream) which allowed the Wholesale Broadband Access market to be deregulated. This is a claim that CPW has not raised before in this appeal and as such is not an argument that we consider forms part of CPW's pleadings. However, as considered above we note that CPW has not demonstrated that the benefits of deregulation would be sufficient to out-weigh the potential costs of encouraging inefficient use of MPF lines to provide voice-only services.

3.64 We do not accept that Ofcom's approach would result in the inefficient consumption of voice-only services. CPW's argument relies on accepting that NGN is the efficient technology for BT. CPW made a number of other arguments similar to those listed above[60] which we also consider relied on CPW demonstrating that NGN is the efficient forward-looking technology for BT. For the reasons given below (paragraph 3.110), we do not believe that CPW has demonstrated this.

3.65 Finally, with regard to the last of CPW's arguments as listed above (paragraph 3.54), Ofcom stated that its position was not about the protection of vulnerable consumers. We accept Ofcom's position.

(ii) The efficient forward-looking technology: NGN or legacy

Introduction

3.66 We considered CPW's argument that the efficient forward-looking costs were those based on the use of NGN technology.

3.67 CPW argued that the efficient, forward-looking costs would be the costs of operating a single NGN network for both voice and broadband services for all customers. CPW also argued that the appropriate cost benchmark was determined by the technology that would be used by a new entrant. In particular, CPW said that the objective in setting charges was to mimic the competitive market and to send efficient price signals to efficient new entrants, all of which used NGN.[61]

3.68 CPW said that the use of NGN by other operators (principally CPW and Sky), and the fact that legacy technology equipment could no longer be bought new and so was not an option for a hypothetical new entrant, was evidence that NGN was the efficient forward-looking technology.

3.69 CPW claimed that the evidence was overwhelming that NGN was the most efficient technology.[62] In particular, BT had stated publicly that it planned to adopt fully a com-bined NGN until its announcement in March 2009. CPW said that these plans were implicitly accepted as realistic in Ofcom's modelling and statements at the time of the WLR consultation.

3.70 CPW said that the ERG[63] had stated in 2008 that NGN was expected to be the technology that would be used. CPW suggested that there were reasons why an in-

[60]For example, see CPW W/S Houpis III, §30.
[61]CPW letter to the CC of 12 May 2010.
[62]CPW W/S Heaney VII, §23.
[63]Now known as BEREC.

efficient operator might have changed strategy, including a shortage of capital and implementation difficulties, which CPW felt were exaggerated by ineffective management at BT.[64]

3.71 In Ofcom's view, the most cost-effective way for Openreach to provide voice access services for the period of the charge control was to maintain the existing technology.[65]

3.72 Ofcom said that the emergence of a business case for NGA had reduced the long-term benefits of Openreach moving to NGN, particularly in the access network, by making certain NGN equipment (MSANs) redundant.[66]

3.73 BT said that it was continuing to roll out NGN as planned for other services, but that it had suspended the roll-out of voice services delivered over NGN. BT stated that it did not consider NGN to be the efficient technology for voice access services.[67] BT said that it had changed its approach to NGN while developing its NGA programme. BT also said that it was, for now, more efficient to continue using its existing equipment and that, going forward, it was likely that the next generation of equipment would be fibre-based.[68]

3.74 Sky said that, if a new network were being built, NGN would be the appropriate technology.[69] Sky noted that BT had an old voice network which required minimal capital expenditure and, while it incurred slightly higher operating expenditure than when new, it continued to generate a high return. Sky noted that Virgin Media also had a legacy network which Virgin Media had found efficient to keep in operation for voice customers rather than moving fully to NGN or cable. Sky also recognized that the choices that Openreach, with its existing network and large customer base, might need to make would be different from those of Sky.[70] Sky also said that NGA had reduced the incentives for operators to use MPF, because new fibre-based products increased the relative attractiveness of alternatives to the MPF-based model.[71]

Assessment

3.75 We consider that the relevant cost benchmark should be determined by reference to what would be efficient for an operator in BT's position. We do not consider that CPW has demonstrated that an efficient BT[72] would have continued to roll out NGN to the voice access network as was BT's plan up until March 2009:

- We do not consider that CPW's reasoning that legacy technology equipment could no longer be bought new can be applied to BT, because BT continues to have the option of maintaining its legacy access network. Also, the assessment of whether to use a legacy network will be very different for BT because it has a large installed customer base for WLR lines. In addition to the time taken to migrate customers, BT said it would face additional costs (eg costs of parallel running) and operational challenges to migrate customers to NGN compared with new entrants.

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[64] CPW W/S Heaney VII, §§20 & 21.
[65] Ofcom Defence, Annex, §§23 & 24.
[66] Mr Clarkson at p16, lines 1–5, of the Ofcom WLR bilateral hearing transcript of 6 May 2010.
[67] BT W/S Esslin-Peard II, §29.
[68] BT WLR bilateral hearing transcript, 12 May 2010, p24, lines 12–16.
[69] Sky WLR bilateral hearing transcript, 13 May 2010, Mr Higho, pp16–19.
[70] Sky WLR bilateral hearing transcript, 13 May 2010, Mr Higho, p14.
[71] Sky WLR bilateral hearing transcript, 13 May 2010, Mr Higho, p25.
[72] While Ofcom is setting the prices by considering the actions of an efficient Openreach, the main decision about NGN investment (that will affect the network that Openreach must link to) will be taken by BT. Thus we are considering whether BT as a whole has taken the efficient approach to NGN investment.

- In assessing Ofcom's decision, we consider that information emerging after the WLR consultation, and in particular leading up to BT's March 2009 announcement, should be accorded significant weight.

- We consider that the ERG advice on asset valuation is of limited relevance in assessing the efficient choices for Openreach.

- We do not accept CPW's argument that NGN costs provide a more reliable basis for estimating the forward-looking costs of providing WLR services.

3.76 Our reasoning on each of these issues is set out below.

- *Use of other UK operators as a benchmark*

3.77 Our view is that CPW's evidence that NGN is the more efficient technology was primarily based on the perspective of new entrants and had limited relevance for considering the efficiency of BT's investment plans.

3.78 We do not accept that the appropriate cost benchmark is determined by the costs of a new entrant. In particular, the implication of CPW's argument is that in competitive markets the price is determined solely by the potential competition from new entrants. We do not accept this. In a competitive market the constraints may be from potential competition, from new entrants and/or from actual competition among incumbents. In addition, to set the price controls, as CPW suggested, that would allow efficient new entrants to be able profitably to provide voice services[73] would not be in the interests of consumers if this would result in a higher price than would be the case were it determined by reference to costs of the existing operators. In its response to the provisional determination, CPW said that we had misunderstood its position. CPW said that the structure of prices in a competitive market would be expected to reflect the structure of the forward-looking, efficient costs and that forward-looking, efficient costs would be reflective of the cost structure that would be expected to apply to a new entrant.[74,75] For the reasons given in paragraph 3.77 to 3.81, we do not agree with CPW that what is the efficient technology for a new entrant network operator to employ would necessarily also be the efficient technology for an operator with an existing legacy network.

3.79 We also consider that the arguments that CPW has advanced on this point were inconsistent. In the LLU NoA, CPW said that costs should be based on BT's additional costs for providing WLR instead of MPF or WLR+SMPF instead of MPF, and not on a new entrant, such as TTG.[76] CPW also stated that there were unlikely to be any new entrants into the market.[77] Finally, CPW referred to the technology employed by CPW and other existing operators, and to BT's own investment plans in making its case that NGN was the efficient forward-looking technology.[78]

3.80 We also consider that other existing telecommunications network operators do not provide a good benchmark against which to compare BT in this context. One reason for this is the different mix of services provided using the BT network and, in particular, a significant number of voice-only customers . CPW stated that the costs

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[73]CPW letter to the CC dated 12 May 2010.
[74]CPW's submission on the CC's provisional determination on the WLR Appeal, 29 July 2010.
[75]CPW told us that for the avoidance of doubt, the term 'new entrant' was used in this context to describe operators other than BT.
[76]CPW W/S Heaney I, §222e.
[77]CPW WLR bilateral hearing transcript, Dr Houpis, p31.
[78]Dr Houpis said that new entry was very unlikely—CPW bilateral hearing transcript, 30 April 2010, p31. CPW stated that some of its comments about other operators related only to network-based MPF operators—CPW letter, 1 June 2010, paragraph 14.

of NGN networks were driven by the number of subscribers connected and that they were less responsive to usage.[79] Networks with mostly high-usage customers were thus more suitable for NGN than networks where there were many low-usage customers, such as voice-only customers. CPW's discussion of whether voice-only customers would benefit from an NGN implied that voice-only customers used conveyance services less intensely than others.[80] For example, CPW referred to its own adoption of MPF-based services, and Sky's adoption of similar services, as evidence that efficient operators would use this technology.[81] We did not consider this comparison to be relevant because these telecommunications firms are potentially more similar to new entrants than to BT in terms of their investment incentives.[82] For example, both these firms have few or no voice-only customers.[83] In its response to the provisional determination, CPW said that whilst BT might have a relatively higher share of voice only customers, it was with the knowledge of this that BT announced its plan to move to the NGN and the expected cost savings from this. Whether or not all operators have an incentive to compete for all types of customers is not relevant to our reasoning on this point. We consider that one reason why it may be efficient for other fixed-line network operators, such as CPW, to invest in NGN-based services, using MPF lines, but not efficient for BT to invest in NGN in its voice access network is the differences in the mix of services provided using the BT network. The cost benefits of NGN technology are largely in the core network from economies of scope in the provision of voice and broadband services on one platform.[84] If WLR lines are being used (by BT Retail or rival CPs) to provide voice-only services, these benefits will not be realized. We know that around half the WLR lines are currently used for voice only-services (rather than in conjunction with SMPF lines to provide voice and broadband services).

3.81 CPW referred to the Ofcom consultation in July 2009 which stated that an NGN as a single network was cheaper to build and run than the current approach of having separate networks for each service.[85] We consider that it is far from clear that Ofcom intended this statement to apply to incumbent operators. We also noted that Ofcom said that NGN could reduce network duplication even without replacing the voice access network,[86] and that 'there are risks that NGN investment will deliver neither cost savings nor new products', and Ofcom reached no conclusion as to whether investments in NGN by operators with existing networks would deliver cost savings.

- *Relevance of ERG statements*[87]

3.82 CPW referred to a section of the ERG report on asset valuation that said, 'The MEA will generally incorporate the latest available and proven technology, and will therefore be the asset that a new entrant might be expected to employ'.[88]

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[79]For example, CPW W/S Houpis III, §26.
[80]CPW W/S Houpis III, §§34–40.
[81]CPW W/S Heaney VII, §17.
[82]It is possible that CPW (and Sky) are also subject to the gaming incentives that CPW referred to.
[83]CPW accepted that (at current prices) there was little demand for voice-only services from entrants such as itself (although it noted that there would be more voice-only customers provided by entrants if the xMPF was introduced)—CPW W/S Heaney VII, §85.
[84]See, for example, BT WLR bilateral hearing transcript, 12 May 2010, p29 lines 4–13. See also paragraph 93.
[85]CPW W/S Heaney VII, §17, referring to 'Next Generation Networks: Responding to recent developments to protect consumers, promote effective competition and secure efficient investment', Ofcom consultation, 31 July 2009, §§1.11–1.13.
[86]Ofcom WLR bilateral hearing transcript, 6 May 2010, Mr McIntosh. Many EU core networks use IP (p13) but BT currently has both a PSTN voice and IP broadband core network (p16).
[87]The ERG is now known as BEREC.
[88]ERG 29 (2005) *ERG common position: Guidelines for implementing the Commission Recommendation C(2005) 3480 on Accounting Separation & Cost Accounting Systems under the regulatory framework for electronic communications*, section 4.2.2, Long Run and Forward Looking.

3.83 Our understanding of this statement is that the MEA, once proven, is the technology one would expect a new entrant to employ. However, this statement does not say whether one would expect the technology that a new entrant would use to be the same as that used by an efficient incumbent operator.

3.84 CPW said that Ofcom should take account of the statements of the ERG unless there was good reason not to.[89] CPW accepted, however, that overall the ERG guidelines on the application of MEA were not so helpful in the current context. In particular, CPW said that the ERG guidance, to which it had referred, as to how the MEA concept should be implemented in practice appeared to refer to the CCA revaluation of legacy assets and was therefore less relevant and potentially confusing (see also paragraph 3.26).[90]

- *Evidence on the reasons for BT's March 2009 announcement*

3.85 CPW gave some possible reasons as to why BT delayed the roll-out of NGN that were not related to the efficiency of investment in NGN technology, such as BT's policy of no compulsory redundancies which restricted its ability to achieve the operating cost savings promised by NGN.[91,92]

3.86 Sky said that other European incumbent operators were further down the route to NGN, such as France Telecom, but this progress was partly due to them also operating mobile businesses.[93]

3.87 BT acknowledged that its plans to migrate WLR products on to a 21CN or NGN network were only dropped formally in March 2009.[94] BT referred us to the Pathfinder trial that led to the March 2009 announcement that NGN would be scaled back.[95]

3.88 CPW claimed that the main reason for the change in BT's plans for implementing NGN (other than any effect on Ofcom) was that BT had insufficient capital to invest, due to competing investment projects (notably NGA), the business poor performance and the economic climate. CPW also suggested that there had been implementation difficulties which it felt were exaggerated by ineffective management and would not have affected an efficient operator.[96]

3.89 Ofcom said that other countries had found NGN to give benefits in the core network, but that there had been problems replicating legacy services and migrating consumers on to NGN networks such that BT and other operators had decided that moving to a completely NGN network was not robust.[97]

3.90 Ofcom noted two areas where BT's views on NGN had changed. In particular, interoperability problems had arisen between the planned NGN electrical characteristics and installed equipment such as modems, private exchanges and alarm systems. Also, BT had reached a new ten-year maintenance agreement to keep the PSTN network running.[98]

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[89] CPW WLR bilateral hearing transcript, 30 April 2010, p49.
[90] CPW letter to the CC, 12 May 2010.
[91] CPW W/S Heaney VII, §§20 & 21.
[92] For example, CPW WLR bilateral hearing transcript, p66.
[93] Sky bilateral hearing transcript, 13 May 2010, Mr Thomas, p17.
[94] BT W/S Esslin-Peard I §25.
[95] BT bilateral hearing transcript, 12 May 2010, Mr Tickel, pp24&25.
[96] CPW W/S Heaney VII, §§20 & 21.
[97] Ofcom bilateral hearing transcript, 6 May 2010, Mr McIntosh, p35.
[98] Ofcom letter of 28 May 2010.

3.91 CPW agreed that some evidence was emerging which indicated that the economic lives assigned to line cards could have been significantly underestimated.[99] Lower costs of retaining the existing network and increased costs of removing that network would increase the desirability of a dual network arrangement.

3.92 CPW referred to evidence in materials which had previously been redacted that CPW said demonstrated both that NGN was the MEA and that the change in BT's plans had been due to financing concerns and internal inefficiencies.[100]

3.93 CPW referred to an April 2008 document[101] as evidence that BT was still planning to go ahead with full NGN and projecting cost savings from NGN of over £1 billion. We noted, however, that this document also stated that [✂], suggesting that BT was not expecting significant cost savings from further investment in NGN.

3.94 CPW also referred to documents which indicated the complexity of moving to NGN, including a March 2008 report[102] from BT's Audit Committee, which suggested that there were delays in the roll-out of NGN due to factors such as installations necessitating retrospective work, and unexpected problems. We noted, however, that these documents could also be seen to be consistent with the interoperability problems highlighted by Ofcom.[103] CPW also commented on the effect of these problems, which it said appeared primarily to be unreliable volume forecasts and a six-month delay in technology development spending and the delivery of NGN broadband products. BT and Ofcom both said that complexity, teething problems and uncertainty were not surprising in a major investment program such as 21CN.[104]

3.95 CPW drew particular attention to BT's document[105] entitled 'Future Voice–Strategic Options' of March 2009, which considered BT's strategy for rolling out 21CN. CPW claimed that this document provided evidence that:

- BT was only delaying, not abandoning, its roll-out of 21CN voice services;
- BT had not found that NGN was not the MEA; and
- the delay to complete migration by December 2012 was due to financial constraints in the economic environment.

We first consider CPW's first and third points and then its second point.

3.96 Ofcom noted that this document highlighted BT's development of NGA.[106] The document discussed the roll-out of the more extensive FTTP product for voice. [✂]

3.97 Ofcom noted from this document[107] that BT had suspended indefinitely its use of access voice products (WBCC and WVC)[108] as these products had proved to be uneconomic.[109]

[99] CPW W/S Houpis III, §50.
[100] See generally CPW's Reply VI.
[101] Referred to in Reply VI as document 3/17/5.
[102] Referred to in Reply VI as document 3/13/2.
[103] Ofcom letter of 28 May 2010.
[104] BT letter responding to CPW Reply VI, 27 May 2010, p15.
[105] Referred to in Reply VI as document 3/31.
[106] ie document 3/31.
[107] ie document 3/31.
[108] Wholesale Broadband Connect Converged (voice and broadband over NGN/21CN) and Wholesale Voice Connect (voice over NGN/21/CN).
[109] Ofcom letter responding to CPW Reply VI.

3.98 This BT document[110] referred to the 'preparation for large scale legacy decommissioning', continuing with pathfinder migrations and 21CN voice services outside South Wales, and offering customers a choice of reliable and cost-efficient voice services on 21CN. We noted, however, that this document also pointed to some of the issues raised by both BT and Ofcom during this appeal, including [✂]. We consider that it is likely that this process resulted in the costs for maintaining legacy equipment being revised down, as Ofcom stated and CPW agreed had occurred. We also noted that the document explained the financial impact of a reduced number of migrations from the legacy network to 21CN, due to lines moving directly to NGA from WLR legacy equipment.

3.99 Ofcom commented that investment in NGA would make the MSANs required for NGN redundant.[111] Ofcom said that it was unlikely that BT would revert to providing NGN-linked access products.[112] Ofcom said that BT was considering 'leapfrogging' MSAN technology.[113] BT agreed that the next generation of line cards would probably be fibre-based, or an IP system might be adopted that did not need line cards at all.[114] BT explained that it had migrated a number of services to 21CN networks, including Ethernet and broadband services, but that there was a discrete investment decision to be made in relation to WLR. The question for BT was whether to make this investment now or to maintain the current technology when BT expected in the longer term there to be a shift towards fibre. BT confirmed that its planned replacement of PSTN line cards had not gone ahead because the continued use of the existing line cards was considered to be more efficient. One reason for this was the likely move towards fibre-based voice services. In addition, there were other options that would not require line cards.[115]

3.100 CPW accepted that NGA investment would limit the remaining life of NGN technology. CPW referred to the comments made by Ofcom in the second consultation[116] that BT's July 2008 plans for £1.5 billion investment in NGA would 'reduce the value of LLU investments and ultimately make it redundant. This could reduce the value of promoting broadband and voice competition based on MPF'. We noted that Ofcom had considered the effect that NGA investment had on the case for NGN investment at the time of the decision.[117] In its response to the provisional determination, CPW told us that NGA would not make an NGN deployment redundant (unless there was 100 per cent NGA uptake). It would merely make NGN investment less compelling. CPW said that current NGA uptake was less than 2 per cent[118] and it had been informed by Openreach that it was planning its NGA deployment for about 20 per cent uptake. On the expected deployment and take-up of NGA, BT told us that it was early days, it had started to make this investment and it had started to see some customer take-up. It had announced a plan to get coverage of 40 per cent of homes by the end of 2012.[119]

3.101 CPW referred to more recent published statements by BT, in which BT stated that it planned to implement 21CN voice products.[120] CPW said that BT had only delayed and had not suspended the roll-out of NGN voice services, including for the access network, and there was no evidence that this delay was due to NGN not being the

[110]ie document 3/31.
[111]Mr Clarkson at p16, lines 1–5, of the Ofcom bilateral hearing transcript 6 May 2010.
[112]Ofcom letter 19 May 2010 commenting on CPW's hearing transcript, p6.
[113]Ofcom letter 28 May 2010, p18, third bullet; p22, third paragraph.
[114]BT bilateral hearing transcript, 12 May 2010, p24, lines 12–16.
[115]BT WLR transcript, 22–25.
[116]CPW W/S Houpis I, §82.
[117]Ofcom 'A new pricing framework for Openreach', Second Consultation, December 2008, §§A5.94 & A5.95.
[118]CPW submission on the provisional determination on the WLR Appeal, footnote 9, 29 July 2010.
[119]Mr Shurmer, BT bilateral hearing transcript, p22, lines 4–12, 12 May 2010.
[120]For example, BT9/CP6 'BT 21CN Deployment Strategy, 15 January 2010, 2.1.3.

most efficient technology.[121] However, we note that in these statements BT gave plans only for completing an initial pilot and, at the same time, discussed examining future voice alternatives due to changes in technology, including voice over NGA.[122]

3.102 BT said that there was no new evidence in the redacted documents. BT stated that in March 2009 it had only delayed the roll-out of 21CN voice due to the economic climate, but that since March 2009 other market developments such as the continuing expansion in plans for NGA meant that plans to use NGN for the access market had been superseded.

