Determinations to resolve disputes between each of Cable & Wireless, Level 3, Verizon, Virgin Media and COLT and BT regarding BT's charges for partial private circuits

Determinations and Explanatory Statement

This version is non-confidential.
Confidential redactions are indicated by [✂]

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Section 1

Summary

1.1 Ofcom has resolved disputes between British Telecommunications plc ("BT") and each of Cable & Wireless UK ("C&W"), THUS plc ("THUS")[1], Level 3 Communications UK Limited ("Level 3")[2], Virgin Media Limited ("Virgin"), Verizon UK Limited ("Verizon") and Colt Technology Services ("COLT")[3] (collectively the "Disputing CPs")[4] about BT's charges for certain of its wholesale services known as partial private circuits ("PPCs") (the "Disputes").

1.2 We have concluded that BT has overcharged the Disputing CPs for a number of wholesale PPC services and that BT is required to make repayments to the Disputing CPs for the full amounts by which it has overcharged them.

Background

PPCs

1.3 PPCs are the wholesale inputs used to create leased lines, which are fixed permanent communications connections providing capacity between two points. There are two main parts to PPCs – terminating segments and trunk segments. Terminating segments can consist of up to four services: connection, main link, local end and distribution. PPCs are purchased as either a terminating segment or as a terminating segment combined with a trunk segment. Communications Providers ("CPs") are able to combine PPCs with their own networks to offer leased line services to their own customers (see Section 6).

The Disputes

1.4 On 25 June 2008, C&W, THUS, Level 3, Virgin and Verizon asked us to resolve disputes with BT (the "Altnet Disputes"). They alleged that BT had overcharged them for certain PPC services, on the basis that BT had failed to comply with its obligations to ensure that its charges for those services were cost orientated. On 20 October 2008 COLT submitted a similarly worded dispute (the "COLT Dispute"). The Disputing CPs requested that Ofcom determine what charges should have applied for the services and direct BT to refund any overcharge, with interest. We decided that it was appropriate for Ofcom to handle the Disputes on the basis of section 186(3) of the Communications Act 2003 (the "Act") and that the Relevant Period of the Disputes was from 24 June 2004 to 30 September 2008.[5]

1.5 On 14 October 2009 Ofcom issued determinations to resolve the Disputes in relation to most of the PPC services (the "2009 Final Determinations").[6] We determined that

[1] In 2008 Cable & Wireless Worldwide plc completed the purchase of THUS.
[2] Formerly called Global Crossing (UK) Telecommunications Limited ("Global Crossing").
[3] Formerly called COLT Telecommunications.
[4] We refer to BT and the Disputing CPs collectively as the "Parties".
[5] We published the scope of the Altnet Disputes on 27 August 2008: see http://stakeholders.ofcom.org.uk/enforcement/competition-bulletins/open-cases/all-open-cases/cw_992/; we published the scope of the COLT Dispute on 3 December 2008: see http://stakeholders.ofcom.org.uk/enforcement/competition-bulletins/open-cases/all-open-cases/cw_01002/.
[6] *Determination to resolve disputes between each of Cable & Wireless, THUS, Global Crossing, Verizon, Virgin Media and COLT and BT regarding BT's charges for partial private circuits*: http://stakeholders.ofcom.org.uk/binaries/consultations/draft_deter_ppc/PPC_final_determination.pdf

BT had overcharged the Disputing CPs approximately £42 million for 2 Mbit/s PPC trunk services over the period 1 April 2005 to 30 September 2008. Ofcom required BT to repay this overcharge with interest at the rate specified in the relevant contracts.

1.6 BT appealed the 2009 Final Determinations under section 192(2) of the Act. The Competition Appeal Tribunal (the "CAT") issued its judgment on preliminary issues in the appeal on 11 June 2010[7] and its final judgment on 22 March 2011 (the "PPC Judgment").[8] The CAT dismissed BT's appeal in its entirety and upheld the 2009 Final Determinations. BT appealed the CAT's judgments to the Court of Appeal.