3.103 We therefore consider that these BT documents provide evidence that BT's decision to delay the migration to NGN for the access network and to maintain the legacy network was due to a number of factors. We agree with CPW that these provide documentary evidence that, for example, capital expenditure was a factor in that decision. There is no documentary evidence that by maintaining the use of legacy technology BT had hoped to influence the modelling assumptions adopted by Ofcom. We consider that these documents also provide evidence that the factors included the potential for lower-cost options for maintaining the existing network, problems experienced in migrating services to NGN, and emerging plans to extend NGA investment and migrate customers directly from legacy to NGN network. For these reasons, we do not accept CPW's argument that BT's own internal documents constituted persuasive evidence that BT's delaying of NGN investment was inefficient.

3.104 In relation to the second of the points raised by CPW on this document[123], we accept BT's argument that there is no reason why the documents to which CPW had referred should state one way or the other whether NGN was the MEA. We can see no reason why these statements should use this language or directly address this issue. The absence of such a statement does not imply, as CPW suggested, that NGN was the efficient technology.

- *NGN costs do not provide a more reliable basis for estimated forward-looking WLR costs*

3.105 CPW has not demonstrated that NGN would provide a more reliable basis for estimating forward-looking costs. CPW argued that, for Ofcom, estimating legacy costs was subject to greater uncertainty than estimating NGN costs.[124] CPW argued that NGN costs were included in both Ofcom's and BT's modelling and were present in CPW's network, but legacy costs had no readily observable market information and relied on a BT extrapolation of an expired TDM contract.

3.106 We consider that CPW's argument relies on it having demonstrated that NGN is the efficient forward-looking technology for BT to provide all services. For the reasons given above (paragraphs 3.37 to 3.51), we consider that CPW has not done this.

3.107 In addition, we do not accept that the problems Ofcom faced estimating, in particular, future line-card costs invalidate its approach.

[121]CPW comments on the BT hearing transcript under 21CN where CPW referred to delays in the access 21CN, also CPW comments on the Ofcom hearing transcript discussing NGA where CPW said that NGN had been delayed and there was no evidence that the reasons were related to efficiency.
[122]BT9/CP6 'BT 21CN Deployment Strategy, 15 January 2010, 2.1.3, referred to in CPW W/S Heaney VII, §17.d.ii.
[123]ie document 3/31.
[124]CPW W/S Houpis VI, §§19–26.

3.108 Ofcom had difficulty estimating costs of maintaining PSTN line-card costs. Its estimates were made before Openreach's new maintenance agreement was agreed.[125] Ofcom used the cost of combi cards allocated on a per-service basis as a proxy for the cost of maintaining the PSTN line cards.[126] Ofcom satisfied itself that its approach gave reasonable answers by comparing the results of this approach with line-card costs reported in RFS in earlier years.[127]

3.109 In addition, that legacy line cards can no longer be purchased new does not imply that an efficient operator would retire them, particularly if it can maintain the asset at low cost. In estimating the long-term costs of holding the most efficient asset, we consider that the extrapolated information may be more accurate than new information for an alternative asset.

Conclusion as to whether NGN is *the efficient forward-looking technology*

3.110 We are not persuaded that the evidence submitted by CPW supports its case. In particular, we do not accept that the technology used by other UK networks provides a benchmark for determining whether choices made by BT were efficient. In addition, documentary evidence supports a case that there were a number of factors leading to BT's announcement in March 2009, including the impact on the investment in NGA on the case for replacing line cards with MSANs and combi cards. There is uncertainty as to the most efficient technology to minimize operating or investment costs. Given this, we do not agree with CPW that forward-looking costs can be more reliably estimated assuming NGN equipment than using legacy costs.

(b) Did Ofcom make an error in calculating LRIC differentials by not assuming MPF costs to be based on single jumpering?

Introduction

3.111 CPW argued that LRIC estimates should be based on an assumption of 'single jumpering' as a result of a wiring arrangement for MPF that it considered would be more efficient.[128]

3.112 According to CPW, the use of single jumpering would result in the cost of wiring MPF being approximately equal to the costs of wiring WLR rather than the current MPF wiring cost which was approximately equal to the costs of wiring WLR+SMPF. CPW said that this argument was independent of any discussion as to whether the LRIC estimates should be based on those of using NGN technology.

3.113 CPW argued that the current wiring approach for MPF was highly inefficient and that BT should adopt the more efficient single jumpering approach and pass the resultant cost saving on to CPs. CPW estimated (before it had access to Ofcom's models) that the cost savings from using single jumpering would be £6 per line (ignoring the costs of underutilization,[129] which CPW said were not significant and could be passed on to

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[125] Ofcom letter, 28 May 2010, p18.
[126] See section on the appropriate adjustment for line-card depreciation.
[127] See section on the appropriate adjustment for line-card depreciation.
[128] Specifically, CPW argued that MPF could be wired with the test access matrix (TAM) in line. This is the equipment for testing the operation of the line and is current attached to the frame (MDF) in the exchange with separate tie cables, but single jumpering involves connecting the line card to the MDF with a single set of tie cables that include a TAM.
[129] BT felt that the small scale of CPs other than itself meant that these CPs would have relatively few single jumpered lines at each exchange. This would mean that these firms faced diseconomies of scale, in particular having MDFs with few lines connected. Even if the cost of utilization were included, this was estimated to be less than 10p per line and would not require an intermediate distribution frame.

CPW).[130] As further evidence that single jumpering was the efficient arrangement, CPW also said that BT was planning to use single jumpering when BT was considering using MPF.

3.114 Frontier estimated that equalizing the capital costs of MDF by assuming the use of single jumpering would have a relatively small impact on the estimated LRIC differentials, increasing the differentials between the LRICs of MPF and WLR by £[✄] and between the LRICs of MPF and WLR+SMPF by £[✄] (Table 3.1).

3.115 Ofcom said that 'it is not clear to us that there is a cheaper arrangement'.[131] Ofcom further argued that, regardless of the most cost-effective technology, it would not be appropriate to set charges for the current jumpering approach based on a different technology because this would remove the incentive for CPs to change to using the new technology. However, in view of our conclusion (paragraphs 3.120 to 3.127), we have not needed to consider this point.

3.116 BT said that single jumpering was not more efficient and that the decision was more complex than CPW had claimed with possible utilization costs.[132]

3.117 BT and Ofcom said that there was an independent industry body—the Products and Commercials Group—that had responsibility for evaluating new products or arrangements.

3.118 BT told us that, under its SMP conditions, there was a procedure for new products called a Statement of Requirement (SOR). BT added that it had not received an SOR from any CP (or an industry request) in relation to single jumpering. BT said that it was normal to receive SORs for new products and it assessed them using a formal process, including a feasibility study. Following this process, its eventual decision could be that the proposal was not a feasible product.[133] BT said that no such request had been made to assess single jumpering.[134]

3.119 BT confirmed that it was going to use single-line jumpering when it originally planned to move to MPF as part of 21CN but then re-evaluated its decision and continued with WLR.[135]

Assessment

3.120 We do not consider that Ofcom erred in estimating the LRIC differentials by reason of it assuming the current wiring arrangement for MPF rather than a single jumpering arrangement.

3.121 Neither CPW nor any other industry participant has made an SOR to BT and thus a feasibility study has not been carried out. Given that the industry process for a new product request has not been carried out and there are differing views on the efficiency of single jumpering, Ofcom did not err in the assumption that it made.

3.122 On the evidence provided, we are not persuaded that single jumpering would be a more cost-effective wiring arrangement. In particular, we note BT's observation that to determine whether this would be a more efficient approach would be more com-

[130] CPW W/S Heaney VII, §§31–53.
[131] Mr Clarkson, Ofcom bilateral hearing transcript, p75, lines 32&33, 6 May 2010.
[132] Mr Shurmer, BT bilateral hearing transcript, p35, lines 14&15, 12 May 2010.
[133] BT bilateral hearing transcript, pp31–35, 12 May 2010.
[134] Mr Brown, Ofcom bilateral hearing transcript, p77, lines 1–10, 6 May 2010.
[135] BT bilateral hearing transcript, 12 May 2010, p32, Mr Dolling.

plex than CPW suggested.[136] We also noted the uncertainty among the parties about the size of the cost saving to be gained from single jumpering. The latest Frontier estimates even for the savings related to MDF were different to CPW estimates.

3.123 In addition, the evidence provided by BT and Ofcom was that requests for changes to current arrangements such as a move to single jumpering would be a matter for the industry following an SOR request to the Products and Commercial Group. We consider it to be significant that no such request was made by CPW, despite its strong view as to the benefits of single jumpering over several years, or by any other industry participant.

3.124 CPW argued that there was no obligation on BT's customers to explain to BT how to act efficiently and that it was therefore irrelevant that there had been no formal SOR request to Openreach.[137] CPW also claimed that customers of BT had limited information as to how BT operated. We consider that CPW has been inconsistent on the latter of these two points. CPW stated clearly in this case that single jumpering was the most efficient approach.[138] We also note that CPW has not given any reason for not making an SOR given that an industry process is in place for this purpose. Even if BT did not immediately introduce the product, a feasibility study would be carried out which would clarify the most efficient approach and assist Ofcom.

3.125 BT provided revised figures for the frame costs reported in its RFS that had been used by Ofcom in calculating its LRIC differential.[139] The frame costs are the main cost element that are affected by the wiring approach assumed.CPW suggested that the uncertainty in the frame cost figures showed that the models had not been properly scrutinized.[140] We noted that the corrections put forward by BT would have the effect of reducing Ofcom's estimate of the LRIC differentials.[141]

3.126 In the response to the provisional determination CPW said that using the estimate CPW provided for the cost saving of single jumpering was clearly preferable to assuming zero cost reduction when neither Ofcom nor BT had presented robust evidence for this and BT had not explained why single jumpering would be less appropriate for other CPs than it was for BT. CPW said that the submission of an SOR was not relevant and Openreach submitted internal SORs and could have requested single jumpering itself to improve efficiency. In addition, we note that CPW did not present any calculations to rebut the arguments made by Ofcom and BT until WS Heaney VII. For example, in the WLR Statement at §5.60, Ofcom stated that cost savings due to single jumpering were not obvious due to the need for an intermediate distribution frame.

3.127 We consider that the position that Ofcom took in the decision in relation to single jumpering was reasonable given the absence of an SOR and therefore a feasibility study or other evidence that single jumpering would be a more efficient method of wiring MPF.

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[136] BT bilateral hearing transcript, 12 May 2010, p32, Mr Dolling.
[137] CPW letter, 25 May 2010, §37.
[138] For example, see CPW W/S Heaney III, §17.
[139] BT letter, 28 May 2010, on frame costs.
[140] CPW letter, 1 June 2010, §20.
[141] For the MPF vs WLR, the differential would be –£3.40 rather than Ofcom's assumed –£2 to £0. For WLR+SMPF vs MPF, the differential would be £0 instead of Ofcom's range of £0 to £3.

(c) In calculating LRIC based on legacy costs, has Ofcom made an error by not taking sufficient account of the age and depreciation profile of line cards and tie cables?

Introduction

3.128 CPW initially said that the depreciation charges in BT's accounts were too low for line cards and tie cables because these assets were being used beyond their reported asset lives. CPW said that this had affected the LRICs Ofcom calculated for these assets.[142] The arguments in relation to tie cables were dropped in later submissions.

3.129 CPW noted that Ofcom had accepted that there were only small amounts in Ofcom's cost figures for depreciation of tie cables.[143] When CPW estimated the LRIC for tie cables, it used a tie cable with an in-line TAM that would be suitable for single jumpering, and it estimated that the additional cost of WLR (compared with MPF) would be £3.[144] CPW later said that its arguments in relation to tie cables were solely related to the technology that should be used (ie that a tie cable suitable for single jumpering would add £1–£2 to the LRIC).[145] Ofcom noted that CPW had suggested a difference in LRIC of £3 but said that the remaining difference was due to the number of cables that CPW assumed due to the single jumpering assumption.[146] No explicit adjustment was made for tie cables in the Frontier model.[147] Frontier also stated that CPW's arguments in relation to tie cables concerned only the single jumpering issue (for which adjustments were made). Our understanding is that CPW has dropped arguments made in its NoA in relation to the treatment of fully depreciated tie cables.

3.130 CPW also explained that line cards had been depreciated in BT's accounts using CCA depreciation, where the capital charges fell over the lifetime of the asset as capital employed fell. Assets that remained in service past the end of their assumed useful lives generated no capital charge as the capital employed was zero and there was no depreciation charge.[148]

3.131 CPW said that, for other assets, the existence of fully depreciated assets would not cause the LRICs to be incorrect because, where assets were installed and replaced on a continuous basis, the high charges for recently installed assets would balance against the low charges for assets near the end of their life. Assets that remained in operation past the end of their assumed life would be balanced by assets that were removed from service early. However, CPW noted that in the case of line cards there had been few recent purchases so there were insufficient new line cards to balance out the effects. Since there had been no major changes in switching technology in the last ten years and little growth in voice lines, with a decline forecast, there had been no mass upgrading or purchase of cards. Furthermore, BT's plans to maintain the TDM network indicated that the rate of failures was low.[149]

3.132 CPW argued that because the majority of BT's existing line cards were old, with low or zero capital charges, Ofcom's estimates of the LRIC for WLR lines would be in-efficiently low because the CCA FAC figures would underestimate the economic cost of the assets.

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[142]CPW W/S Heaney I, §§248–251.
[143]CPW LLU NoA, §96.2.
[144]CPW W/S Heaney I, §§248–251.
[145]CPW W/S Heaney VII, §57.
[146]WLR Statement, pp5.64–5.69 and Figure 5.1. Ofcom letter 28 May 2010, p7.
[147]Frontier/CPW, 27 April, p18.
[148]CPW W/S Houpis III, §50a.
[149]CPW W/S Houpis III, §50.

3.133 CPW stated that the useful economic life of line cards could have been significantly underestimated.[150] Ofcom noted that line cards were depreciated over a ten-year life and BT was now expecting to maintain PSTN line cards for a further ten years, despite the lack of new line cards since 1998.[151]

3.134 Ofcom said that it had based its line-card LRIC estimates on the CCA FAC estimates using BT's forecast mix of PSTN (TDM technology) line cards and per-service allocation of 21CN combi cards, and then used these values as proxies for the costs of continuing with PSTN line cards. Ofcom said that it considered the resulting costs to be reasonable as they were within the range of recent experience.[152] The 2012/13 figure was based on BT's blended figure.[153] Given that, historically, LRIC costs were about 90 per cent of CCA FAC costs, Ofcom then calculated that, on the basis of a CCA FAC figure for 2012/13 of £12.30, the LRIC was approximately £11.[154]

3.135 Ofcom recognized explicitly in the WLR statement that it was possible that this calculation might underestimate the LRIC because of the existence of fully depreciated assets. Therefore, it made an adjustment and considered the LRIC to lie in a range from £11 to £13. The WLR Statement did not provide any evidence for the size of this adjustment.

3.136 Ofcom provided a graph to show that the revised line-card LRIC was in line with previous years' figures and was therefore reasonable. Ofcom noted that there were relatively few observations due to changes in accounting practices and those estimates that were available included some combi cards in the latter two years because of trials of this technology.[155]

Assessment

3.137 We do not consider that Ofcom erred in forecasting the costs of line cards using CCA data as claimed by CPW. The estimate Ofcom used (£11–£13) took account of the fact that a large proportion of the line cards are fully depreciated.

3.138 In considering CPW's arguments, we recognized two effects of BT continuing to use fully depreciated PSTN lines cards. First, if many of the line cards being used are fully depreciated, the more recent CCA FAC figures for line cards would tend to underestimate the LRIC as these would make no allowance for the cost of capital or depreciation of these assets. Second, because the economic life of the line cards had exceeded the length of time over which they were depreciated (which was ten years), historic CCA FAC figures may overstate the LRIC by depreciating the assets over too few years.

3.139 Ofcom estimated the LRIC of line cards in 2012/13 to be in the range £11 to £13 (in 2012/13 prices). We noted that this figure was close to, but less than, the LRIC estimate of £14 based on line-card costs reported in 2004/05 RFS. We would expect the 2004/05 figure to be an overestimate since Ofcom said that depreciation did not reach a steady state until 2006/07[156] (when the LRIC was about £12), and because historic depreciation charges may have been overstated given the true asset life of the line cards.

[150]CPW W/S Houpis III, §50(f).
[151]CPW said that there had not been many new line cards since 1998 in WS Houpis III, §50.e.i.
[152]Figures from 2005/06 to 2008/09 are broadly constant in real terms (£12.30 compared with £14.89, £12.32, £11.41, £11.71 and £10.43 respectively).
[153]This assumed that by 2013 the roll-out of combi cards was to be largely complete.
[154]Ofcom Defence, Annex, §§65–69.
[155]Ofcom letter, 28 May 2010, p21.
[156]WLR Defence, Annex, §67.

(d) Has Ofcom failed to allocate sufficient product management costs to WLR as compared to MPF (and in particular, has Ofcom failed to apply the correct relative fault rates)?

Introduction

3.140 We noted that many of the arguments CPW made in relation to product management in the LLU and WLR NoAs were superseded by later submissions.[157] The only remaining issue concerned assumptions made on relative fault rates.

3.141 CPW argued that WLR should be allocated more of the product management and service costs than MPF because WLR was a more complex service and involved more product design, system design, number management, line features, network management, line testing, sales management and faults.[158] Part of the additional management cost CPW attached to WLR was due to the need to familiarize staff with the new systems due to the expected adoption of NGN.

3.142 CPW's initial estimates of the LRIC differentials for MPF vs WLR+SMPF were broadly in line with Ofcom's estimates (£4 for CPW, £3 to £4 for Ofcom). There was, however, a significant difference between Ofcom and CPW for MPF vs WLR (£1.50 for CPW and –£3 to –£1 for Ofcom).[159] Ofcom explained the difference, saying that some product costs were included in the line-card costs, MPF users had more diverse requirements with higher management costs than WLR, fault rates for WLR were lower than MPF based on a more representative sample, and there was a higher standard of care for MPF than for WLR.

3.143 CPW argued that product management LRIC differences should be assessed assuming that MPF was used to provide voice-only services.[160] CPW also claimed that Ofcom was using fault rate data for 2007/08 rather than data that predicted the situation in 2012/13.[161] Ofcom rejected the assertion that it was appropriate to consider the costs of MPF as a voice-only service because it was not provided or used on this basis and, furthermore, it might need additional monitoring for a voice-only MPF service to be made available at a lower price than MPF. Ofcom also considered that, in the absence of any expectation for the fault rates to change, it was reasonable to base forecasts on the latest actual fault rates.[162]

3.144 CPW raised some concerns with regard to product development and noted that the management costs appeared to have been allocated on the basis of revenue, such that the cost of SMPF was implausibly low (one-fifth of MPF).[163] Frontier's figures resulted in lower, not higher, overall charges for SMPF although the only adjustment made for product management was an adjustment to the assumed fault rate (and CPW said that there were high levels of transfer costs applied to SMPF).[164] CPW found that, overall, product management costs were relatively small and stated that it might be more appropriate to deal with them as a mark-up of common cost rather than apply a different arbitrary allocation mechanism.[165,166]

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[157]See discussion of CPW W/S Heaney VII, §71.
[158]CPW W/S Heaney I, §§262–264.
[159]WLR Statement, pp5.73–5.83 and Figure 5.1.
[160]CPW W/S Heaney III, §§32 & 48.
[161]CPW W/S Heaney III, §42.
[162]Ofcom Defence, Annex, §§91 & 98.
[163]CPW W/S Heaney VII, §§62–67.
[164]CPW WLR bilateral hearing transcript, 30 April 2010, p21 (17–22).
[165]CPW WLR bilateral hearing transcript, 30 April 2010, pp107&108.
[166]CPW repeated the comment that SMPF had a small amount of product management and that this was a relatively small error in the letter of 26 May 2010. This was after seeing the actual product management costs and allocations for the first time, but without access to the CF model and calculation that Frontier used.