1.7 The 2009 Final Determinations did not reach conclusions in relation to BT's charges for 140/155 Mbit/s PPC terminating segment services or 34/45 Mbit/s PPC trunk services. We explained that we would issue determinations to resolve the Disputes in relation to these services once we had obtained data from BT to enable us to assess them further.[9] It is these services which are the subject of these Determinations.

1.8 On 8 February 2012, we therefore issued draft determinations ("Draft Determinations") setting out our provisional conclusions for resolving the Disputes in relation to BT's charges for the following services:

1.8.1 34/45 Mbit/s PPC trunk services;

1.8.2 140/155 Mbit/s PPC terminating segment connection services;

1.8.3 140/155 Mbit/s PPC terminating segment main link services;

1.8.4 140/155 Mbit/s PPC terminating segment distribution services; and

1.8.5 140/155 Mbit/s PPC terminating segment local end services.

1.9 We initially gave stakeholders until 5 April 2012 to comment on our proposals, and subsequently extended this deadline to 20 April 2012.

1.10 We received responses from BT and Verizon and a joint response from the Disputing CPs (including Verizon). We shared a non-confidential version of BT's response with each of the Disputing CPs and non-confidential versions of the Disputing CPs' and Verizon's responses with BT. We received further comments from BT and the Disputing CPs on each others' submissions on 28 May 2012.

1.11 On 27 July 2012 the Court of Appeal handed down its judgment (the "PPC Court of Appeal Judgment")[10] dismissing BT's appeal of the two judgments of the CAT relating to the 2009 Final Determinations. We invited the Parties to update their submissions in light of the PPC Court of Appeal Judgment, if they wished to do so. We received additional submissions between 20 and 24 August 2012.

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[7] http://www.catribunal.org.uk/files/1146_BT_Judgement_CAT15_110610.pdf
[8] http://www.catribunal.org.uk/files/1146_BT_Judgement_CAT5_220311.pdf
[9] Paragraphs 1.25 and 7.82 of the 2009 Final Determinations.
[10] Case no: C3/2011/1683 *British Telecommunications plc v Office of Communications* [2012] EWCA Civ 1051 http://www.catribunal.org.uk/files/1146_BT_Judgment_of_the_Court_of_Appeal_270712.pdf.

Our approach

BT's cost orientation obligations

1.12 Ofcom has found that BT has significant market power ("SMP") in three markets relevant to PPC services: the wholesale low bandwidth traditional interface symmetric broadband origination ("TISBO"), high bandwidth TISBO and trunk segments markets. Based on these findings, Ofcom imposed SMP conditions on BT which require BT to ensure and to be able to demonstrate that its charges for low bandwidth TIBSO, high bandwidth TISBO (including 140/155 Mbit/s PPC terminating segment) and trunk (including 34/45 Mbit/s PPC trunk) services are cost orientated (Conditions G3.1, GG3.1 and H3.1 respectively):

> *"Unless Ofcom directs otherwise from time to time, the Dominant Provider shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that each and every charge offered, payable or proposed for Network Access covered by Condition [G1/GG1/H1] is reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs including[11] an appropriate return on capital employed."*

1.13 The Disputing CPs alleged that BT overcharged them for PPC services in breach of Conditions H3.1 and GG3.1. In order to resolve these Disputes, we have therefore considered whether BT complied with Conditions H3.1 and GG3.1 in relation to the charges in dispute.

Which charges should be cost orientated?

1.14 We have first considered which charges must be cost orientated. In our Draft Determinations, we proposed to resolve the Disputes by applying Condition H3.1 and GG3.1 to each and every disputed charge. This is consistent with the approach of the CAT in the PPC Judgment.

1.15 We consider that the terms of Conditions H3.1 and GG3.1 that "*each and every charge offered*" should be cost orientated should be applied to each of the separate charges for the PPC services in dispute for the reasons set out in Section 7. We have therefore resolved these Disputes by assessing each and every charge in dispute separately.