3.145 CPW stated that its proposed adjustment of MPF fault rates being 10 per cent lower, rather than 10 per cent higher, than WLR fault rates, which reflected more recent data, would increase both the LRIC price differences by £4.30.[167] We noted that this amount was almost as large as the maximum difference between CPW and Ofcom in LRIC differentials (£1.50 to –£3). CPW claimed that this large difference would occur if fault rate assumptions matched actual usage figures.

3.146 CPW assumed that Ofcom had based its fault rate figures on 2007/08 and had ignored more recent data, such as that from the Openreach presentation of 10 July 2009. This presentation showed that, for January–May 2009, there were slightly fewer than 2 MPF faults per thousand, compared with about 2 faults per thousand for WLR in April–May 2009. In June 2009, WLR had about 2.5 faults per thousand and MPF had about 2.2 faults per thousand (or about 10 per cent less).

3.147 CPW stated its letter of 27 April that it disagreed with Ofcom on fault repair and product management.[168] However, the Frontier report, supplied with that letter, stated explicitly that it did not include adjustments for these factors, and that it used MPF fault rates based on historic data and it had not made an adjustment for product management (however, by default, product management would be allocated via the mark-up).[169] CPW said that the Frontier model and assumptions superseded its previous estimates,[170] which rendered the status of CPW's remaining claim on fault rates uncertain.[171]

3.148 The Frontier model (see paragraph 3.13 to 3.15) used the same adjusted assumptions on fault rates which Ofcom used, namely that MPF would have 10 per cent more faults than WLR. However, it also included a sensitivity test for equal fault rates which could be used to estimate the effects of CPW's view that MPF would have 10 per cent *fewer* faults than WLR.[172,173]

3.149 Using an updated version of the Frontier model, provided to us on 1 June, we derived an estimate of the effects on the LRIC differentials of moving from 10 per cent more faults for MPF to 10 per cent fewer faults. For WLR vs MPF the effect of this on the LRIC differential was £[✄] and for WLR+SMPF vs MPF it was –£[✄].[174]

3.150 Ofcom provided a table of the breakdown of CCA FAC product management, servicing and other costs. This submission showed that fault rates were the major constituent of these costs and they were the primary reason for differences in the product management costs of WLR and MPF. Fault-related costs were £[✄] less for WLR than for MPF (not including the full effect of service level agreements).[175] Ofcom attributed this difference to a greater prevalence of faults on MPF lines due to broadband services being more sensitive to faults than voice. Ofcom said that accepting CPW's arguments would require the actual experience of BT to be disregarded.

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[167] CPW W/S Heaney VII, §71.
[168] CPW letter, 27 April 2010, p3, 4th & 5th bullets.
[169] Frontier report, 27 April 2010, p18.
[170] See CPW W/S Heaney I, Fig 18.
[171] CPW bilateral hearing transcript, 30 April 2010, p87.
[172] Frontier report, 27 April 2010, §2.3.
[173] To do this, we looked at the 'equal fault rates' sensitivity and doubled the effect.
[174] Although the fault rate assumption reduces the MPF charge and increases the WLR, it also reduces the SMPF and so the WLR+SMPF vs MPF LRIC differential increases significantly.
[175] Ofcom letter, 28 May, Annexes 1 & 2. A service level agreement outlines the applicable time limits for Openreach to fix certain faults reported by a CP or a consumer. The parties disagreed about the extent to which a difference in service level agreement commitments would cause a difference in fault costs or whether the cost of faults would be mainly determined by the number of faults and the work involved to fix a fault. If this estimate had agreed with the Frontier calculations it should be equal to half the LRIC differentials quoted.

Assessment

3.151 We do not consider that Ofcom erred in its assumption as to the relative fault rates of WLR and MPF.

3.152 We noted that the issue of fault rate differences accounted for the vast majority of the difference between Ofcom and CPW that was initially described as product management.[176]

3.153 CPW had identified that product management differences were small and that a fault rate adjustment on its own resulted in a LRIC differential approximately equal to the full adjustment expected for product management. This suggests that any product management issues other than fault rates are too small to affect the LRIC calculation.

3.154 CPW claimed that Ofcom had used 2007/08 data and ignored recent evidence. CPW referred to a presentation by Openreach from 10 July 2009 which showed that MPF faults in early 2009 (especially June) were 10 per cent lower for MPF than WLR. Ofcom did not state to what period the fault rate data it presented related.[177]

3.155 Ofcom stated that the fault rate evidence used by CPW did not appear to be representative of lines as a whole. This evidence covered only a short period, and related only to lines which CPW bought from Openreach and not the lines of other CPs. We do not consider that Ofcom is expected continually to update all its information when determining a price control. Ofcom had gathered a large sample of data on relative fault rates and the smaller CPW sample was not consistent with this. There was some uncertainty in CPW's estimation of fault rate and product management effects and the estimates were absent from the Frontier base case. However, using the Frontier model with CPW's fault rate assumptions would suggest that the WLR vs MPF LRIC differential could be underestimated by about £[✂] and the WLR+SMPF vs MPF differential overestimated by £[✂].

3.156 We do not consider that the fault rate data provided by CPW demonstrates that Ofcom erred in not using more up-to-date fault rate information and not revising the relative fault rate assumption used. Even if the data favoured by CPW was adopted, we do not consider that it would show that the product management assumptions used by Ofcom had caused a material error in the calculation of charges. The impact of the LRIC adjustment would be too small to call into doubt Ofcom's cross-check assessment for the WLR+SMPF v MPF differential.[178]

3.157 In its response to the provisional determination CPW accepted that there was not a material error in the treatment of product management (excluding fault rates), ie the only remaining issue under this heading was the assumptions on fault rates. CPW said that if the FAC differential for MPF v WLR were estimated using more reliable information on fault rates, this would increase by £4.30 in 2012/13. CPW said that the LRIC differential would be less than this. We note that this estimate[179] was not given the prominence in the submissions that CPW is now giving it. The submission did not explain whether this estimate was an FAC or a LRIC.

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[176] See CPW W/S Heaney I.

[177] Ofcom letter, 28 May 2010, Annexes 1 & 2.

[178] If Ofcom's estimate of the LRIC differential (£15–£20) was increased by the full £4.30 the new LRIC estimate would be £19–£24, which is still below the differential in charges of £25.53. The effect of this adjustment would be lower if the £4.30 (FAC) was an overestimate for the LRIC, or if the correct LRIC adjustment was closer to the estimate in the Frontier model of £[✂]. We agree with Ofcom that in considering whether the differential between charges is in line with LRIC, the more important differential is that between MPF v WLR+SMPF. This is the only aspect of the LRIC differential where we have considered the implication of a change to Ofcom's assumptions.

[179] See W/S Heaney VII §71(b).

3.158 CPW also questioned the use of the LRIC estimate of –£[✂] for WLR+SMPF LRIC. We note that the use of a zero fault rate for SMPF is Frontier's assumption and not ours. This is contained in the Frontier model and report. This assumption is applied by Frontier for the purpose of demonstrating the effect of assuming equal fault rates on the SMPF charge and, as explained, gives a low estimate for proposed SMPF charge (Table 7 of the report). Ignoring this estimate for SMPF gives an estimate from the Frontier model of adopting the CPW assumption on fault rates of £[✂], which is still significantly below the estimate provided by Mr Heaney.

Has Ofcom erred in setting prices on a CCA FAC basis?

Introduction

3.159 Ofcom and BT argued that CCA FAC approach had the benefits of being widely understood and recognized and that the input data was capable of being reconciled to regulatory accounts.[180] CPW disputed this.

3.160 Ofcom said that it expressly recognized that, despite these advantages, CCA FAC may not necessarily lead to the most efficient outcome. It therefore considered whether there were strong objections to CCA FAC on efficiency grounds for the particular wholesale charges being considered. An important aspect of assessing this was to consider the differentials between the wholesale charges. Ofcom recognized the importance of the differentials, and particularly the MPF vs WLR+SMPF differential.[181]

Assessment

3.161 We do not consider that Ofcom erred in adopting its CCA FAC approach.

3.162 The choice between the different methods of determining price controls is a difficult judgement. In this case, Ofcom associated its CCA FAC approach with its cross-check of the resulting differentials against estimates of the LRIC differentials for MPF vs WLR and, more importantly, MPF vs WLR+SMPF. CPW's arguments in relation to the calculation of the LRIC questioned the validity of the cross-check, but did not in themselves undermine the CAA FAC approach.

Determination

3.163 Our determination in response to Question 1 is as follows. For the reasons given above (3.37 to 3.51, 3.55 to 3.65, 3.75 to 3.84, 3.96 to 3.110, 3.120 to 3.127, 3.137 to 3.139, 3.151 to 3.158 and 3.161 to 3.162), we do not consider that the WLR price controls have been set at a level which is inappropriate because Ofcom failed to set the controls in such a way as to secure that the differential between, on the one hand, the price for WLR and/or WLR+SMPF and, on the other hand, MPF was at least equivalent to the LRIC between those services:

(a) by reason of Ofcom setting the price differentials on a CCA FAC basis rather than on a LRIC basis, as claimed by CPW in particular in §§87 and 88 of the WLR NoA; or

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[180] BT WS Esslin-Peard II, §§10–22.
[181] Ofcom WLR Defence, Annex, §5.

(b) by reason of Ofcom having erred in its calculation of LRIC as claimed by CPW in §§92–105 of the WLR NoA.

Part 2: Reference Question 2

3.164 This part sets out our determination as to whether Ofcom erred in setting the level of WLR price controls because Ofcom should have, but did not, set those controls so that the price differentials were greater than the difference between the LRICs for MPF vs WLR and MPF vs WLR+SMPF, as claimed by CPW in §§76–107 of the WLR NoA.

3.165 For the reasons given below in paragraphs 3.176 to 3.179, 3.190 to 3.199, 3.206 to 3.209, 3.214 to 3.228, 3.237 to 3.252 and 3.265 to 3.276, our determination is that Ofcom has not erred in setting the level of WLR Price Controls as claimed by CPW in §§76–107 of the WLR NoA.

Reference Question to answer

3.166 Reference Question 2 asks:

> Whether, for reasons set out within paragraphs 76 to 107 of the Notice of Appeal, the WLR Price Controls have been set at a level which is inappropriate because OFCOM should have, but did not, set those controls in such a way as to secure that the differential between on the one hand, the price for WLR and/or WLR + SMPF and, on the other hand, MPF was *greater than* the difference between the LRIC of those services.

Assessment

Introduction

3.167 CPW and Ofcom agreed that productive efficiency considerations alone would require that the differences between charges for MPF vs WLR+SMPF[182] should be set to reflect the difference in the LRICs of providing these services.[183]

3.168 CPW said that Ofcom had erred in setting the WLR price controls because Ofcom had failed to take sufficient account of allocative and dynamic efficiency considerations. In particular, CPW argued that, in deciding to set the price difference in line with CCA FAC, Ofcom had effectively made minimal and inappropriate allowance for allocative and dynamic efficiency considerations.[184] CPW said that, in its view, allocative and dynamic efficiency were as important as, if not more important than, productive efficiency. CPW said that the potential impact from productive efficiency distortion was small.[185] CPW claimed that if Ofcom had taken sufficient account of allocative and dynamic efficiency, the price control should have been set in such a way that the differential between, on the one hand, the price for WLR and/or WLR and SMPF, and on the other hand, MPF was the difference between the LRIC+EPMU of these services.

3.169 CPW said that, whilst a precise calculation of the most economically efficient structure of charges was challenging, a price differential based on LRIC+EPMU was likely to be a good approximation in practice to an economically efficient price differ-

[182] Ofcom's position in relation to MPF vs WLR was that productive inefficiencies were unlikely to arise from the differential not being aligned to costs (WLR Statement §5.16).
[183] CPW LLU NoA, §§96–98, and Ofcom LLU Defence, Annex D, §3.
[184] CPW W/S Houpis I, §11d.
[185] CPW WLR bilateral hearing transcript, 30 April 2010, p24, lines 1–8.

ential.[186] CPW also said that this approach represented an appropriate and pragmatic balance between the different efficiency considerations, and it would address Ofcom's concerns of productive inefficiencies arising from a LRIC+EPMU approach by minimizing this risk.[187]

3.170 We have been asked to determine whether for the reasons given by CPW in the NoA, Ofcom set the WLR price controls at an inappropriate level because the differential should have been greater than the LRIC of those services. As set out in paragraphs 3.168 and 3.169, CPW specifically claimed that Ofcom should have set the cost differences at LRIC plus EPMU. Our view of CPW's case is based on what CPW told us. We asked CPW to confirm the issues in contention and, if the CC were to accept CPW's arguments, how CPW was proposing that revised charges for MPF, SMPF and WLR rental services should be calculated.[188] In a letter from CPW to the CC, dated 27th April 2010, CPW told us that: the cost difference should be based on using a LRIC+EPMU methodology; the correct approach was to calculate first the LRIC costs and cost differences and then to recover fixed and common costs by applying appropriate mark-ups calculated on an EPMU basis; and a price differential based on the LRIC+EPMU cost difference was likely to be a good approximation to economically efficient price differential. We have therefore considered whether Ofcom set the price control at an inappropriate level, because, as CPW has reasoned, the level that should have been set should have ensured a differential of LRIC plus EPMU.

3.171 CPW also said that the only risk associated with its approach would be stronger MPF-based competition than would otherwise be the case.[189]

3.172 CPW argued that MPF-based competition (also referred to as network-based competition[190]) had substantial benefits for consumers in terms of choice and quality of service. It exposed a wider range and amount of cost to competition, driving down retail prices. CPW also claimed that it was an Ofcom policy objective to promote network-based competition.[191] CPW said that, in the longer term, if Ofcom was able to act as a central planner, it was CPW's understanding that Ofcom would choose MPF.[192]

3.173 CPW submitted a set of revised charges calculated by Frontier that applied the approach CPW said should have been taken by Ofcom.[193] Table 3.2 shows the cost benchmarks for 2012/13 used by Ofcom to set the price controls for MPF, SMPF and WLR, and CPW's revised calculations. These figures show that CPW was arguing for lower MPF and SMPF charges and higher WLR charges, resulting in an increase in the differential between MPF and WLR from £10 to £36 per line and between MPF and WLR+SMPF from £25 to £47 per line.

[186]CPW letter to the CC, dated 27 April 2010.
[187]CPW letter to the CC, 25 May 2010, §7.
[188]CC letter to CPW, dated 19 April 2010.
[189]CPW WLR bilateral hearing transcript, 30 April 2010, pp22&23, lines 30 to 20.
[190]CPW recognized that both SMPF- and MPF-based competition were network-based.
[191]CPW LLU NoA, §93.
[192]CPW WLR bilateral hearing transcript, 30 April 2010, p23, lines 14–17.
[193]See Section 3: Part 1, footnote 21 for further information concerning the information submitted by Frontier.

TABLE 3.2 **Ofcom's price controls and CPW's revised figure (base method) for 2012/13***

	Ofcom CCA FAC	*CPW*	*LRIC+ EPMU*
WLR—Residential	108	[✂]	
LRIC			[✂]
Cost category mark-up			[✂]
EPMU			[✂]
WLR—Business	104	[✂]	
LRIC			[✂]
Cost category mark-up			[✂]
EPMU			[✂]
MPF	98	[✂]	
LRIC			[✂]
Cost category mark-up			[✂]
EPMU			[✂]
SMPF	15	[✂]	
LRIC			[✂]
EPMU			[✂]

Source: LLU and WLR Statements, CPW letter dated 1 June 2010, and enclosed excel model.

*These results are the Frontier base case to the nearest whole pound sterling. The cost category mark-up for SMPF is 0.1.

3.174 Table 3.2 shows the three elements that make up the price control following CPW's methodology, being:

(a) the estimated LRICs for each product;

(b) the allocation of common costs for certain cost categories, including duct and cable costs, between MPF and WLR lines in proportion to the estimated incremental costs for the relevant cost category;[194] and

(c) an EPMU on the estimated LRIC for each product so that total costs allocated to CRS services are fully recovered.[195,196]

3.175 Table 3.2 shows that CPW's approach would result in a substantial increase in the differential between charges. In particular, the differential between charges for MPF vs WLR+SMPF in 2012/13 would, if it were to reflect only CPW's estimates of the LRICs, be £[✂] greater than that using Ofcom's CCA FAC approach, but £[✂] greater if it were to also reflect an EPMU mark-up.[197]

Assessment

3.176 We do not consider that Ofcom erred by setting price controls that did not secure a difference between on the one hand the price of WLR and/or WLR+SMPF and, on the other hand, MPF that was consistent with LRIC+EPMU. We do not consider that in setting prices, Ofcom erred by adopting an approach that took greater account of productive efficiency considerations than allocative or dynamic efficiency considerations. We were not persuaded by CPW's arguments that Ofcom should have set

[194]Frontier report, April 2010, p8. Frontier referred to this as an application of the EPMU methodology on a cost category by cost category basis, but it resulted in replicating Ofcom's FAC numbers for duct and cable.
[195]The table shows that with CPW's approach the two elements of the EPMU mark-up accounted for a large proportion of the charge. In particular, if we consider the total costs allocated to CRS services in 2012/13, the estimated LRICs account for about 49 per cent of this cost; a further 27 per cent by the EPMU applied on a cost category by cost category basis; and 24 per cent by the EPMU applied to the estimated LRIC at a product level.
[196]Frontier also estimated charges applying an alternative method where in the final step the EPMU mark-up was applied to the sum of the estimated LRICs for each product and the common costs allocated on an individual cost category basis. This had the effect of reducing the MPF vs WLR differential from £36 to £33 in 2012/13.
[197]Using the results for WLR residential.

prices that maximized allocative and productive efficiency[198] or that a price differential based on CPW's LRIC+EPMU methodology would be a good approximation to an economically efficient price differential.[199] We reach this conclusion for the following reasons.

3.177 First, we were not persuaded by CPW's arguments that setting a price differential to be equal to LRIC would result in allocative inefficiency for the following reasons:

(a) We consider that CPW's attempt to draw a direct relationship between the wholesale demand for MPF lines and the retail demand for broadband services, and between the wholesale demand for WLR lines and the retail demand for voice services, was overly simplistic.

(b) We do not accept CPW's arguments made specifically in relation to Ofcom's views of the relative importance of the differential between the charges for MPF and WLR and, in particular, that the price differential should be set so that MPF-based providers are able to compete in the supply of voice-only services.

(c) We agree with Ofcom that there would be serious practical limitations to attempting to reflect allocative efficiency considerations in setting charges.

3.178 Second, we did not consider that CPW had demonstrated that LRIC+EPMU would achieve an appropriate balance between the various efficiency considerations. In particular, we considered that there was a danger that this approach could result in inefficient investment in MPF and a distortion of competition to the disadvantage of consumers. CPW's position was that dynamic efficiency required that CPs were incentivized to use MPF which would tend to encourage stronger and deeper long-term competition with its associated benefits for consumers.[200] We were not persuaded by this.

3.179 We consider each of these points in turn below. For each point, we set out briefly the key arguments made by the parties and then our assessment of these arguments.

Charges for MPF and WLR lines should reflect the characteristics of demand for broadband and voice services

Arguments

3.180 CPW argued that if prices of MPF and WLR were set to reflect no more than the absolute difference in the incremental costs of MPF and WLR, this would unambiguously lead to allocative inefficiencies.[201] CPW claimed that this was the approach Ofcom had adopted.

3.181 CPW argued that allocative efficiency would require the recovery of fixed and common costs to take into account the different demand characteristics of voice and broadband services. CPW said that if it were simply assumed that the (super-) elasticities[202] of the various services were all equal, the pricing differential should be consistent with a LRIC+EPMU approach to setting charges.

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[198] CPW W/S Houpis I, §51.
[199] CPW letter to the CC, 27 April 2010, p2.
[200] CPW WLR NoA, §82.2.
[201] CPW W/S Houpis I, §61.
[202] A 'super-elasticity' measures the effect on the demand for a good of small changes in the prices of all goods in the market. It is a function of the service's own- and cross-price elasticities, including a weighting for relative revenue shares.

3.182 CPW said that it had provided evidence to Ofcom in response to Ofcom's Second Consultation that showed that the demand for voice services was relatively more inelastic than the demand for broadband services. CPW said that this evidence suggested that an efficient set of prices should recover more fixed and common costs from voice services.[203]

3.183 CPW said that Ofcom seemed to have recognized this point when Ofcom stated in its Second Consultation document:[204]

> We think it is likely that currently demand for MPF is driven more by broadband than voice, and that demand for broadband is likely to be more price sensitive than voice. On its own, this might suggest that it would be more efficient to set a slightly lower mark-up on marginal costs for MPF than for WLR.[205]

3.184 CPW acknowledged that the conditions under which the derived demand elasticities for MPF and WLR would be reflective of the price sensitivities at the retail level were restrictive.[206] Nevertheless, CPW concluded that this relativity in price elasticities of demand for retail voice and broadband services was likely to be reflected in the price elasticities of demand for MPF and WLR, with demand for MPF being relatively more elastic than demand for WLR (as demand for MPF was predominantly driven by demand for broadband, whereas demand for WLR was still driven by demand for voice services). In particular, CPW said that it had not seen and had not been made aware of any evidence to suggest that a more realistic set of conditions would reverse the evidence on the relative price sensitivities of the demand for broadband and voice services at the retail level.[207]

3.185 CPW also acknowledged that the potential for MPF to be used to provide voice-only services reduced the weight which should be attributed to allocative efficiency. However, CPW stated that, over the relevant time horizon, the demand for MPF was likely to be driven primarily by the retail demand for voice and broadband services delivered together, and hence allocative efficiency considerations remained relevant.[208]

3.186 Ofcom said that Ramsey pricing principles (see paragraph 3.188 below) that CPW argued should be applied were relevant where there was a correspondence between retail outputs and the wholesale inputs which supported them and where, as a result, it was possible to set wholesale prices to induce an efficient set of Ramsey prices at the retail level. Ofcom said that there was no such correspondence in this case, with the same outputs being supplied using different combinations of inputs.[209] Ofcom said that MPF was used currently exclusively for the combined delivery of voice and broadband. MPF and WLR+SMPF were therefore currently alternative wholesale inputs for the same retail products.[210] When two inputs were substitutes, the theory implied that their relative prices should be set to reflect their relative marginal costs.[211]

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[203]CPW W/S Houpis I, §56.
[204]CPW W/S Houpis I, §57.
[205]Ofcom, Second Consultation, §6.36.
[206]CPW W/S Houpis I, §59.
[207]CPW W/S Houpis I, §59(b).
[208]CPW letter to the CC, 27 April 2010, p2.
[209]Ofcom WLR bilateral hearing transcript, 6 May 2010, p6, lines 3–6.
[210]Ofcom LLU Defence, Annex D, §9.
[211]Ofcom LLU Defence, Annex D, §17.

3.187 Ofcom said that its objective was, therefore, not to set wholesale prices so as to induce Ramsey retail prices, but to produce a given set of outputs at minimum cost.[212]

3.188 Ofcom recognized that the theory of Ramsey pricing could be applied to products which were substitutes using the 'super-elasticity' of demand for the product.[213] However, Ofcom suggested that these elasticities should not reflect a delay in responding to price signals due to switching costs. Ofcom said that as the obstacles to switching would be likely to disappear over time, the expected long-run elasticity of substitution would be significantly higher than the short-run elasticity and that, over time, this would have to be reflected in changes in optimum prices. Ofcom also said that it would be difficult to track the changes in the elasticity over time and to adjust prices accordingly.[214]

3.189 Ofcom also said that, absent a stable relationship between the price differentials and the degree of technical substitution between MPF and WLR+SMPF, implementation of CPW's approach would be likely to be unsuccessful because of unstable and unintended switching away from WLR lines.[215]

Assessment

3.190 We were not persuaded by CPW's arguments that the relative elasticities of retail demand for voice and broadband services should be reflected in charges for MPF and WLR line rental. Our reasons are set out below.

3.191 We understood that the economic principle underlying CPW's argument was that users of voice services, whose demand was more inelastic than the demand for broadband services, should make a greater contribution to the recovery of fixed and common costs associated with the provision of access network services. This was because such a contribution would minimize the welfare loss arising from having to charge prices for MPF, SMPF and WLR that were higher than their LRICs.

3.192 CPW sought to establish a relationship between the relative price elasticities of retail demand for voice and broadband services and the relative price elasticities of wholesale demand for MPF and WLR by arguing that wholesale demand for MPF was likely to be driven primarily by retail demand for broadband services, while demand for WLR was driven primarily by demand for voice services.

3.193 We did not, however, accept that a direct relationship could be drawn between the retail demand for broadband services and wholesale demand for MPF lines and between the retail demand for voice services and wholesale demand for WLR lines, for the following reasons:

(a) Currently, MPF lines are used largely to provide packaged voice and broadband services. We noted that the Ofcom statement to which CPW pointed in support of its case said that 'currently, demand for MPF is driven *more* by broadband than voice', and not '*primarily*' by demand for broadband (see paragraph 3.183 above).

(b) Currently, over half of the 21 million WLR lines are used in conjunction with SMPF to provide voice and broadband services either by the same or different

[212] Ofcom WLR bilateral hearing transcript, 6 May 2010, p52, lines 10–22.
[213] Ofcom LLU Defence, Annex D, §10.
[214] Ofcom LLU Defence, Annex D, §21.
[215] Ofcom LLU Defence, Annex D, §22.

providers. SMPF services can only be used in conjunction with WLR lines. Therefore, the retail demand for broadband services will also be a factor in the demand for WLR lines.

3.194 Nevertheless, we accept that if, as CPW and Ofcom seemed to agree, the retail demand for broadband services was more price elastic than the retail demand for voice services, the demand for MPF lines overall might be more elastic than that for WLR lines. This is because wholesale demand for WLR lines is an aggregation of demand for lines to provide voice-only services and, in conjunction with SMPF, to provide voice and broadband services.

3.195 CPW's approach of setting price controls based on LRIC+EPMU would result in customers taking voice and broadband services based on WLR+SMPF making a greater contribution to fixed and common costs than a customer being provided with the same services but using an MPF line. This is because the price control for WLR lines, whether used on its own to provide a voice-only service, or in conjunction with SMPF to provide a voice and broadband service, would reflect the lower elasticity of demand for voice services compared with that for broadband, or broadband and voice, services.

3.196 In making its case, CPW focused on the appropriate differential between charges for MPF and WLR.[216] It was on this basis that CPW argued that Ofcom's approach unambiguously resulted in allocatively inefficient charges. CPW acknowledged, however, the wider implications of its approach.[217]

3.197 CPW said that in a hypothetical scenario in which no SMPF product existed such that voice and broadband service could only be provided using MPF, then the two inputs WLR and MPF would be used to provide different retail outputs. CPW said that, in practice, as operators could also use SMPF in combination with WLR to offer voice + broadband services, and SMPF allowed operators to offer broadband services to customers that already purchased voice services, setting a price differential between MPF and WLR that was above LRIC would also lead to a price differential between MPF and WLR+SMPF that is above LRIC. CPW considered that this would not undermine the feasibility of setting a price differential between MPF and WLR. The reason for this seemed to be CPW's views on the extent to which MPF and WLR+SMPF were technical substitutes. For the reasons given below (see paragraphs 3.206 to 3.209), we do not accept CPW's arguments that the choices between MPF and WLR+SMPF would not be sensitive to changes in the relative prices of these services.

3.198 We consider that the effect of CPW's approach would be that a significant number of final customers who are receiving voice and broadband service but via different platforms would make different contributions to the recovery of fixed and common costs. We do not consider that this approach would be consistent with a view that the price differentials between different inputs to the delivery of voice and broadband services should reflect the differences in the characteristics of demand for the services delivered using these inputs or of the derived demand for the inputs.

3.199 Ofcom made the point that CPW's approach would not be expected to result in efficient Ramsey prices in the retail market. Our understanding of this is that it would not result simply in end-customers, when using voice services, making a higher contribution to the recovery of common network costs than those end-customers using broadband services.

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[216] CPW W/S Houpis I, §§55–62.
[217] CPW letter to the CC, 25 May 2010.

Relative importance of the differential for MPF v WLR

Arguments

3.200 CPW's arguments that greater account should have been taken of allocative efficiency considerations focused on what CPW considered to be the appropriate basis for determining the differential between charges for MPF vs WLR (rather than WLR+SMPF).[218] Ofcom considered that the differential between MPF and WLR charges would be an important consideration if the size of the differential appeared likely to create significant productive inefficiencies. Ofcom said that, in practice, it was unlikely that any productive inefficiency would occur if the difference in the charges for WLR and MPF did not reflect LRIC because it was not clear that it would be economic for an MPF operator to provide voice-only services given the economies of scale involved relative to the value of the service.[219]

3.201 CPW said that Ofcom was wrong to suggest that productive efficiency considerations were less relevant when comparing the costs of WLR and MPF because the economies of scale present in using MPF would make it commercially unattractive to offer only voice-only services using MPF. CPW said that this ignored the significant economies of scope between using MPF to deliver both broadband and voice, and MPF to deliver voice-only services, to customers in exchanges that had been unbundled. As a result, an operator such as CPW, which currently offered both voice and broadband, would not be disadvantaged by scale economies if it chose to use MPF to deliver voice-only services in the areas where it operated.[220]

3.202 CPW also said that it had formally requested a product variation that would allow it to use MPF to offer voice-only services. CPW had been considering launching a voice-only retail (and possibly a wholesale) service based on using MPF, but this had not been viable for two reasons. First, the price difference between MPF and WLR was insufficient and, second, an MPF product variant that would allow customers to take a voice-only service from CPW and take SMPF from another provider was not available.[221]

3.203 Ofcom said that if there were demand for MPF for voice-only services, productive efficiency considerations would be more important than any allocative efficiency considerations, for the same reasons as for the differential between the price of MPF and the price of WLR+SMPF.

3.204 Ofcom agreed that there were economies of scope in the provision of voice-only and voice + broadband services, but said that there remained good reasons for thinking that demand for using MPF for voice-only services was unlikely with a differential between MPF and WLR that was broadly equivalent to the LRIC differential between those services.

3.205 Ofcom accepted that if there was a very wide differential between MPF and WLR, there could be demand for MPF as a voice-only product, but considered that a differential greater than that provided for in the WLR Statement would be inefficient and against consumers' interests because it could encourage CPs to use MPF to deliver voice services when this would have higher total costs to society than if CPs used WLR.

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[218]See CPW W/S Houpis I §§51–65.
[219]WLR Statement, §5.16.
[220]CPW W/S Houpis III, §13 onwards.
[221]CPW W/S Heaney III, §§50–52.

Assessment

3.206 We do not accept the arguments CPW made specifically in relation to Ofcom's statements on the importance of the differential in prices between charges for MPF and WLR. In particular, we consider that the arguments raised by CPW were not clear and had a number of inconsistencies. On the one hand, CPW argued on allocative efficiency grounds for a larger differential between charges for MPF and WLR based on the relative elasticities of demand for voice (which it equated with WLR), and voice and broadband services (which it equated with MPF). On the other hand, CPW's argument that MPF was potentially a competitive means of providing voice-only services and that the price differential should be set so that MPF-based CPs would be able to compete in the provision of voice-only services[222] is in our view inconsistent with its allocative efficiency arguments. CPW recognized that the potential for MPF to be used to provide voice-only services reduced the weight which should be attributed to allocative efficiency.[223] In its response to the provisional determination, CPW disagreed with our view. It said that it had not been inconsistent. CPW said that these two propositions were not incompatible and they reflected that MPF could play two roles in both providing broadband and voice services as well as voice-only services. Whilst we accept that MPF can play two roles, in our view, CPW's response has not sufficiently addressed our points set out in paragraphs 3.190 to 3.199 and as such we see no reason to change our view.

3.207 In relation to the potential demand for MPF lines to provide voice-only services, we noted that currently no MPF lines are being used to deliver voice-only services. Given Ofcom's conclusions that the differential between charges for MPF and WLR was broadly in line with costs,[224] we were satisfied that this lack of demand was a consequence of a pricing structure that broadly reflected the relative costs of providing these services. In its response to the provisional determination, CPW told us that the current lack of demand was artificially suppressed by insufficient price difference due to incorrect assumptions having been used in deriving the price difference. It gave as examples assuming an incorrect fault rate and no single jumpering for MPF. Our view on the examples provided by CPW is set out in paragraphs 3.151 to 3.158 and 3.120 to 3.127—in short, we do not agree with CPW.

3.208 We also found that both parties agreed that whether MPF was, or was not, a commercially viable means of delivering voice-only services would depend on the relative price of MPF and WLR lines (see paragraphs 3.202 and 3.205 above). We considered, in the context of determining the appropriate structure for MPF, SMPF and WLR charges, the argument as to whether MPF and WLR were, or were not, substitutes, was a circular one because the answer would be dependent on the relative price.

3.209 We also agreed with Ofcom that to set prices simply so that CPs would be able to compete using MPF in delivering voice-only services with CPs using WLR lines could encourage inefficient use of MPF lines if the price differential was not aligned to costs (see paragraph 3.222).

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[222]CPW W/S Houpis III §§15–19.
[223]CPW letter to the CC of 27 April 2010.
[224]WLR Statement, §5.87.

Practical limitations associated with attempting to reflect allocative efficiency considerations

Arguments

3.210 Ofcom said that whilst, in theory, it could have sought to optimize economic efficiency, giving some weight to allocative efficiency in setting the differentials, there were, in practice, severe measurement difficulties. Ofcom concluded that it was not feasible to try to optimize economic efficiency in a very precise way.[225]

3.211 CPW agreed with Ofcom that determining an optimal set of Ramsey prices posed significant practical challenges and stressed that it was not arguing for the implementation of optimal Ramsey prices.[226] However, CPW said that the evidence of significantly different demand characteristics for voice and broadband services demonstrated the importance of choosing a structure of prices that went some way towards reflecting efficiency, rather than basing prices on an unadjusted application of CCA FAC.[227]

3.212 Ofcom took the view that, in this price control, the best that could realistically be achieved in terms of economic efficiency was to ensure that the differentials between MPF vs WLR and MPF vs WLR+SMPF reflected sufficiently its estimate of the likely range for LRICs.[228]

3.213 Ofcom said that another problem with attempting to set optimal prices for MPF, WLR and SMPF was that the analysis could only be partial as Ofcom had not set other prices in this way. Ofcom gave as an example the retail provision of calls which shared some common costs with access products. Ofcom said that calls generally had a higher elasticity than access products, so mark-ups on access products would have to reflect the lower elasticity of access prices compared with call prices. This could require a recalculation of the common cost allocation in the Network Charge Control in order to reduce mark-ups on calls.[229]

Assessment

3.214 We agree with Ofcom that to determine a set of prices that would reflect different efficiency considerations would be practically difficult. We do not accept CPW's case that allocative efficiency considerations could be reasonably reflected by adopting a LRIC+EPMU approach. In particular, we do not accept the assumptions that underpin CPW's case and therefore agree with Ofcom that there are practical information limitations to implementing Ramsey pricing, even if only very approximately.[230] Our reasons are as follows.

3.215 We acknowledge that CPW did not argue for full implementation of Ramsey pricing, as it recognized that robust estimates of the relevant price elasticities could not be established readily. Nevertheless CPW argued for the principles of Ramsey pricing to be reflected in the structure of prices. In particular, CPW argued that the products or services for which demand was more inelastic should make a larger contribution to the recovery of common and fixed costs. We consider that CPW's case for this approach depends on two arguments: first, evidence that retail demand for voice

[225] Ofcom LLU Defence, Annex D, §§24 & 25.
[226] CPW W/S Houpis I, §60.
[227] CPW W/S Houpis I, §60.
[228] Ofcom LLU Defence, Annex D, §28.
[229] Ofcom LLU Defence, Annex D, §27.
[230] CPW letter to the CC, 25 May 2010.

services was less elastic than that for broadband services and that this would be reflected in the demand for MPF and WLR lines; and second, that Ofcom overstated the degree of technical substitution between MPF and WLR+SMPF as a platform for delivering voice and broadband services.

3.216 The first of these arguments was required in order to advance the argument that allocative efficiency would require a differential between charges that was greater than LRIC+EPMU. CPW said that it had provided evidence during the Second Consultation on relative elasticities in relation to the demand for voice and broadband services. Ofcom accepted that the demand for voice services was probably more inelastic than that for broadband services. For the reasons given above (see paragraphs 3.190 to 3.199), however, we do not accept CPW's conclusions on what these would imply for the relative own-price elasticities of demand for MPF, SMPF and WLR products. In particular, we do not accept that it is correct to relate demand for MPF lines to the retail demand for broadband services and demand for WLR lines to the demand for voice services in the way that CPW does.

3.217 The second of these arguments was required in order to deal with the weight that should be attached to the various efficiency considerations. In particular, it was required to respond to Ofcom's arguments that substitution between WLR+SMPF and MPF would undermine efforts to charge higher prices for WLR lines and that CPW's proposals would result in inefficient investment in MPF.

3.218 Ofcom's view was that productive efficiency considerations were the most important of the various efficiency considerations given the risks that a differential that was wider than costs could result in inefficient investment in MPF.

3.219 CPW accepted that whether CPs would switch between WLR+SMPF and MPF products in response to price changes was a relevant consideration. In particular, in response to Ofcom's claim that where two wholesale products were substitutes there were limitations in the applicability of Ramsey pricing to derive an efficient set of charges, CPW said that Ramsey pricing could be applied in these circumstances using super elasticities of demand:[231]

> Ramsey pricing should therefore, in principle, and if correctly calculated, take into account cross price elasticities by incorporating these within what is known as the super-elasticity of the product. In this way substitution between two or more products as relative price level change is incorporated within the welfare analysis.

3.220 However, CPW argued that, in practice, given sunk costs and switching costs, changes in the relative prices of WLR, SMPF and MPF services were unlikely to result in CPs switching platforms for delivery of voice and broadband services. CPW also said that the potential for productive inefficiency arising from prices not being aligned with LRIC was small.[232] Ofcom argued that, although there might be short-term obstacles to CPs switching between MPF and WLR+SMPF, the cross-price elasticities would increase with the length of time over which they were considered.[233]

3.221 The arguments as to whether CPs would switch to MPF in response to higher prices for WLR are considered in more detail below, when we consider the potential for CPW's proposals to result in inefficient investment in MPF delivery (see paragraphs

[231]CPW W/S Houpis I, §54.
[232]Frontier Report, April 2010, p6, and CPW WLR bilateral hearing transcript, 30 April 2010, p24, line 4.
[233]Ofcom LLU Defence, Annex D, §21.

3.210 to 3.252). In summary, we agree with Ofcom that CPW has put too much weight on short-term obstacles to switching. Also, evidence provided suggested that the relevant question is not only whether CPs would, in response to an increase in the differential between charges for MPF and WLR+SMPF, switch to MPF, but also the impact that this would have on the rate at which a CP might move towards MPF-based delivery or the geographic scope of this switch to MPF. Sky said that the relative prices would, at the margin, be a factor in CPs' decisions on investment in MPF-based provision. We do not, therefore, accept CPW's argument that changes in the relative prices of MPF and WLR+SMPF products are unlikely to affect the existing rate of switching by CPs from WLR+SMPF to MPF-based delivery of voice and broadband services.