Methodology

1.16 We have decided to use our proposed methodology, having taken into account stakeholders' comments. This involves three steps:

<u>Step 1</u>

1.17 We start our analysis by considering whether BT has demonstrated to our satisfaction that each and every charge was reasonably derived from the costs of provision based on a forward looking long run incremental cost ("LRIC") approach and allowing an appropriate mark up for the recovery of common costs including an appropriate return on capital employed, in accordance with its obligations under Conditions H3.1 and GG3.1.

[11] In Condition H3.1, 'and' is used instead of 'including'.

Step 2

1.18 In the event that BT's evidence does not satisfy us that it has met the requirements of Conditions H3.1 and GG3.1, we then go on to consider whether BT's charges were nevertheless cost orientated. We first consider this by comparing the relevant PPC charges with their respective Distributed Stand Alone Cost ("DSAC") to identify any revenues exceeding DSAC (the "DSAC test").

Step 3

1.19 Finally, before drawing our conclusions on overcharging, we consider:

- the magnitude and duration by which charges exceeded DSAC;
- whether, and the extent to which charges exceeded fully allocated cost ("FAC"); and
- the rate of return on capital employed.

1.20 This allows us, for example, to consider whether BT has provided evidence that demonstrates that it could have reasonably expected its charges to be cost orientated when setting its relevant charges.

1.21 If we conclude that BT overcharged for the services in dispute, we will then calculate the level of overcharge.

Which DSACs do we use for our analysis?

1.22 In our Draft Determinations, we explained that BT had told us it had discovered errors in its published DSACs. BT considered that we should instead use DSACs calculated retrospectively according to a revised methodology. We said that, unless there are errors in BT's Regulatory Financial Statements ("RFS") or the methodology used in preparing the RFS was obviously inappropriate, Ofcom should rely on the published RFS for the purposes of determining these historic Disputes. We did not consider that BT had demonstrated that the methodology it used in the Relevant Period was obviously inappropriate, or that there were mathematical, input or software errors in its implementation. We therefore provisionally concluded that we should use the DSAC data based on the methodology BT used for its published RFS during the Relevant Period.

1.23 Since publishing our Draft Determinations, we have received additional information from BT and our understanding of BT's DSAC methodology has evolved. Based on the evidence now available to us, the DSAC methodology BT used in the period 2004/05 to 2008/09 does not appear to reflect cost causation in its treatment of duct costs and for that reason is likely to be obviously inappropriate. BT's revised methodology does not appear to reflect cost causation in its treatment of duct costs and is also likely to be obviously inappropriate.

1.24 However, we have concluded that we should nevertheless use the DSACs published in BT's RFS because we do not consider that there is a reasonably practical way for us to calculate new DSAC figures that would properly address the concerns that we have identified with cost causation in BT's treatment of duct costs.

Accounting adjustments to BT's published DSACs

1.25 We also considered in our Draft Determinations whether we needed to make accounting adjustments to the data published in BT's RFS. We have concluded that it is appropriate to make adjustments to the data in certain circumstances and we rely on the adjusted data in our assessment. We adjust the data where we have identified an error or an obviously inappropriate methodology and there is a reasonably practical way for us to adjust the data to correct this, taking into account concerns about retrospectively altering financial data on which previous regulatory decisions were based or creating inappropriate incentives for BT.

Our conclusions

BT overcharged the Disputing CPs for PPC services

1.26 Under Step 1 we considered the submissions put forward by BT setting out arguments that it considers demonstrate that its charges were cost orientated. Having considered the evidence provided by BT and the other Parties' comments, we have concluded that BT has demonstrated to our satisfaction that its charges for 140/155 Mbit/s PPC terminating segment connection services were cost orientated in 2007/08 and 2008/09. We have concluded that BT has not demonstrated to our satisfaction that the other charges in dispute were cost orientated during the Relevant Period.

1.27 Under Step 2 of our assessment, we have identified a number of BT's charges in dispute that were above their respective DSACs for various periods.

1.28 Before drawing our conclusions on overcharging we considered other factors under Step 3, notably whether BT has provided evidence that demonstrates that it could have reasonably expected its charges to be cost orientated.

1.29 We have concluded that BT overcharged for the services in dispute as set out in Table 1.1:

Table 1.1: Overcharging to BT's external customers, £, as adjusted by Ofcom

PPC service	2004/05	2005/06	2006/07	2007/08	2008/09
140/155 Mbit/s TISBO					
Connection	No	No	No	No	No
Main link	No	No	Yes	No	No
Distribution	No	No	No	Yes	Yes
Local end	No	No	Yes	Yes	Yes
Trunk					
34/45 Mbit/s	No	No	No	Yes	Yes

Source: Ofcom based on BT data.
Key – No = Conclusion of no overcharging, Yes = Conclusion of overcharging

BT is required to make repayments to the Disputing CPs

1.30 We proposed in our Draft Determinations that BT was required to make repayments to the Disputing CPs. In reaching this view, we were guided by our statutory duties and Community obligations under sections 3 and 4 of the Act.

1.31 The Disputing CPs broadly agreed with our proposal that BT was required to make repayments. BT, however, considered that Ofcom's proposed approach was wrong in law and that Ofcom should direct a reduced payment or no payment.

1.32 Having taken into account the Parties' comments and considered the findings of the Court of Appeal in the PPC Court of Appeal Judgment, we have concluded that BT should be required to make repayments to each of the Disputing CPs for the full amount of the overcharge.

1.33 If other BT customers approach BT seeking similar repayment of any overcharge for the PPC services which are the subject of these Disputes, we would expect BT to take account of our conclusions in these Determinations.

1.34 We therefore determine that BT should make repayments to the Disputing CPs, as set out in Table 1.2.

Table 1.2: Repayments due to the Disputing CPs in £, split by service

Refund (£m)	CWW[12]	Level 3	Virgin	Verizon	COLT	Total
2006/07						
140/155 Mbit/s main link	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
140/155 Mbit/s local end	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
2007/08	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
140/155 Mbit/s distribution	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
140/155 Mbit/s local end	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
34/45 Mbit/s Trunk	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
2008/09	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
140/155 Mbit/s distribution	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
140/155 Mbit/s local end	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
34/45 Mbit/s Trunk	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total	[✂]	[✂]	[✂]	[✂]	[✂]	**2,896,800**

Note: values rounded to the nearest £100. Totals have been calculated by adding up the rounded figures.
Source: Ofcom – based on data supplied by BT

1.35 For the reasons set out in paragraphs 14.69 to 14.73 we consider that we do not have sufficient evidence to decide whether we should also award interest at a different rate from the contractually agreed rate. This would involve setting aside clause 9.7 of the PPC Handover Agreement which provides for interest at the Oftel rate.

Structure of the remainder of this document

1.36 The remainder of this document is structured in the following way:

1.36.1 the legal framework for Ofcom's dispute resolution is set out in Section 2;

1.36.2 a summary of the Disputes and our investigation is set out in Section 3;

1.36.3 Section 4 explains BT's relevant regulatory obligations;

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1.36.4 Section 5 explains BT’s regulatory financial reporting obligations and BT’s LRIC model;

1.36.5 further information about the services in dispute is set out in Section 6;

1.36.6 our analysis of which charges should be cost orientated is set out in Section 7;

1.36.7 our approach to determining whether BT’s charges were cost orientated is set out in Section 8;

1.36.8 we consider whether BT has demonstrated to our satisfaction that its charges were cost orientated in Section 9;

1.36.9 we set out our framework for determining when to depart from the published RFS in Section 10;

1.36.10 we consider whether we should use the DSAC data published in BT’s RFS in Section 11;

1.36.11 we consider which accounting adjustments to make to BT’s published RFS data in Section 12;

1.36.12 our assessment of whether BT’s charges were cost orientated is set out in Section 13;

1.36.13 our consideration of whether we should require BT to make repayments to the Disputing CPs is set out in Section 14;

1.36.14 the Determinations setting out our resolution of these Disputes are set out in Annexes 1 to 5;

1.36.15 Annex 6 reproduces certain tables from BT’s response to our Draft Determinations;

1.36.16 an explanation of the cost standards used in Ofcom’s analysis is set out in Annex 7; and

1.36.17 there is a glossary of terms used in these Determinations and Explanatory Statement at Annex 8.