3.222 We agree with Ofcom that, in the circumstances that Ofcom was correct in not using LRIC plus EMPU. CPW accepted that on the information available it was extremely difficult to determine the welfare-maximizing price structure. This compares with the real risks that a price differential that is wider than justified by costs could result in inefficient investment in MPF and, as a result, higher costs incurred in the provision of access services. In its response to the provisional determination, CPW said that it appeared that our view was that it would be incorrect to give no weight to allocative and dynamic efficiency considerations. We are required to determine whether Ofcom erred for the reasons stated by CPW and, in particular, in not adopting CPW's proposed LRIC+EPMU method. We concluded that Ofcom's approach was reasonable. We did not take a view on whether Ofcom should have given some or no weight to other considerations or have set the price controls so that the differential corresponded exactly to Ofcom's estimates of LRIC differentials.

3.223 We noted Ofcom's argument that it had not set other BT charges on a LRIC+EPMU basis. We consider that whilst, in principle, Ofcom could change its approach to setting these charges in future price controls, the examples given by Ofcom further illustrated the complexity involved in attempting to optimize charges. In addition, widening the scope of considerations would bring into the frame more products and services over which BT does not have a monopoly, such as the provision of core network services.

3.224 We consider that CPW's approach took no account of Openreach not having a monopoly in the supply of inputs to the delivery of voice and broadband services. To set allocatively efficient prices, applying Ramsey pricing principles, would require charges to be set across the set of products that are linked on the demand and/or supply side.

3.225 CPW's approach has the potential to distort competition between mobile and fixed telephony, resulting, in particular, in inefficient use of higher-cost mobile voice services. CPW itself recognized that retail demand for fixed and mobile voice and broadband services was not independent. In particular, CPW said that Ofcom's approach, which resulted in WLR charges that were too low, could create a competitive distortion in relation to other technologies, such as mobile, that were seeking to compete with fixed-line provision of voice services to the low-usage segment.[234]

3.226 In its response to the provisional determination, CPW said that we seemed to suggest that it would not be appropriate to set prices for MPF, SMPF and WLR to optimize allocative efficiency since other regulated products would not have their prices set in the same way. In CPW's view, referring to other regulated products constituted an error both of fact and of law. In CPW's view, altering the structure of

[234] CPW W/S Houpis III, §32.

prices between MPF, SMPF and WLR had no direct impact on other products. To suggest otherwise was an error of fact. It also said that the CC was required to determine the appeal by reference to, and by reference only to, those matters raised in the grounds of appeal (in accordance with section 195(2) of the 2003 Act). Consequently, any attempts to achieve a globally consistent outcome in this Reference would not within the CC's remit. CPW contended that such matters, if they arise at all, are for Ofcom when revising this or other price controls. It was said that the CC had accordingly erred in law.

3.227 The first of CPW's points – the alleged error of fact - relates to its understanding of paragraphs 3.224 and 3.225 above. However, as set out in paragraph 3.225, earlier in this appeal, CPW itself recognized that retail demand for fixed and mobile voice and broadband services were not independent. In particular, CPW said that Ofcom's approach, which resulted in WLR charges that were too low, could create a competitive distortion in relation to other technologies, such as mobile (see paragraph 3.225). We do not agree with CPW's view as set out in its response to the provisional determination.

3.228 In terms of the second alleged error, an error of law, this relates to paragraph 3.223 above. CPW has misunderstood our conclusion in this paragraph. In it, we note Ofcom's argument and the complexity that could arise if Ofcom changed its approach. We have not sought to consider matters outside the grounds of appeal. Our approach on this particular point is entirely consistent with our approach as set out in paragraph 1.59, namely to consider the grounds of appeal in their context. We considered that Ofcom was entitled to take into account the broader regulatory impact of CPW's proposed change in the price control. As a result we disagree with CPW's view.

Risk that LRIC+EPMU-based pricing would result in inefficient investment in MPF and a distortion of competition

Arguments

Inefficient investment

3.229 Ofcom argued that CPW's LRIC+EPMU approach could result in inefficient investment by CPs in MPF, and so higher overall costs of providing access services. In response to this, CPW said that Ofcom had given too much weight to productive efficiency, at the expense of dynamic and allocative efficiency, and the concern about possible substitution between MPF and WLR+SMPF as a result of setting price differences above LRIC was not as serious as Ofcom seemed to believe. CPW concluded that the potential for productive inefficiencies arising from a wider differential in charges was small.

Distortion of competition

3.230 Ofcom said that CPW's approach would 'tend to disadvantage operators using WLR+SMPF' and, as a result, could 'conceivably reduce competitive pressures for broadband services'.[235]

3.231 CPW dismissed these concerns. It said that SMPF-based competition had been the major platform in 2004, but technology had moved on significantly in the last five

[235] Ofcom LLU Statement, §A4.94.

years, which needed to be reflected in the pricing structure.[236] CPW also said that such concerns would only be an issue if new entry was still possible, and if it was important to preserve the opportunities for stepped entry (as described by BT).

3.232 CPW also argued that:[237]

(a) according to Ofcom projections, whilst (non-BT) SMPF lines accounted for a majority of (non-BT) SMPF and MPF lines in 2009/10, this would be reversed by 2012/13;

(b) Ofcom confused the dynamic role that competition could have in promoting efficiency with seeking to protect the specific firms currently competing in the market;

(c) Ofcom did not present any evidence that there would be fewer competitors, or less intense competition to provide services over MPF than over WLR+SMPF, only that, given the historic pricing pattern, relatively more customers were served today using the latter; and

(d) there was no convincing argument that the cost structure of operators competing using MPF should be such as to create additional barriers to entry, or other obstructions to competition, which would reduce the intensity of competition between operators.

3.233 CPW noted that its proposals would result in lower charges for SMPF services and, therefore, would not necessarily be significantly disadvantageous to SMPF-based operators. CPW said that it was quite possible for one operator to be offering broadband based on SMPF while another operator offered fixed-line services using WLR.[238]

3.234 Ofcom said that a distortion of competition would arise if CPW's proposals resulted in consumers switching away from CPs using WLR+SMPF to CPs using MPF. This could be inefficient if consumers were only persuaded to switch to an MPF-based CP because that CP was able to offer a lower price because it used a wholesale input that had an artificially low price relative to wholesale inputs used by other CPs. Ofcom said that, in theory, CPs using MPF might be able to undercut rivals even though they had higher internal costs or were offering a worse service. This might mean that CPs using WLR+SMPF would be incentivized to switch to using MPF. Alternatively, as not all CPs may be equally well placed to use MPF, distorted wholesale prices could distort competition to favour CPs that were better placed to take advantage of MPF.[239]

3.235 BT argued that SMPF-based provision had made a significant contribution to competition. BT said that, in particular, it had allowed CPs to enter the broadband market and build a customer base via bitstream, then move up the value chain to invest in providing SMPF services, and then to broaden their scope of provision into narrowband by taking WLR and offering bundled services. BT said that, at that point, LLU providers might seek to utilize MPF.[240]

3.236 In response to CPW's statement that further new entry was probably very unlikely, BT said that there had been significant recent new entry including 48 new CPs taking

[236] CPW WLR bilateral hearing transcript, p31, lines 8–18.
[237] CPW W/S Houpis W/S I, §§77–81.
[238] CPW WLR bilateral hearing transcript, 30 April, p30, lines 2–14.
[239] Ofcom LLU Statement, §A4.41.
[240] BT W/S Tickel I, §19.

WLR lines from Openreach since January 2009 and a further 36 currently in establishment.[241]

Assessment

3.237 We agree with Ofcom that there is risk that CPW's LRIC+EPMU approach could result in inefficient use of MPF lines by distorting CPs' choices between WLR+SMPF and MPF and competition between CPs using different means of delivering voice and broadband services. We do not accept CPW's argument that productive inefficiencies resulting from a price differential that is greater than that justified by costs are likely to be small. Our reasons are as follows.

3.238 Whilst we noted CPW's view that its approach addressed Ofcom's concerns about productive inefficiency risks,[242] CPW's proposal would result in a wider differential between charges for WLR+SMPF and MPF than would be justified by costs. In particular, Table 3.2 above shows that for 2012/13 CPW's approach would result in a differential of £47, of which around one-third was due to the EPMU mark-up (including the cost category by cost category EPMU allocation of common costs).

3.239 CPW argued that Ofcom had overstated the degree of substitution between MPF and WLR/WLR+SMPF. In particular, CPW said that:

(a) Although, over the longer term, it was reasonable to expect a strong relationship between the price differential between MPF and WLR+SMPF and an operator's choice of wholesale product, such decisions would be influenced in the short term by factors other than just price, including the overall business strategy of an operator and the costs of migrating customers to a different technology, which were significant.[243]

(b) There were sunk transition costs of around £40 per customer for any customer who switched from one technology to another. These costs meant that substitutability was far from perfect at the margin.[244]

(c) As the CP's capital costs of providing retail services using MPF or WLR+SMPF were to a significant extent sunk, the substitutability of MPF for WLR+SMPF for existing customers was also reduced.[245]

3.240 We accept that the sunk costs of investment in SMPF and switching costs associated with migrating customers from SMPF to MPF were relevant in considering the potential impact of regulatory decisions on the choices made by CPs. However, we do not accept that it is appropriate for decisions in relation to charges for access services to be determined by short-term factors. CPW acknowledged that, over the longer term, differentials would be important to operators' choices between wholesale products. In addition, we note that these supply-side barriers to switching seemed to be relevant only to the provision of services to existing customers and might therefore be less relevant for CPs that are expanding their customer bases.

3.241 In addition, certain statements made by Sky during this appeal indicate that the relative price for MPF and WLR+SMPF was a factor that would influence CPs' decisions on whether to invest in MPF-based delivery. In particular, Sky said that,

[241] BT letter to the CC, 19 May 2010, Comments on CPW hearing transcript (p31, lines 8–14).
[242] Frontier Report, April 2010, p8.
[243] CPW W/S Houpis I, §49.
[244] CPW W/S Houpis IV, §19c.
[245] CPW W/S Houpis IV, §19d.

although it had decided to move to MPF,[246] Ofcom's decision to set MPF charges higher than Sky had been expecting would impact on its future investment plans. Sky added that it would affect its decision to [✂].[247] Sky said that the price of MPF services was an important consideration in both of these areas.[248]

3.242 We also consider that there are inconsistencies between CPW's views, on the one hand, that Ofcom had overstated the degree of technical substitution between MPF and WLR+SMPF and, on the other, CPW's argument that a wider differential was required to incentivize CPs to use MPF technology.[249] In particular, the latter suggests that CPW would expect a differential of the magnitude it is proposing to have an impact on CPs' choices between WLR+SMPF and MPF-based delivery.

3.243 In its response to the provisional determination, CPW said that its views were not inconsistent.It agreed that there would be some substitution (and so a wider differential would incentivize the use of MPF) but disagreed with Ofcom's view that substitution would be perfect. CPW also said that it agreed that barriers to substitution would reduce and had never argued the contrary.

3.244 We disagree with CPW's first point with regard to the inconsistencies in approach. CPW has, on one hand, downplayed the potential for productive inefficiency, arguing that Ofcom had overstated the extent to which a wider differential would result in switching whilst, on the other, arguing for price differentials to be set at levels at which some CPs would either switch to MPF-based provision or opt for this from the start. We also disagree with CPW's second point, namely that barriers to substitution would reduce. CPW's own evidence in Dr Houpis' witness statement[250] stated that '… The factors that limit the substitutability of MPF and WLR+SMPF, …, are expected to continue to exist in the future—none of these is expected to change substantially. There does not seem to be any reason, therefore, to expect substitutability to increase in the future.'

3.245 We therefore agree with Ofcom that there is a risk that a differential between charges for MPF and WLR+SMPF that is greater than cost could result in inefficient investment in MPF. In other words, it could lead to CPs making investment in MPF services that would not be justified by the underlying costs of delivering services using MPF rather than WLR+SMPF or the ability to offer consumers new or better services.

3.246 We also agree with Ofcom that the inefficient use of MPF lines to provide voice and broadband services could result from a distortion of competition between MPF and WLR+SMPF-based providers.

3.247 CPW argued that its approach would not necessarily be disadvantageous to SMPF-based providers because SMPF charges would be lower. We do not agree. SMPF can only be used in conjunction with WLR (whether provided by the same or different CPs). CPW's approach would result in a substantial increase in the differential between WLR+SMPF and MPF lines.

3.248 CPW downplayed the contribution that SMPF-based provision would make to competition in the future, arguing that *(a)* Ofcom's own forecasts showed that, by 2012/13, the majority of lines used by CPs (excluding BT) would be MPF lines; *(b)* SMPF was

[246] Sky W/S Bushel, §28.
[247] Sky W/S Bushel, §33.
[248] Sky W/S Bushel, §§35 & 36.
[249] CPW LLU NoA, §95.3.
[250] CPW W/S Houpis I, §§22 & 23.

an out-of-date platform for competition that had been superseded by MPF; and *(c)* there was unlikely to be further SMPF-based entry.

3.249 With regard to the importance of SMPF-based provision in the future, we consider that CPW was prejudging how the retail provision of voice and broadband services would develop, including the choices that CPs will make on the relative use of MPF and WLR+SMPF lines and the likelihood of further new entry. Furthermore, we found that it was proposing a structure for prices that would tend to favour this outcome.

3.250 Also, Ofcom clarified that although it had observed a trend towards MPF and away from WLR and SMPF by some major CPs, it did not anticipate that this trend would leave BT as the only user of SMPF. Ofcom said that there were certain CPs which did not wish to replace WLR with their own MPF-based voice service, either at all or in areas where investment of this nature was not warranted.[251]

3.251 BT told us that it expected there to be an increase in demand from CPs other than BT for WLR. Overall, it expected there to be a growth in the number of MPF lines with quite a lot of this growth accounted for by Sky and CPW moving their customer bases away from using WLR and SMPF, on to using MPF.[252]

3.252 Based on the forecasts in the Oak model for 2012/13, there are expected to be twice as many SMPF as MPF lines. BT Retail will account for a large proportion of the SMPF lines, but CPW said that in 2012/13 over one-third of non-BT lines would be SMPF. We agree with Ofcom that if SMPF remains as important a platform for delivering broadband services as these figures suggest, to distort competition between SMPF+WLR and MPF-based provision could result in inefficient outcomes. In particular, it could result in MPF-based providers that have higher costs or offer less attractive products being able to attract customers away from SMPF providers only because users of WLR lines are required to make larger contribution to the recovery of fixed and common costs.

Benefits of promoting MPF-based competition

Arguments

3.253 CPW said in its WLR NoA that dynamic efficiency considerations required that providers were incentivized to use the technology (MPF) which would tend to encourage stronger and deeper network-based long-term competition, with its associated benefits.[253] CPW argued that the structure of the price controls should take into account the greater benefit that MPF-based competition delivered, and that setting the price difference above LRIC was the appropriate way to achieve this. CPW considered its arguments to be entirely consistent with Ofcom's declared policy objectives.[254]

3.254 CPW said that Ofcom had a primary duty to further the interests of consumers through the promotion of competition.[255] CPW also said that Ofcom had decided that the most appropriate model of competition to foster was network-based competition rather than resale-based competition. In particular, it felt that LLU-based network competition would deliver superior consumer benefits, since the competition between networks would drive more innovation, greater choice and lower costs and prices—

[251] Ofcom letter to the CC, 27 May 2010.
[252] BT WLR bilateral hearing transcript, 13 May 2010, p15 lines 26–29 and p16 lines 1–5
[253] CPW LLU NoA, §95.3.
[254] CPW letter to the CC, 25 May 2010, §18.
[255] CPW LLU NoA, §52.1.

for example, faster download speeds, new features, better network quality, more costs exposed to competitive pressure and greater pricing innovation. CPW referred to the following paragraph in Ofcom's statement on Broadband Regulation dated 30 June 2005: 'Ofcom believes that Local Loop Unbundling (LLU)—in which a provider takes either partial or full control of the customer's connection—is the most effective means of delivering more innovation, greater choice and lower prices in broadband'.[256]

3.255 CPW said that Ofcom took a number of significant steps in 2004 and 2005 to actively encourage LLU-based networks to develop. Prior to this, LLU-based networks had not developed to any material extent, with, in January 2004, only 11,000 lines or 0.3 per cent of all broadband lines had been provided this way due to, in the main, poor-quality wholesale LLU products and excessive LLU prices.

3.256 CPW said that Ofcom itself had stated that deeper network competition would be preferable to competition that involved a lower level of investment and less network ownership by other operators and that Ofcom must therefore accept that competition based on MPF was preferable.

3.257 Ofcom did not accept CPW's interpretation of Ofcom's policy objectives. Ofcom said that when it talked about network-based competition, it would include the delivery of services using SMPF and MPF lines.[257] Ofcom also said that its policy was the promotion of efficient and sustainable competition and that relative charges for WLR+SMPF vs MPF that reflected underlying costs were more likely to be sustainable.[258]

3.258 By way of background, Ofcom explained that to promote network-based competition using MPF and SMPF it had put in place a floor on the price that BT could charge for wholesale products between 2005 to 2008 as a way of providing entry assistance. It had, however, always envisaged that this would come to an end at a point when new entrants were able to gain sufficient scale to stand on their own feet.[259]

3.259 As to its reasons for believing that a LRIC+EPMU approach established an appropriate balance between competing efficiency considerations, CPW said that the only risk associated with its approach was stronger MPF-based competition than would otherwise be the case.[260] CPW added that, in its view, allocative and dynamic efficiency were as important as, if not more important than, productive efficiency, and the potential impact from productive efficiency distortion was small.

3.260 CPW defined dynamic efficiency benefits to be those benefits, related to long-run developments in the market, which ultimately served the consumer.[261] CPW argued that dynamic efficiency considerations required that providers were incentivized to use the technology which tended to encourage stronger and deeper network-based long-term competition (ie MPF),[262] with the promise of delivering lower costs and more innovation, leading to a widening of the choice of suppliers and products to the final consumer.[263]

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[256]Broadband Regulation Statement, June 2005, §4.
[257]Ofcom WLR bilateral hearing transcript, 6 May, p24, lines 1–5.
[258]Ofcom WLR bilateral hearing transcript, 6 May, pp25&26, lines 30–6.
[259]Ofcom WLR bilateral hearing transcript, 6 May, p20, lines 17–27.
[260]CPW WLR bilateral hearing transcript, 13 May, p23, lines 1–20.
[261]CPW W/S Houpis I, §66.
[262]CPW LLU NoA, §95.3.
[263]CPW W/S Houpis I, §69.

3.261 CPW also contended that competition based on MPF was preferable to competition based on WLR+SMPF.[264] CPW said that its appeal was about the appropriate form of competition in the retail market between BT and other operators using BT's network.

3.262 Ofcom did not accept that dynamic efficiency considerations pointed to a differential significantly greater than the difference in the respective LRICs. In coming to this view, Ofcom considered the potential gains from increased competition in broadband and voice services, and the importance of providing a stable regulatory framework. Ofcom said that it put weight on how it had set charges in the past and stakeholders' reasonable expectations for charges in the future, so as to enable a climate for efficient investment.[265]

3.263 With regard to setting prices to encourage MPF-based competition, Ofcom said that:[266]

> We remain of the view that sustainable and effective competition requires that—in the long term—entrants must be able to compete without special protection. This suggests that prices should be set in the longer term to cover efficiently incurred costs, and that relative prices should not distort the choices among products made by CPs.

3.264 Ofcom said that if there were significant benefits for CPs of moving to using MPF, then it would expect them to move to using MPF when it was most efficient for them to do so. There should be no need artificially to set prices to give them such an incentive. Maintaining an artificially high differential between MPF and WLR+SMPF might encourage operators to make the transition earlier than would be efficient.[267]

Assessment

3.265 We were not persuaded by CPW's arguments that Ofcom's policy objectives meant that the price controls should take into account the greater benefits of MPF-based competition. We consider that Ofcom's policy does not explicitly require that competition is promoted in the way argued by CPW such that the provision or take-up of MPF-based services is specifically encouraged. Ofcom's statements and actions to which CPW referred (see paragraph 3.254 above) are concerned with LLU, which includes MPF and SMPF services, and not solely MPF. Ofcom was clear in its bilateral hearing[268] that it included in the term 'network-based competition' the delivery of services in competition with BT and other CPs using SMPF services.