Section 2

Legal framework for resolution of the Disputes

Ofcom's dispute resolution function

Ofcom's duty to handle disputes

2.1 The Communications Act 2003 (the "Act") was amended by the Electronic Communications and Wireless Telegraphy Regulations 2011 (the "2011 Regulations") on 26 May 2011. As the referral of the Disputes occurred before this date, Ofcom has considered the Disputes in accordance with sections 185 to 191 of the Act as they applied before 26 May 2011.

2.2 Section 185(1)(a) of the Act provides (in conjunction with section 185(3)) that in the case of a dispute relating to the provision of network access[13] between different communications providers ("CPs"), any one or more of the parties to such a dispute may refer it to Ofcom. As the Disputes were referred to Ofcom before 26 May 2011, Ofcom decided that it was appropriate to handle them under subsection 185(1) of the Act.[14]

2.3 Section 186(2) of the Act provides that where a dispute is referred to Ofcom in accordance with section 185, Ofcom must decide whether or not it is appropriate to handle it. Section 186(3) further provides that Ofcom must decide that it is appropriate for it to handle a dispute unless there are alternative means available for resolving the dispute; a resolution of the dispute by those means would be consistent with the Community requirements set out in section 4 of the Act; and those alternative means would be likely to result in a prompt and satisfactory resolution of the dispute.[15]

2.4 Section 188 of the Act provides that where Ofcom has decided that it is appropriate for it to handle a dispute, Ofcom must make a determination resolving the dispute within four months, except in exceptional circumstances.

Ofcom's powers when determining a dispute

2.5 Ofcom's powers in relation to making a dispute determination are limited to those set out in section 190(2) of the Act. Ofcom's main power is to do one or more of the following:

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[13] Network access is defined in section 151 of the Act.

[14] The 2011 Regulations insert a new subsection 185(1A) into the Act. Had the Disputes been referred to Ofcom and Ofcom decided it was appropriate to handle them on or after 26 May 2011, they would have fallen under subsection 185(1A). This is because they concern the terms on which BT provides network access to the Disputing CPs and that network access is required to be provided by or under conditions imposed under section 45 of the Act (Conditions GG3.1 and H3.1, set out below). We note the decision of the Competition Appeal Tribunal ("CAT") in *Telefónica UK Limited v Ofcom* [2012] CAT 28 (the "Flip-Flopping judgment"), in which the CAT held at paragraphs 132 to 133 that sections 185(1A), 186(2A) and 190(2A) as introduced by the 2011 Regulations do not apply to disputes referred before 26 May 2011.

[15] Since 26 May 2011, the provisions of section 186(3) have applied to disputes falling within section 185(1A) and (2). Prior to 26 May 2011 they also applied to those falling within section 185(1).

2.5.1 make a declaration setting out the rights and obligations of the parties to the dispute;

2.5.2 give a direction fixing the terms or conditions of transactions between the parties to the dispute;

2.5.3 give a direction imposing an obligation on the parties to enter into a transaction between themselves on the terms and conditions fixed by Ofcom; and

2.5.4 for the purpose of giving effect to a determination by Ofcom of the proper amount of a charge, give a direction requiring the payment of sums by way of adjustment of an underpayment or overpayment, in respect of charges for which amounts have been paid by one party to the dispute, to the other.

2.6 Ofcom may also exercise certain other powers in consequence of its consideration of a dispute, including its powers under Chapter 1 of Part 2 of the Act to set, modify or revoke conditions.

2.7 A determination made by Ofcom to resolve a dispute binds all the parties to that dispute (section 190(8)). Whilst Ofcom's dispute resolution powers can therefore only bind the parties to a dispute on a bilateral basis, we would expect dispute determinations to be read across and followed as appropriate, and if other BT customers approach BT seeking similar repayment of any overcharge for the services which are the subject of these disputes, we would expect BT to take account of our conclusions in the present determinations.