3.266 In its response to the provisional determination, CPW disagreed with our interpretation of Ofcom's policy regarding the relative benefits of MPF and WLR/SMPF-based competition. CPW said that in Ofcom's Strategic Review of Telecommunications, Ofcom noted that its first principle was to 'promote competition at the deepest levels of infrastructure where it will be effective and sustainable'.[269] CPW told us that there was no doubt that MPF-based competition was a deeper and therefore better form of competition than WLR-based competition (since it allowed

[264] CPW letter to the CC, 25 May 2010, §18.
[265] Ofcom LLU Defence, Annex D, §36.
[266] Ofcom LLU Defence, Annex D, §37.
[267] WLR Statement, §A4.95.
[268] Ofcom WLR bilateral hearing transcript, 6 May, p24, lines 1-11
[269] For example, quoted in http://stakeholders.ofcom.org.uk/consultations/ngn/, §1.9.

greater innovation and competition). CPW also said that MPF-based competition was also effective and sustainable.[270]

3.267 However, as we noted in paragraph 3.257 above, Ofcom said that when it talked about network-based competition, it would include the delivery of services using SMPF and MPF lines[271] and that its policy of the promotion of efficient and sustainable competition was more likely to be sustainable when relative charges for WLR+SMPF vs MPF that reflected underlying costs.[272]

3.268 CPW's argument is that because of the benefits to consumers from more MPF-based provision of voice and broadband services, CPs should be incentivized to use MPF-based technology. We understand from this that CPW would expect its approach to result in a faster take-up of MPF service than would otherwise be the case. In this case, we were not persuaded by CPW's arguments for promoting MPF-based competition. In particular, we are not persuaded that there would be benefits from promoting MPF-based delivery of voice and broadband services that would be sufficient to outweigh the concerns associated with adopting a LRIC+EPMU approach, for example, the risk of inefficient investment in MPF and distortion of competition in the delivery of voice and broadband services to the detriment of customers.

3.269 In particular, CPW argued that MPF-based provision would result in stronger competition, given the great opportunities for CPs to reduce costs and offer better services, which would be beneficial to customers. We were not, however, persuaded that the current level of competition in the retail markets for narrowband and broadband services was such as to warrant such intervention.

3.270 We also noted CPW's argument that with MPF-based delivery there is competition to BT in the provision of more of the network and, in particular, competition in the provision of equipment within the local exchanges. This is what we understand that CPW means by deeper or stronger competition. However, we consider, for the reasons given above,[273] if relative charges for MPF and WLR+SMPF are aligned to costs, if CPs able to provide the relevant equipment themselves more efficiently than BT then they would have the incentive to do so. Also, if MPF-based CPs are able to provide cheaper and/or more innovative services we would expect them to be able to attract customers. A greater differential could result in inefficient investment in MPF resulting in higher, not lower, costs.

Determination in relation to CPW's arguments for LRIC+EPMU approach

3.271 Our conclusion is that Ofcom did not err in failing to adopt a LRIC+EPMU approach.

3.272 We accept that an EPMU approach is one method that can be used in the allocation of fixed and common costs, but we also agree with Ofcom that this can produce an arbitrary solution.[274] We did not consider that this approach was appropriate in this case, for any of the reasons advanced by CPW.

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[270] CPW said that exactly the same reasoning led Ofcom to prefer SMPF-based competition over IPStream-based (wholesale broadband) competition for broadband services. Both were network-based since they required some network but SMPF was preferred since it was deeper.
[271] Ofcom WLR bilateral hearing transcript, 6 May, p24, lines 1–5.
[272] Ofcom WLR bilateral hearing transcript, 6 May, pp25&26, lines 30–6.
[273] See Section 3: Part 1, paragraphs 37–49.
[274] Ofcom LLU Defence, Annex D, §19.

3.273 We consider that CPW has failed to demonstrate that Ofcom should in this case have given more weight to promoting allocative and dynamic efficiency. In particular, we consider that CPW has not made a case that allocative efficiency alone would require consumers of services delivered using WLR lines to make a greater contribution to the recovery of fixed and common costs in the access network. We consider that CPW's proposed limited application of Ramsey pricing principles is overly simplistic in mapping demand for MPF and WLR lines respectively to demand for broadband and voice services and too narrowly focused on the relative prices of MPF and WLR.

3.274 We also agree with Ofcom that to attempt to set prices to reflect the various efficiency considerations raised by CPW would be practically very difficult and that there are substantial risks associated with getting this wrong. Whilst we noted CPW's statements that it was not asking for full implementation of Ramsey pricing, it remained the case that CPW was asking for prices to be set to reflect the underlying characteristics of demand for the WLR and MPF services. In addition, we do not accept CPW's argument that the potential for productive inefficiency arising from a wider differential is small.

3.275 Even if we had accepted CPW's argument that Ofcom took insufficient account of allocative and dynamic efficiency considerations, we do not consider that CPW has demonstrated that LRIC+EPMU would achieve an appropriate balance between the various efficiency considerations. CPW's position was that dynamic efficiency required that CPs were incentivized to use MPF, which would tend to encourage stronger and deeper long-term competition with its associated benefits for consumers.[275] We were not persuaded by this. In particular, we considered that there was a danger that this approach could result in inefficient investment in MPF and a distortion of competition to the disadvantage of consumers.

3.276 Given the real risk of distorting investment decisions which could affect costs for many years, we considered that it was reasonable for Ofcom to take the view, as it did, that the best it could hope to achieve was to encourage charges which reflected costs.

3.277 In view of this conclusion, we have not found it necessary to respond specifically to arguments on the following:

(a) Ofcom said that CCA FAC was a form of LRIC + mark-up for common costs.[276] CPW did not accept this.[277] As mentioned, we focused on CPW's arguments for its preferred approach and, in particular, for a differential between WLR and MPF charges that is greater than justified by incremental costs.

(b) Ofcom argued that a CCA FAC approach had the benefits of being widely understood and recognized and that the input data was capable of being reconciled to regulatory accounts. As we have already said, we focused on the arguments made by CPW for its preferred approach.

(c) Ofcom and CPW each provided estimates on the implications for allocative and/or productive efficiency of the CCA FAC or LRIC+EPMU approaches. We have not found it necessary to rely or comment upon these calculations in taking a view on CPW's case.

[275] CPW WLR NoA, §82.2.
[276] Ofcom WLR Defence, §16.
[277] CPW letter to the CC, 27 April 2010.

Determination in respect of Reference Question 2

3.278 Our determination is as follows: for the reasons given above (in paragraphs 3.176 to 3.179, 3.190 to 3.199, 3.206 to 3.209, 3.214 to 3.228, 3.237 to 3.252 and 3.265 to 3.276), we do not consider that Ofcom erred by setting the WLR Price Controls at a level which is inappropriate as claimed by CPW in §§76 to 107 of the WLR NoA. We do not consider that Ofcom should have set these controls in such a way as to secure that the differential between on the one hand, the price for WLR and/or WLR+SMPF and, on the other hand, MPF was greater than the differential between the LRICs of those services.

Reference from the Competition Appeal Tribunal to the Competition Commission

IN THE COMPETITION APPEALTRIBUNAL **Case No: 1111/3/3/09**

BETWEEN:

THE CARPHONE WAREHOUSE GROUP PLC

Appellant

- supported by -

BRITISH SKY BROADCASTING LIMITED

Intervener

-v-

OFFICE OF COMMUNICATIONS

Respondent

- supported by -

BRITISH TELECOMMUNICATIONS PLC

Intervener

REFERENCE OF SPECIFIED PRICE CONTROL MATTERS TO THE COMPETITION COMMISSION 18 FEBRUARY 2010

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1. Having regard to:

(A) the Statement, Consultation and Notification issued by the Office of Communications ("OFCOM") dated 26 October 2009 and entitled "Charge controls for Wholesale Line Rental and related services" ("OFCOM's WLR Statement");

(B) the price controls set by Condition AAA4(WLR) in Annex 6, Schedule 1 of OFCOM's WLR Statement ("the WLR Price Controls"); and

(C) the Notice of Appeal ("the Notice of Appeal")[1] dated 23 December 2009 lodged by The Carphone Warehouse Group Plc ("CPW") in Case 1149/3/3/09 challenging certain aspects of the setting of the

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[1]All references to the pleadings herein should be understood as references to the pleadings as amended, insofar as appropriate.

WLR Price Controls and the statement within that Notice that the appeal raises specified price control matters within the meaning of Rule 3(1) of the Competition Appeal Tribunal (Amendment and Communications Act Appeals) Rules 2004 (“the 2004 Rules”);

(D) the Order of the Tribunal dated 3 February 2010 establishing a timetable for the further conduct of this appeal

the Tribunal, pursuant to Rule 3(5) of the 2004 Rules and section 193 of the Communications Act 2003 (“the 2003 Act”), hereby refers to the Competition Commission for its determination the specified price control matters arising in these appeals.

2. By this reference the Tribunal orders the Competition Commission to determine the following questions:

Question 1

Whether, for reasons set out within paragraphs 76 to 107 of the Notice of Appeal, the WLR Price Controls have been set at a level which is inappropriate because OFCOM failed to set the controls in such a way as to secure that the differential between, on the one hand, the price for WLR and/or WLR + SMPF and, on the other hand, MPF was *at least equivalent to* the long run incremental cost (“LRIC”) difference between those services:

(i) by reason of OFCOM setting the price differentials on a current cost accounting and fully allocated costs basis rather than on a LRIC basis, as explained, in particular in paragraphs 87 and 88 of the Notice of Appeal; or

(ii) by reason of OFCOM having erred in its calculation of LRIC for the reasons set out in paragraphs 92 to 105 of the Notice of Appeal.

Question 2

Whether, for reasons set out within paragraphs 76 to 107 if the Notice of Appeal, the WLR Price Controls have been set out at a level which is inappropriate because OFCOM should have, but did not, set those controls in such a way as to secure that the differential between on the one hand, the price for WLR and/or WLR + SMPF and, on the other hand, MPF was *greater than* the difference between the LRIC of those services.

Question 3

Having regard to the fulfilment by the Tribunal of its duties under section 195 of the 2003 Act and in the event that the Competition Commission determines that OFCOM erred in one or more of the ways referred to in the Questions 1 and 2, 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 level of the WLR Price Controls, indicating—

(a) what price controls should have been set in OFCOM’s WLR Statement had OFCOM not erred in the manner identified; and

(b) if the WLR Price Controls set in OFCOM's WLR Statement have during the elapsed period of those price control been at an inappropriate level, and on the assumption that it may, having regard to the criteria in section 88 of the 2003 Act, be lawful and appropriate to adjust the price controls applicable during the unelapsed period, what adjustments to that part of the WLR Price Controls should be made, if any.

3. The Competition Commission is directed to determine the issues contained in this reference by 31 August 2010. The Competition Commission shall notify the parties to this appeal of its determination at the same time as it notifies the Tribunal pursuant to section 193(3) of the 2003 Act.

4. Should the Competition Commission require further time for making its determination it should notify the Tribunal and the parties so that the Tribunal may decide whether to extend the time set out in the previous paragraph.

5. There shall be liberty to apply for further directions.

Vivien Rose Made: 18 February 2010
Chairman of the Competition Appeal Tribunal

Glossary of definitions and frequently used terms

2003 Act	Communications Act 2003.
2004 Rules	Competition Appeal Tribunal (Amendment and Communications Act Appeals) Rules 2004.
20CN	**BT**'s legacy broadband network.
21CN	**BT**'s 21st century network programme for rolling out an **NGN**.
Access Directive	Directive 2002/19/EC 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) to the core telecommunications network. The **exchange** to the core network will often occur at a local telephone **exchange**.
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.
Bore	An individual **duct** tube laid into a trench. A **duct** may contain multiple bores.
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.
BT WLR SoI	BT Statement of Intervention dated 26 February 2010, in relation to the **WLR Appeal**.
Calls to Mobiles Appeal	The judgment of the **Tribunal** in relation to the price control matters in *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), *[2009] CAT 11* (Judgment: Disposal of the Appeals).
CC	Competition Commission.
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 Final Model	**Ofcom**'s activity-based costing model for **Openreach**.
Combi-card	A piece of technical equipment which, along with an **MSAN**, allows voice or data (or both) to be used for a single customer.
Compressible costs	Costs that may be reduced, eg through efficiency savings.

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 line	An individual pair of copper wires.
Copper loop	As per a **copper line** but usually used to refer to the metallic path between the **exchange** and the customer premises.
Core	The part of the network used for high-capacity long-distance switching and transmission.
Cost stack	A term **Ofcom** used in the **LLU Statement** to describe the combined operating and capital cost for a unit of a particular service or services.
CP	Communications provider.
CPW	Carphone Warehouse Group plc.
CRF	European Common Regulatory Framework.
CRS	Core rental services. **WLR**, **SMPF** and **MPF** are referred to by **Ofcom** as the 'Core Rental Services'.
DAM	Detailed Attribution Methods.
DP	Distribution point (the point in the **access network** from which the **drop wire** is provided to the customer).
Drop wire	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.
ECN	Electronic communication network. A network that enables inter-communication between users of that network.
ECPR	Efficient Component Pricing Rule.
EOI	Equivalence of inputs. Legal requirement contained in the **BT Undertakings** requiring **Openreach** to supply **LLU** services (and most **LLU** ancillary services) to **CP**s (including **BT**) on the same basis.
EPMU	Equal proportionate mark-up. This means that the mark-up for common costs is in proportion to the incremental cost.

ERG	European Regulators Group. The group through which National Regulatory Authorities exchange expertise and best practice and give opinions on the functioning of the telecommunications market in the EU.
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.
FL-LRIC	Forward-looking long-run incremental cost.
Frame	The physical frame in a **BT** telephone **exchange** which **copper loop**s are connected to 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 on the common regulatory framework for electronic communications networks and services.
Frontier	Frontier Economics Ltd: an economics consulting firm.
Frontier model	LRIC+EPMU model produced by Frontier received on 20 May 2010.
Frontier report	Paper produced by **Frontier** on behalf of **CPW** received on 27 April 2010.
FTE	Full time equivalent employee.
FTTC	Fibre to the cabinet.
FTTP	Fibre to the premises.
HCA	Historical cost accounting.
HDF	Handover distribution frame (a frame assembly provided to **CP**s in the **MUA**) which serves as a demarcation point between **Openreach**'s and the **CP**'s domains.
Infrastructure	General term used to refer to all the equipment and plant used to provide connectivity and services to customers.
Jumpering	The process of connecting *(a)* the copper wires connecting the end-user's premises to the **MDF** at the **exchange** to *(b)* a tie circuit feeding into a **line card**.
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 Appeal	*The Carphone Warehouse Group plc v Office of Communications* (Case No 1111/3/3/09).
LLU Statement	**Ofcom**'s decision on charge controls for **MPF**, **SMPF** and associated ancillary services contained in: *A New Pricing Framework for Openreach*, dated 22 May 2009.
LRIC	Long-run incremental cost. The cost caused by the provision of a defined increment of output given that costs can, if necessary, be varied and that some level of output is already produced.
MCT Determination	The **CC**'s determination on the price control matters in the **Calls to Mobiles Appeal**.
MDF	Main distribution frame. The mechanical frame within the **exchange** through which all **copper loop**s are cross-connected to a **copper line** connected to the **core** infrastructure. The physical frame in a **BT** telephone **exchange** which **LLU copper loop**s are connected to on one side, and which is connected to the **BT core** network on the other side.
MEA	Modern equivalent asset.
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.
MSAN	Multi-service access node. Electronic equipment provided by the **CP** and used to provide voice and broadband services.
MUA	Multi-user area. Area in a **BT** telephone **exchange** in which **CP LLU** equipment is located.
NBV	Net book value.
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. The upgrade of infrastructure within a telecommunications network, primarily based on the digital transfer of information across the **core** but which may also encompass improvements to those parts of the **access network** located within the **exchange**.
NPV	Net present value.

NRA	National regulatory authority.
Oak Model	**Ofcom**'s financial model which allocates costs to activities/products and calculates unit costs.
Ofcom	Office of Communications.
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.
PSTN	Public switched telephone network.
Ramsey pricing	Pricing a product where the mark-up of each commodity is inversely proportional to the elasticities of demand.
RAV	Regulatory asset value.
RAV Model	**Ofcom**'s financial model calculating certain asset and depreciation balances.
Reference	Ruling on the Reference of Specified Price Control Matters to the Competition Commission dated 27 November 2009 in relation to the **LLU Appeal**.
Reply I	**CPW** Reply I dated 22 January 2010 in relation to the **LLU Appeal**.
Reply II	**CPW** Reply II dated 9 February 2010 in relation to the **LLU Appeal**.
Reply V	**CPW** Reply V dated 29 March 2010, submitted in relation to the **WLR Appeal**.
Reply VI	**CPW** Reply VI dated 21 May 2010, submitted in relation to the **LLU Appeal** and **WLR Appeal**.
RFS	Regulatory financial statements. Audited financial statements that **BT** is required to produce and publish each year to comply with its regulatory obligations.
RPI	Retail prices index.
Second Consultation	**Ofcom** consultation document of 5 December 2008 entitled 'A New Pricing Framework for Openreach—second consultation' with proposals for new charge controls to cover **WLR**, **MPF** and **SMPF** wholesale services.
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.
SOR	Statement of Requirement. Openreach's customers may submit a request (Statement of Requirement) to Openreach: to create a new product; for a change to an existing product.
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.
TDM	Time division multiplex.
Tie cables	The cables used to connect the **CP**-installed electronic equipment in the **exchange** to the **frame**.
Tribunal	Competition Appeal Tribunal.
TSR	**Ofcom**'s Telecommunications Strategic Review.
TTG	TalkTalk Group Limited.
Undertakings	Legal obligations agreed between **BT**, **Openreach** and **Ofcom** as part of the functional separation of **BT** and **Openreach**.
WBCC	Wholesale Broadband Connect Converged. Combined voice and broadband product to be offered to **CP**s by **BT** as part of **BT**'s **21CN** programme.
Wholesale Fixed Narrowband Review	**Ofcom** statement of 28 November 2003 in relation to its review.
Wholesale Local Access Review	**Ofcom** statement of 16 December 2004 in relation to its review of the wholesale local access market.
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 Consultation	**Ofcom** consultation document of 3 July 2009 entitled *Charge controls for Wholesale Line Rental and related services*.
WLR Defence	**Ofcom** Defence dated 15 February 2010 in relation to the **WLR Appeal**.
WLR NoA	**CPW** Notice of Appeal dated 23 December 2009, in relation to the **WLR Appeal**.
WLR Reference	Ruling on the Reference of Specified Price Control Matters to the Competition Commission dated 18 February 2010 in relation to the **WLR Appeal**.
WLR Review	**Ofcom**'s statement of 24 January 2006, 'Wholesale Line Rental: Reviewing and setting charge ceilings for WLR services'.
WLR Statement	**Ofcom**'s decision on charge controls for **WLR** and associated ancillary services contained in: *Charge controls for Wholesale Line Rental and related services*, dated 26 October 2009.
WVC	Wholesale Voice Connect. Voice product to be offered to **CP**s by **BT** as part of **BT**'s **21CN** programme.

The difference between unit cost and unit price in each year following the LLU Statement

1. Tables 1 and 2 below set out the expected cost and allowed price per unit for MPF and SMPF over the four years of the glide path, used to calculate X. It is only the prices in 2009/10 and 2010/11 that have been set in this price control.

2. Table 1 shows that Openreach is under-recovering the costs associated with MPF in each year until 2012/13.

TABLE 1 **Cost and price per MPF unit**

	2008/09	*2009/10*	*2010/11*	*2011/12*	*2012/13*
Cost		87.20	90.41	95.42	97.62
Price—smooth glide path		85.41	89.30	93.37	97.62
Halfway between cost and smooth		86.31			
Price-adjusted glide path	81.69	86.40*	89.99	93.73	97.62
Difference		0.80	0.42	1.69	-

Source: Ofcom's 'Price calcs.xls' model.

*Halfway point rounded to divide by 12 for even monthly payments.

3. Table 2 shows that Openreach is over-recovering the costs associated with SMPF in each year until 2012/13.

TABLE 2 **Cost and price per SMPF unit**

	2008/09	*2009/10*	*2010/11*	*2011/12*	*2012/13*
Cost		13.18	13.63	14.64	15.22
Price—smooth glide path	15.60	15.60	15.47	15.35	15.22
Difference		–2.42	–1.84	–0.71	-

Source: Ofcom's 'Price calcs.xls' model.

How the glide path was set for MPF

1. Ofcom assessed the unit costs in the four years to 2012/13 in nominal terms using the inflation assumptions in the model. This gave a unit cost of £97.62 in 2012/13.

2. Ofcom estimated the RPI inflation across the four-year period to be 2.5 per cent (ie it smoothed the RPI inflation by looking across four years and not at any one particular year). Ofcom then assessed at what level the price in 2012/13 would be if the current price (2008/09 price) (the 'starting price') was allowed to inflate at RPI. This would deliver a price of £90.17 in 2012/13, some way short of the estimated costs.

3. The increase required to deliver a price that matched cost in 2012/13 was calculated to be an additional 2.05 per cent a year.

4. The combined increase of 4.55 per cent a year (2.5 per cent RPI + 2.05 per cent 'X'), applied for four years to the starting price, would result in a price of £97.62 in 2012/13. We note that Ofcom could have reached this annual increase without reference to RPI inflation by assessing the nominal increase required as £97.62 (cost stack in 2012/13) divided by £81.69 (price in 2008/09) and then smoothing this required increase over four years.

TABLE 1 **Ofcom's assessment of the MPF price per line in each year to 2012/13 based on a smooth nominal glide path**

	2008/09	*2009/10*	*2010/11*	*2011/12*	*2012/13*	
Price	81.69					
Cost stack		87.20	90.41	95.42	97.62	
Normalized RPI (%)		2.50	2.50	2.50	2.50	
RPI delivers (%)		102.50	102.50	102.50	102.50	110.38
Price becomes						90.17
Over four years means annual X						**2.05%**
Check: annual increase (%)		104.55	104.55	104.55	104.55	119.50
Price becomes						97.62
Price in year—straight glide		**85.41**	**89.30**	**93.37**	**97.62**	

Source: Ofcom price calcs model.

5. Ofcom then decided to set the 2009/10 price at the mid-point of the straight glide path (£85.41) and the cost of providing services in that year (£87.20). This mid-point (£86.31) was rounded to a figure that would result in even monthly payments £86.40.

6. Ofcom set this year 1 price in nominal terms. It then had to calculate, by reference to a glide path, the price for year 2. With a new 'starting price' for the glide path, ie the 2009/10 price, Ofcom calculated that an increase of 1.65 per cent over assumed RPI would be required over the remaining three years of the glide path. The combined increase was 4.15 per cent (2.5 per cent RPI + 1.65 per cent).

TABLE 2 **Ofcom's assessment of the MPF price per line in each year to 2012/13 based on an accelerated year 1 (2009/10) price and a smooth nominal glide path thereafter**

	2008/09	*2009/10*	*2010/11*	*2011/12*	*2012/13*	
Price	81.69					
Cost stack		87.20	90.41	95.42	97.62	
Check: annual increase (%)			104.15	104.15	104.15	112.99
						97.62
Annual price	**81.69**	**86.40**	**89.99**	**93.73**	**97.62**	

Source: Ofcom price calcs model.

7. Ofcom calculated its glide path, and the 1.65 per cent, on the basis of an adjusted RPI. As the RPI statistic cannot be altered, Ofcom needed to adjust its X value to account for the expected actual RPI, to ensure a smooth path in out-turn prices, ie to achieve its aim of smoothing RPI assumptions.

8. Given that the RPI to be applied[1] in year 2 was –1.5 per cent, this approach resulted in an X of 5.65 per cent (the difference between +4.15 per cent and –1.5 per cent), taking prices from £86.40 in year 1 to £89.99 in year 2. This X was rounded to 5.5 per cent, resulting in an expected 4 per cent increase to the year 1 price and a year 2 price of £89.86.

TABLE 3 **Ofcom's assessment of the X required to deliver the required nominal price in 2010/11 given Ofcom's expectations of the October 2009 RPI**

X based on normalized RPI (%)		1.65
Plus normalized RPI (%)	2.50	
Less actual RPI (%)	1.50	
		4.00
Adjusted X (%)		**5.65**
Check impact on price		89.99
Rounded X (%)		**5.50**
Check impact on price		89.86

Source: Ofcom price calcs model.

9. The X value for subsequent years was not calculated as the price control runs only to the end of 2010/11.

[1]The annual RPI inflation from the previous October, ie October 2009.

Setting the glide path for ancillary service baskets

1. Ofcom had to set a glide path for the three ancillary service baskets. It applied a similar underlying approach as it had to MPF and SMPF rental, in that the aim was to adjust average prices for the services in those baskets such that, in 2012/13, the revenues generated across the baskets would be equal to the cost of providing the services within the baskets.

2. Ofcom calculated the glide path on the basis of the total revenue and costs in all three baskets.

3. Ofcom applied new starting charges for three services, which meant that the starting point for the glide path was adjusted for these services. The starting charge for the other services was the 2008/09 price.

4. Ofcom adjusted the revenue forecasts to take account of the new starting charges and then forecast the expected revenue in 2012/13 on the basis of RPI being 2.5 per cent in each year (Ofcom's expected RPI increase across the four-year period[1]). As for MPF, Ofcom calculated the shortfall between expected revenue and costs, and the additional increase in prices required to ensure that costs were recovered by 2012/13.[2]

5. In 2009/10, there was no need to link to RPI so the increase required was calculated as 3 per cent. In 2010/11, a link to RPI was required; the overall increase to be delivered was 3 per cent; given that the RPI expectation for October 2009 was –1.5 per cent, an X of 4.5 per cent was required.

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[1]This is consistent with the assumed RPI increase for MPF & SMPF rental.
[2]Source for this annex is Ofcom's spreadsheet Ancillary Pricing and Ofcom's letter to the CC of 13 January 2010 Q2.

Annex to CC letter of 18 June 2010

1. We are now seeking submissions from the parties which address the issues about remedies raised below, to reach us by 4pm, Friday 2 July please.

2. Question 4 of the Tribunal's LLU Reference requires the CC, in the event that it determines that Ofcom has erred, to include in its determination:

   (a) clear and precise guidance as to how any such error found should be corrected; and

   (b) insofar as reasonably practicable, a determination as to any consequential adjustments to the level of the price controls, indicating what price controls should have been set in the LLU Statement had Ofcom not erred in the manner identified by the CC; and

   (c) if the price controls set in the LLU Statement have, during the elapsed period of the price control been at an inappropriate level and on the assumption that it may, having regard to the criteria in section 88 of the Communications Act 2003, be lawful and appropriate to adjust the price control applicable during the unelapsed period, a determination as to what adjustments to that part of the price control should be made, if any.

3. We note that, following correspondence from the Tribunal and the parties in light of the Court of Appeal judgment in Vodafone v BT [2010] EWCA Civ 391, the Tribunal has retained Question 4(b)(ii) in the LLU Reference. As to submissions in relation to Question 4(b)(ii) of the LLU Reference, please see paragraphs 12 to 14 below.

4. We now invite parties to the appeal to make further submissions on remedies and in particular to address the following points:

   (a) whether our provisional determinations necessitate adjustments to the price control; and

   (b) if they do, whether we can and should determine such adjustments or whether the adjustment is better remitted to Ofcom.

5. Parties' proposals concerning remedies must be fully reasoned, explaining why any proposed remedy would be appropriate and specifying its advantages and dis-advantages. We consider the timeliness of implementation to be an important factor in assessing the suitability of any remedy. The reasoning in support of a proposal will be particularly important where it is proposed that we should adopt a methodology different from that adopted by Ofcom in its decision.

6. We would particularly welcome submissions that have been agreed by the parties. Where agreement on remedies is not possible, parties should nonetheless seek to agree on the appropriate methodology to adopt in determining a remedy.

7. We also request comments on any consequential issues arising from the adoption of any particular remedy.

8. Paragraphs 10 to 11 below state specific issues which we would like the parties to address.

Specific issues we would like the parties to address

9. It appears to us that the most complex remedies issue arises with regard to our provisional finding on ancillary services. We therefore invite your views on the questions that we would need to address in determining new price controls and how you would propose that these are resolved. We note, in particular, the following questions:

   (a) how quickly the price caps applied to key migration services should seek to bring prices and costs for these services into line;

   (b) how the glide path for the basket caps should be determined;

   (c) the financial data on which the price caps should be based; and

   (d) the mechanism for preventing Openreach from achieving higher average prices than would be possible were the basket weights current rather than previous year revenue.

10. It also appears to us that there may be issues of principle as to how our provisional findings on inflation and efficiency should be remedied. Our understanding of Ofcom's financial modelling is that:

    (a) in respect of a higher efficiency challenge, the overall effect on the MPF price will be considerably dampened by compensatory 'leaver payments'; and

    (b) in respect of an adjustment to Ofcom's pay inflation rates, the overall effect on the MPF price will be dampened by the effects of capitalized labour costs.

Question 4(b)(ii)

11. We request submissions from the parties as to what adjustments, if any, should be made during the unelapsed period of the price control as a consequence of any detriment or benefit to Openreach or Other Communications Providers that may have occurred in the elapsed period of the price control.

12. We note that Question 4(b)(ii) requires us to proceed on the assumption that it may be lawful and appropriate to make such an adjustment during the unelapsed period. We therefore regard it as neither necessary nor appropriate for us to seek to determine the lawfulness or appropriateness of making such an adjustment.

13. In particular we request the parties' submissions as to how any such adjustment should be calculated and would expect the parties' submissions to include their views on the following matters:

    (A) Whether it would be appropriate:

    i. to calculate any detriment (or benefit) that has occurred in the elapsed period by reference to (a) actual data or (b) the original data in Ofcom's charge control model or (c) any other method;

    ii. to calculate the necessary adjustments to the controls during the unelapsed period by reference to (a) updated forecasts or (b) the original data in Ofcom's charge control model or (c) any other method;

iii. to calculate the amount of any detriment (or benefit) and future adjustment on an aggregate basis (including or excluding BT Openreach) and/or on an individual customer basis;

iv. to take into account consequential decisions made on the basis of the errors in the original LLU Statement.

(B) We would also like the parties' submissions on the following matters, which may arise depending on the approach adopted in relation to the matters raised in the preceding sub-paragraph (A):

v. If calculations should be based on actual data, updated forecasts or consequential decisions, how the relevant data should be procured.

vi. If the original data in Ofcom's charge control model should be used, how, if at all, any deviation from the actual detriment/benefit should be accounted for.

(C) How, if at all, we could or should address in our determination the fact that the effective date for calculating historic versus prospective payments is by reference to the date of the Tribunal's judgment following our determination (a date which is unknown to us, since it is not fixed by the Communications Act 2003 or by court order), rather than our determination itself.

(D) Whether any of the calculations should include an allowance for interest and, if so, on what basis any such interest should be calculated.

(E) What other considerations, if any, we should take into account in our decision.

Ancillary Services: Remedies Paper (6 August 2010)

Remedies: Reference Question 4—Ancillaries baskets

1. This document provides an outline of our current thinking on the appropriate remedy for ancillary baskets in response to the Tribunal's Reference Question ('RQ') 4(ii), 4(ii)(a) and 4(ii)(b).

2. The parties are invited to provide us with their views on the appropriateness of a suggested remedy for RQ 4(ii), 4(ii)(a) and 4(ii)(b) for ancillary services as outlined in this document and as supplemented by the attached spreadsheet.

3. In addition we would invite submissions from the parties on whether, in the light of the limited financial impact of the suggested remedy in the unelapsed period, we should provide a remedy at all for the unelapsed period (ie RQ 4(ii)).

4. We also invite the parties' submissions on whether the calculations in the attached spreadsheet (tab 'Remedy analysis') are (factually, logically and mathematically) correct, appropriate and supportive of the suggested remedy for ancillary services as set out in this document.

5. We provisionally determined that Ofcom had erred in relation to the matters alleged at Reference Question 2—Ancillary Baskets in two respects. Firstly by not setting individual Xs for each of the three ancillary baskets and secondly by not implementing safeguards against BT gaming the prior year weighting approach in calculating BT's compliance with the price cap in the co-mingling basket ('gaming of the co-mingling basket'). We are therefore required to answer Reference Question 4 of the Tribunal's reference regarding correction of these errors.

6. The remedy for ancillary services will also need to take into account the consequences of adjusting the charge control for Ofcom's error in inflation and for efficiencies (as provisionally determined in RQ1).

Reference question to answer

7. Reference question 4 states:

   The Competition Commission is required to include in its determination:

   (a) Clear and precise guidance as to how any such error found should be corrected; and

   (b) In so far as is reasonably practicable, a determination as to any consequential adjustments to the level of the price controls,

   Indicating:

   (i) What price controls should have been set in Ofcom's Statement had Ofcom not erred in the manner identified; and

   (ii) If the price controls set in Ofcom's Statement have during the elapsed period of the price control been at an inappropriate level and on the assumption that it may, having regard to the criteria in section 88 of the 2003 Act, be lawful and appropriate to adjust the price control applicable during the unelapsed period, what adjustments to that part of the price control should be made, if any.

8. We wrote to the Tribunal (copied to the parties) on 12 July to confirm how we intended to respond to question 4 of its reference to us. We noted that we would provide three datasets to the Tribunal: (i) the price control Ofcom should have set (RQ 4(ii)(a), (ii) the correction to the unelapsed period (forward looking only) (RQ 4(ii)) and (iii) the correction to the unelapsed period to take account of errors in the elapsed period as well (RQ 4(ii)(b)).

Suggested Remedies for Reference question 2—ancillary baskets

Introduction

9. We will first outline what the suggested remedy is for the unelapsed period (ie the remaining six months of the current two-year price control) as per the RQ 4(ii) (excluding subheadings). We will then outline what Ofcom would have done had it not erred (ie address RQ 4(ii)(a) to indicate what the charge control would have looked like without the errors we identified) and will then address RQ 4(ii)(b)—ie what adjustments would be required in the unelapsed period of the charge control if it was to correct for any overcharge in the elapsed period.

10. Within this framework we will first assess the remedy for the appropriate X for each of the ancillary baskets and then the remedy for the risk of gaming in the co-mingling basket.

Adjustment to the unelapsed period (RQ 4(ii))

General points

11. It is likely that by the time the Tribunal hands down its decision, there will be less than six months left in the LLU charge control.

12. This period may in effect be even shorter, considering that generally any price changes that BT makes are subject to a 90-day notice period.

13. This means that there is a very limited period in which our remedies would take effect.

14. We therefore consider that proportionality will need to be a major consideration in setting the remedies for both errors.

15. Our remedies will also need to meet the requirements of section 88 of the Communications Act 2003, which requires Ofcom to set a charge control that promotes efficiency, sustainable competition and confers the greatest possible benefits to the end users.

16. As any remedy for the ancillary services baskets will only have an effect for six months (or three months taking into account BT’s notice period for price changes) it is unlikely that a remedy requiring a large amount of adjustments to the unelapsed period of the LLU charge control would be proportionate. This appears to be particularly the case for transient changes that will be reversed at the time of the next charge control period.

17. We therefore suggest that any remedy we implement should be:

(a) reflective of the changes to the input in the LLU model as a result of our findings in RQ 1 for efficiency and inflation;

(b) broadly compatible with the approach that Ofcom would have adopted had it not erred;

(c) easy to implement; and

(d) generally in line with Ofcom's policies and objectives.

Adjustments to the X for ancillary baskets

18. It is unlikely that making substantial changes to the ancillary services baskets' price cap would meet the proportionality requirement given the short period of time for which these adjustments would apply, the small revenue changes it would effect and the disruptions the related price changes are likely to cause.

19. We therefore suggest a pragmatic remedy, addressing the most pressing shortcomings of the original LLU charge control and giving some effect to the adjustments to efficiency and inflation as determined in RQ1.

20. In the following paragraphs explain how the pragmatic remedy as outlined in paragraph 19 would look.

The pragmatic remedy

21. We suggest the following pragmatic remedy for ancillary baskets.

(a) We adopt Ofcom's proposal to move MPF New Provide in a separate basket. The X for 2010/11 for the MPF New Provide basket could either be –16 per cent as per the Ofcom's proposal (in line with the WLR 'new provide' X) or it could be the X that will move the price of MPF New Provide to its cost by 2012-13 (which would be approximately –18 per cent).[1] Moving MPF New Provide into a separate basket would address the problems arising in the MPF ancillary services basket from the need for most product prices (in both the MPF ancillary services basket and the ancillary services overall) to rise to be aligned with costs, and the X for this basket therefore being positive, but the MPF New Provide price being significantly above costs and needing to fall. This remedy would also lower overall revenues in the ancillary services baskets giving some effect to the adjustments to efficiency and inflation as determined in RQ1.

(b) We will not change any of the one-off price adjustments that Ofcom implemented at the beginning of the LLU charge control.

(c) We will not adopt BT's proposal to move certain co-mingling services into the 'correct' baskets. This is because this reallocation is not a necessary consequence of our provisional decision in relation to ancillary baskets as it would be possible without making these adjustments to give effect to our provisional decision. In addition, making this change would increase the absolute level of X for at least some of the baskets to a level where BT would be required to make substantial price adjustments in the remainder of the charge control, which would

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[1]As a result of applying the one-off price adjustment to MPF New Provide, no X will apply to MPF New Provide in 2009/10.

be disruptive to the industry and which would therefore be unlikely to be proportional. See the table below.

TABLE 1 **Changes in X as a result of BT's proposal to reallocate LLU Ceases and Bulk Reterminations**

X in 2010/11	*X per LLU in %*	*X per adjusted LLU in % (adjusting for BT only)*	*X per adjusted LLU in % (adjusting for BT and MPF New Provide)*
MPF New Provide	N/A	N/A	–16.0/–18.0
MPF ancillary services	4.5	–1.0	**18.5**
SMPF ancillary services	4.5	5.0	4.0
Co-mingling	4.5	**11.5**	**11.5**
Total ancillary services	4.5	4.0	4.0

Source: Ofcom letters of 22 July 2010 and the associated spreadsheet as amended by Ofcom's letter on 28 July 2010 and the associated spreadsheet.

(d) We do not change any of the Xs of the ancillary services baskets (ie the X for all the three ancillary services baskets remains at 4.5 per cent). The table below shows how, in Ofcom's proposal, the X in each of the baskets would have changed from the original LLU Statement if we were to change the X for each of the baskets and if we moved MPF New Provide into a separate basket.[2] The table shows that the X only falls marginally (by 0.5 per cent) for the co-mingling basket and increases for the MPF and SMPF baskets, indicating that (leaving aside the MPF New Provide basket) communication providers are unlikely to pay materially less (and may even pay more) as a result of changing the Xs for the three original ancillary services baskets. We therefore do not consider that changing the Xs for the three ancillary services baskets would be in the interests of OCP's and would in any case not be proportionate when considering the consequential adjustments to the price control that would be required as a result of changing the Xs (as set out in paragraph 24 onwards).

TABLE 2 **Changes in X for each of the baskets per Ofcom's proposal**

X in 2010/11	*X per LLU in %*	*X per adjusted LLU in %**
MPF New Provide	–0.5	–16.0/–18.0
MPF ancillary services	**4.5**	**7.0**
SMPF ancillary services	**4.5**	**6.5**
Co-mingling	**4.5**	**4.0**
Total ancillary services	4.5	4.0

Source: Ofcom letters of 22 July 2010 and the associated spreadsheet as amended by Ofcom's letter on 28 July 2010 and the associated spreadsheet.

*The X as adjusted includes the impact of the adjustment for inflation and efficiency as determined in RQ1.

Notes:

1. Only the X for 2010/11 is shown. The differences in X would be similar for 2009/10 (as the underlying X for both years was the same).
2. The increase in X for the MPF ancillary services basket is largely due to MPF New Provide moving into a separate basket (without this the X would be –3.5 per cent).
3. The table also shows that the impact on X of adjusting the ancillary services basket overall for inflation and efficiency is 0.5 per cent. This assumes that it is Ofcom's policy to round the X to the nearest 0.5 per cent.

(e) We do not change any subcaps.[3] We also do not change the inertia clause.

22. Putting the MPF New Provide product into a different basket would not require a change to the X for the MPF ancillary services basket in 2010/11.[4] This is because

[2]The Xs for each of the baskets are from Ofcom's note on 22 July 2010, Figure 3.
[3]Except for effectively removing the MPF New Provide sub-cap and placing MPF New Provide in a separate basket instead.
[4]Intuitively this would be expected given the very significant negative X for MPF New Provide.

BT's compliance with the charge control is measured against prior year volumes. The Oak model estimated MPF New Provide in 2009-10 to account for revenues of £1.2 million out of total MPF ancillary services basket revenues of approximately £50 million. This means, for example, that a 10 per cent price change for MPF New Provide would only impact BT's compliance with the MPF ancillary basket by 0.2 per cent (in the context of a 4.5 per cent overall basket limit). We would therefore consider any consequential change to the X in 2010/11 as a result of moving MPF New Provide into a separate basket as being immaterial.

Reasons for not changing the Xs of the three ancillary services baskets

23. In the following paragraphs we outline in more detail the reasons why changing the Xs for the three ancillary services baskets would require disproportionate adjustments to the charge control, which underpins our suggestion not to change the X for the three ancillary services basket as set out in paragraph *(d)*. These are based on the practicalities and the materiality of the financial impact of such adjustments.

24. For example, assuming that we adopt the premise that any remedy that gets implemented for each of the baskets should put BT into the position in the unelapsed period it would have been in had Ofcom not erred, then this would make it necessary to make some one-off price adjustments in each of the baskets to ensure that BT's revenues in the unelapsed period of the price control are the same as the revenues that BT would have earned in the unelapsed period had Ofcom not erred. It is therefore not sufficient to only change the X (as this would 'bake in' the incorrect X in the elapsed period of the price control), but would also require a one-off adjustment to move BT onto the new glidepath implied by the new X for each of the ancillary services baskets, requiring additional changes to BT's prices.

25. Furthermore, it may well be necessary that price adjustments that BT would make as a result of the change in Xs would need to be either approved by Ofcom or otherwise safeguarded against potential gaming (eg discrimination or abuse of current year weighting approach).

26. In addition, changing the Xs may require a relatively large number of price changes (for example in the case of the co-mingling basket, where BT implemented the cap uniformly on all prices), which may be costly and disruptive for BT and the industry.

27. We performed a calculation that shows that the financial effect of adjusting the X for the three ancillary services baskets (and putting MPF New Provide in a new basket), but not adjusting the subcaps, for the remaining six months of the LLU charge control would be between £1–2 million[5] and would be very small for the elapsed period of the charge control. See the table below.

[5]The reason why we say it is £1–2 million is that whilst the difference between the original X and the adjusted X in 'total ancillary services' in the table below in 2010/11 is about £2 million (12.5 million less 10.6 million), our remedy would only apply for less than half of 2010/11. The actual effect would depend on when service volumes are sold in the elapsed and unelapsed period in 2010/11, so it is not possible to be more precise. Furthermore the financial impact would be even less when considering that BT would need to give 90 days' notice for the price change.

TABLE 3 **Financial Impact of changing the X for the three ancillary baskets**

Revenue impact from price caps and subcaps	*LLU Statement 2009/10*	*Adjusted LLU Statement 2009/10*	*LLU Statement 2010/11*	*Adjusted LLU Statement 2010/11*
MPF New Provide	One-off adjustment applies		–0.158	–2.041
MPF ancillary services	1.969	2.347	1.542	1.747
SMPF ancillary services	1.100	1.269	5.490	6.004
Co-mingling	4.132	3.443	5.625	4.865
Total ancillary services	7.200	7.059	12.499	10.576
Total excl MPF New Provide			12.657	12.616

Source: CC.

28. The table above shows that (due to the constraint of the subcaps[6]) there would be only be a very small difference in the revenues BT could earn in 2009/10 under the original basket caps compared with the new Xs (£7.2 million vs £7.1 milion). Whilst BT would be able to earn £2 million less revenues in 2010/11 with the adjustment to the Xs compared to the original 4.5 per cent basket cap (see row 'Total ancillary services'), this is only due to moving MPF New Provide into a new basket. The revenues BT can earn in the remaining three baskets are very similar under the original price cap and the adjusted price cap for the three ancillary services baskets (see the last row in the table above).

29. We therefore consider that the complexity (eg the need to check BT's price changes for discrimination and gaming) and disruption (eg to the possible need for BT to make a large number of price changes) that would be caused by changing each of the Xs for the three ancillary services baskets are likely to outweigh the benefits, in particular given the limited financial impact that changes in the Xs would have on the remainder of the charge control.

Adjustments for the risk of gaming in the co-mingling basket

30. Given the short time period left in the LLU charge control and BT's comments that its price adjustments in 2009/10 were targeted to move prices for all services in the co-mingling basket into line with costs and that they increased prices by a uniform amount in 2010/11 in the co-mingling basket, we suggest that the remedy for the risk of gaming in the co-mingling basket should be that BT does not make any further price changes to the co-mingling basket until the end of the current charge control.

31. We consider that this is the most practical remedy. Any of the approaches suggested by the parties would either require significant resources to develop (eg the current year weighting approach) or would be inappropriate (eg tightening up of the charge control limits). It is therefore likely that any comprehensive remedy would require a remittal back to Ofcom, which is unlikely to be reasonably practicable given that Ofcom has already embarked on developing the next LLU charge control.

32. This suggestion needs to be seen in conjunction with the remedy that we suggest for the X in the three ancillary services baskets (and in particular the co-mingling basket). The suggestion in paragraph 30 would not be feasible if any changes were made to the X in the co-mingling basket as part of the remedy to correct the X for the three ancillary services baskets (as this would require price changes in the co-mingling basket which are not compatible with this remedy).

[6] ie due to the subcaps limiting BT's pricing flexibility to less than the overall price caps for the MPF and SMPF ancillary services basket.

Adjustment to the LLU price control had Ofcom not erred (RQ 4(ii)(a))

General

33. The suggested remedy for the unelapsed period under RQ 4(ii) is based on what is appropriate now, given that less than approximately six months of the price control will be remaining by the time the tribunal hands down its decision.

34. However, RQ 4(ii)(a) specifically asks us to provide what price control Ofcom should have set (from the start) in the LLU Statement had it not erred.

35. We do not consider it reasonably practicable for us or Ofcom to answer this question.

36. In practice, given that Ofcom has already embarked on the next price control decision and the time left in the current charge control, we do not consider it reasonably practicable to make a referral to Ofcom to answer RQ 4(ii)(a) for both the remedies for the X for the ancillary services baskets and the safeguard against gaming in the co-mingling basket.

Adjustments to the X for the individual ancillary baskets

37. The findings in our provisional decision were that Ofcom should have set an individual X for each of the three ancillary baskets. The parties proposed various ways in which we should remedy this.

38. We do not consider it to be reasonably practical for us to establish the appropriate X for each of the ancillary services baskets, including the appropriate associated sub-caps and inertia clauses, as well as evaluating proposals for the creation of additional baskets, considering the time and resources available to us in this appeal.[7]

39. This also reflects the additional complexity due to the interrelation of any remedy for the X of the ancillary services baskets with the remedy for the risk of gaming in the co-mingling basket.

Adjustments for the risk of gaming in the co-mingling basket

40. The findings in our provisional decision were that Ofcom did not provide sufficient safeguards to prevent BT from gaming the prior year weighting approach in the co-mingling basket. The parties proposed various ways in which this risk should be addressed.

41. We do not consider it reasonably practicable for us to perform the comprehensive assessment that would be required to determine the appropriate approach given the time and resources available to us and given that there are various possible solutions that have been suggested by the parties (all of which would require consideration).

[7]Please note, the reason for remittal is primarily the need to adjust the subcaps and inertia clauses and not the calculation of X itself (which Ofcom provided us with in Table 3).

Adjustment to the LLU price control to adjust for overpayment in the elapsed period (RQ 4(ii)(b))

42. RQ 4(ii)(b) asks us to indicate to the tribunal how the price control should be adapted, if the unelapsed period were to recover any overpayment in the elapsed period (as a result of the errors we found).

43. We do not consider that an adjustment to the unelapsed period of the charge control is necessary for the errors we identified in the ancillary services baskets. We outline our reasons below.

Adjustments to the X for ancillary baskets

44. Given that that we are not suggesting a remedy to adjust the X for the ancillary services baskets or any of the associated subcaps or inertia clauses, partially because our analysis does not indicate a material overcharge in the elapsed period of the LLU charge control,[8] we do not consider that a remedy needs to be provided to address an overcharge in the elapsed period of the charge control.

45. Further, if we were to adjust the subcaps as well as the Xs for the three ancillary services baskets, assuming that we adjust the subcaps such that BT is able to earn revenues up to the basket limits in 2010/11 then the analysis below shows that BT would actually be able to earn higher revenues in 2010/11 in the adjusted charge control, than in the original LLU Statement. This also suggests that no remedy is necessary for the adjustment to the X of the ancillary services baskets in the unelapsed period to address an overpayment in the elapsed period.

TABLE 4 **Financial Impact of changing the X for the three ancillary baskets and the subcaps**

Revenue impact from price caps (after one-off adjustments)	*LLU Statement 2010/11*	*Adjusted LLU Statement 2010/11*
MPF New Provide	–0.158	–2.041
MPF ancillary services	1.542	2.039
SMPF ancillary services	5.490	8.056
Co-mingling	5.625	4.865
Total ancillary services	**12.499**	12.919
Total excl MPF New Provide	12.657	14.960

Source: CC.

46. Whilst the argument could be made that an adjustment should be made for the error in the unelapsed period for MPF New Provide, we consider that the financial effect of this adjustment would be very small given the small volumes of MPF New Provide sold (no more than £2 million, ie around 0.5 per cent of overall ancillary basket revenues). It is also not clear if any overpayment occurred in the elapsed period of the charge control for the ancillary services baskets overall (see paragraph 45). We therefore would not consider it necessary (or proportionate) to make an elapsed period adjustment in the unelapsed period for MPF New Provide.

[8]Our analysis indicated that the overcharge in 2009/10 was less than £0.2 million and that any overcharge in 2010/11 was no more than £1–2 million (if MPF New Provide was put in a separate basket), which is no more than 0.5 per cent of ancillary basket revenues.

Adjustments for the risk of gaming in the co-mingling basket

47. As we do not consider that BT did actually take advantage of the opportunity to 'game' the co-mingling basket, we do not consider there to have been an over-payment in the elapsed period of the charge control that needs to be remedied.

Definitions and frequently used terms

2003 Act	Communications Act 2003.
2004 Rules	Competition Appeal Tribunal (Amendment and Communications Act Appeals) Rules 2004.
21CN	BT's 21st Century Network programme for rolling out a **NGN**.
Access Directive	Directive 2002/19/EC 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) to the core telecommunications network. The exchange to the core network will often occur at a local telephone exchange.
Asset life	The economic or 'book' life of an asset which its value is depreciated.
Backhaul	Carriage of traffic from an exchange to a central point: transmission links used to connect local exchanges to each other and/or the **core** network.
Bore	An individual **duct** tube laid into a trench. A **duct** may contain multiple bores.
Brattle	The Brattle Group.
BT	BT Group plc (which includes British Telecommunications plc). **Openreach** is an operating division of British Telecommunications plc.
BT SoI	BT Statement of Intervention dated 10 November 2009, as amended on 5 February 2010 in respect of the **LLU Appeal**.
BT WLR SoI	BT Statement of Intervention dated 26 February 2010, in relation to the **WLR Appeal**.
Calls to Mobiles Appeal	The judgment of the **Tribunal** in relation to the price control matters in 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), [2009] CAT 11 (Judgment: Disposal of the Appeals).
CAPM	Capital asset pricing model.
CC	Competition Commission.
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 Final Model	Ofcom's activity-based costing model for **Openreach**.

Combi Card	A piece of technical equipment which, along with an **MSAN**, allows voice or data (or both) to be used for a single customer.
Compressible costs	Costs that may be reduced, eg through efficiency savings.
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 line	An individual pair of copper wires.
Copper loop	As per a **copper line** but usually used to refer to the metallic path between the **exchange** and the customer premises.
Core	The part of the network used for high-capacity long-distance switching and transmission.
Cost stack	A term Ofcom uses in the LLU Statement to describe the combined operating and capital cost for a unit of a particular service or services.
CP	Communications provider.
CPE	Customer premises equipment: terminal equipment used by the customer, eg telephone.
CPI	Consumer price index.
CPW	Carphone Warehouse Group plc.
CRF	European Common Regulatory Framework.
CRS	Core rental services. **WLR**, **SMPF** and **MPF** are referred to by Ofcom as the ‘Core Rental Services’.
Cumulo rates	The rates levied by the Government on **Openreach**’s **infra-structure** assets.
DAM	Detailed Attribution Methods.
DB	Defined benefit.
Defence	Ofcom Defence dated 26 October 2009, as amended on 8 January 2010 in respect of the **LLU Appeal**.
DMS	Dimson, Marsh and Staunton of the London Business School.
DP	Distribution point (the point in the access network from which the **drop wire** is provided to the customer).
Drop wire	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.
EBIT	Earnings before interest and tax.
ECN	Electronic Communication Network. A network that enables intercommunication between users of that network.
EOI	Equivalence of Inputs. Legal requirement contained in the BT Undertakings requiring **Openreach** to supply **LLU** services (and most **LLU** ancillary services) to **CP**s (including BT) on the same basis.
EPMU	Equal proportionate mark-up. This means that the mark-up for common costs is in proportion to the incremental cost.
ERG	European Regulators Group. The group through which National Regulatory Authorities exchange expertise and best practice and gave opinions on the functioning of the telecommunications market in the EU.
ERP	Equity risk premium.
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 fully allocated cost of a product or service may therefore include some common costs that are not directly attributable to the service.
FCM	Financial capital maintenance.
First Consultation	**Ofcom** consultation document of 30 May 2008 entitled ‘A New Pricing Framework for Openreach’ with proposals for new charge controls to cover **WLR**, **MPF** and **SMPF** wholesale services.
FL-LRIC	Forward-looking long run incremental cost.
Frame	The physical frame in a **BT** telephone exchange which copper loops are connected to 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 on the common regulatory framework for electronic communications networks and services.
FRG	The **CC**’s Finance and Regulation Group.
FRG Advice	The **FRG** paper circulated to parties on 12 April 2010.

FTE	Full-time equivalent employees.
GBV	Gross book value.
GRC	Gross replacement cost.
HCA	Historical cost accounting.
HDF	Handover distribution frame (a frame assembly provided to **CP**s in the **MUA**) which serves as a demarcation point between **Openreach**'s and the **CP**'s domains.
Infrastructure	General term used to refer to all the equipment and plant used to provide connectivity and services to customers.
Jumpering	The process of connecting *(a)* the copper wires connecting the end-user's premises to the **MDF** at the exchange to *(b)* a tie circuit feeding into a **line card**.
Key Migration Services	The three key migration services: MPF transfer, SMPF connection and MPF new provide.
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 Appeal	The Carphone Warehouse Group plc v Office of Communications (Case No 1111/3/3/09).
LLU Statement	Ofcom's decision on charge controls for MPF, SMPF and associated ancillary services contained in 'A New Pricing Framework for Openreach', dated 22 May 2009.
LRIC	Long-run incremental cost. The cost caused by the provision of a defined increment of output given that costs can, if necessary, be varied and that some level of output is already produced.
LUS	Light user scheme. **BT**'s Light User Scheme provides a reduced line rental to lower-income customers of BT Retail as mandated by **Ofcom** and the Universal Service Directive.
MCT Determination	The **CC**'s Determination on the price control matters in the **Calls to Mobiles Appeal**.
MDF	Main distribution frame. The mechanical frame within the exchange through which all **copper loop**s are cross-connected to a copper line connected to the core infrastructure. The physical frame in a **BT** telephone **exchange** which **LLU copper**

	loops are connected to on one side, and which is connected to the BT core network on the other side.
MEA	Modern equivalent asset.
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.
MSAN	Multi-Service Access Node. Electronic equipment provided by the **CP** and used to provide voice and broadband services.
MUA	Multi-user area. Area in a **BT** telephone **exchange** in which **CP LLU** equipment is located.
NBV	Net book value.
NGA	Next generation access. The upgrade of infrastructure which brings fibre closer to the end customer (often referred to as either fibre to the cabinet (FTTC) and/or fibre to the premises (FTTP)).
NGN	Next generation network. The upgrade of infrastructure within a telecommunications core network, primarily based on the digital transfer of information across the core.
NoA	**CPW** Notice of Appeal dated 21 July 2009, as amended on 17 December 2009 in respect of the **LLU Appeal**.
NPV	Net present value.
NRA	National regulatory authority.
NRC	Net replacement card.
Oak Model	Ofcom's financial model which allocates costs to activities/products and calculates unit costs.
Ofcom	Office of Communications.
Openreach	An operating division of British Telecommunications plc, Openreach provides wholesale telecommunications services to **CP**s. In the cost of capital section of our determination, we have adopted **Ofcom**'s approach (see paragraph 14 of the Cost of capital section) in referring to the copper-access business as Openreach. This is in contrast to other parts of our determination where we refer to Openreach as the operating division which incorporates copper-access businesses including **CRS** among other services.
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.

POP	Point of Presence (in a **BT** telephone **exchange**). Physical presence of a **CP** in a **BT** telephone **exchange**.
PSTN	Public Switched Telephone Network.
Ramsey Pricing	Pricing a product where the markup of each commodity is inversely proportional to the elasticities of demand.
RAV	Regulatory asset value.
RAV Model	**Ofcom**'s financial model calculating certain asset and depreciation balances.
Reference	Ruling on the Reference of Specified Price Control Matters to the Competition Commission dated 27 November 2009 in relation to the **LLU Appeal**.
Reply I	**CPW** Reply I dated 22 January 2010 in relation to the **LLU Appeal**.
Reply II	**CPW** Reply II dated 9 February 2010 in relation to the **LLU Appeal**.
Reply III	**CPW** Reply II dated 1 March 2010 in relation to the **LLU Appeal**.
Reply IV	**CPW** Reply IV dated 8 March 2010 in relation to the non-price control matters in the **LLU Appeal**.
Reply V	**CPW** Reply V dated 29 March 2010, submitted in relation to the **WLR Appeal**.
Reply VI	**CPW** Reply VI dated 21 May 2010, submitted in relation to the **LLU Appeal** and **WLR Appeal**.
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.
RPI	Retail prices index.
RPIX	Retail prices index excluding mortgage interest payments.
RV	Regulatory value.
Second Consultation	**Ofcom** consultation document of 5 December 2008 entitled 'A New Pricing Framework for Openreach—second consultation' with proposals for new charge controls to cover **WLR**, **MPF** and **SMPF** wholesale services.
Sky	British Sky Broadcasting Limited.
Sky SoI	Sky Statement of Intervention dated 6 November 2009, as amended on 5 February 2010 in respect of the **LLU Appeal**.

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.
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.
TDM	Time division multiplex.
Telereal	Telereal Trillium, property outsourcing and investment company.
Tie cables	The cables used to connect the **CP** installed electronic equipment in the exchange to the frame.
Tribunal	Competition Appeal Tribunal.
TSR	**Ofcom**'s Telecommunications Strategic Review.
TTG	TalkTalk Group Limited.
Undertakings	Legal obligations agreed between **BT**, **Openreach** and **Ofcom** as part of the functional separation of **BT** and **Openreach**.
WACC	Weighted average cost of capital.
WARA	Weighted average return on assets.
Wholesale Fixed Narrowband Review	**Ofcom** statement of 28 November 2003 in relation to its review.
Wholesale Local Access Review	**Ofcom** Statement of 16 December 2004 in relation to its review of the wholesale local access market.
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 Consultation	**Ofcom** consultation document of 3 July 2009 entitled ‘Charge controls for Wholesale Line Rental and related services’.
WLR Defence	**Ofcom** Defence dated 15 February 2010 in relation to the **WLR Appeal**.
WLR NoA	**CPW** Notice of Appeal dated 23 December 2009, in relation to the **WLR Appeal**.
WLR Reference	Ruling on the Reference of Specified Price Control Matters to the Competition Commission dated 18 February 2010 in relation to the **WLR Appeal**.
WLR Review	**Ofcom**’s statement of 24 January 2006, ‘Wholesale Line Rental: Reviewing and setting charge ceilings for WLR services’.
WLR Statement	**Ofcom**’s decision on charge controls for **WLR** and associated ancillary services contained in ‘Charge controls for Wholesale Line Rental and related services, dated 26 October 2009.