Ofcom's duties when determining a dispute

2.8 The dispute resolution provisions set out in sections 185 to 191 of the Act are functions of Ofcom. As a result, when Ofcom resolves disputes it must do so in a manner which is consistent with both Ofcom's general duties in section 3 of the Act, and (pursuant to section 4(1)(c) of the Act) the six Community requirements set out in section 4 of the Act, which give effect, amongst other things, to the requirements of Article 8 of the Framework Directive.[16]

2.9 The 2011 Regulations amend section 4 of the Act and insert a new section 4A, under which Ofcom must take account of European Commission recommendations for harmonisation in resolving disputes.[17]

The SMP obligations

2.10 BT has been found to have significant market power ("SMP") in three markets relevant to PPC services: the wholesale low bandwidth traditional interface symmetric broadband origination ("TISBO") (with a bandwidth capacity up to and including 8

[16] Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services, as amended.
[17] The 2011 Regulations also insert a new subsection 190(2A) into the Act. This provides that in relation to a dispute falling within section 185(1) of the Act (as amended), Ofcom must exercise their powers in the way that seems to them most appropriate for the purpose of securing efficiency, sustainable competition, efficient investment and innovation, and the greatest possible benefit for end-users of public electronic communications services. Subsection 190(2A) does not apply to the Disputes since they were referred prior to 26 May 2011 (see paragraphs 132 to 133 of the Flip-flopping judgment, as noted in the footnote to paragraph 2.3 above).

Mbit/s); the wholesale high bandwidth TISBO (with a bandwidth capacity above 8 Mbit/s and up to and including 155 Mbit/s) and the wholesale trunk segments markets.[18]

2.11 Ofcom therefore imposed SMP obligations on BT in relation to low bandwidth TISBO, high bandwidth TISBO and trunk, requiring it, among other things, to provide network access on reasonable request (Conditions G1, GG1 and H1 respectively).

2.12 The SMP obligations include obligations on BT to ensure and to be able to demonstrate that its low bandwidth TISBO, high bandwidth TISBO (including 140/155 Mbit/s PPC terminating segment) and trunk (including 34/45 Mbit/s PPC trunk) service charges are cost orientated (Conditions G3.1, GG3.1 and H3.1 respectively):

> "*Unless Ofcom directs otherwise from time to time, the Dominant Provider shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that each and every charge offered, payable or proposed for Network Access covered by Condition [G1/GG1/H1] is reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs including*[19] *an appropriate return on capital employed*."

2.13 BT is subject to SMP cost orientation obligations which are worded in the same way in a number of markets, for example alternative interface symmetric broadband origination ("AISBO") (which includes the provision of Ethernet services)[20], Wholesale Local Access services[21] and Wholesale Broadband Access in certain geographic markets[22].

2.14 BT is also subject to an SMP obligation to publish detailed financial statements, known as BT's Regulatory Financial Statements ("RFS"). Further information on the RFS is set out in Section 5.

The 2009 Final Determinations

2.15 In 2008, Cable & Wireless UK[23] ("C&W"),THUS plc ("THUS")[24], Level 3 Communications UK Limited ("Level 3")[25], Virgin Media Limited ("Virgin"), Verizon UK Limited ("Verizon") and Colt Technology Services ("COLT")[26] (collectively the "Disputing CPs") referred to Ofcom for resolution disputes with British Telecommunications plc ("BT") about BT's charges for services known as partial private circuits ("PPCs") (collectively the "Disputes").[27]

[18] These findings were made in Ofcom's *Review of the retail leased lines, symmetric broadband origination and wholesale trunk segments markets*, 25 June 2004 (the "2004 LLMR Statement") (see further below at paragraph 4.22 *et seq.*).
[19] In Condition H3.1, 'and' is used instead of 'including'.
[20] The obligations were imposed in the 2004 LLMR Statement and the 2008 Business Connectivity Market Review Statement: http://stakeholders.ofcom.org.uk/binaries/consultations/bcmr08/summary/bcmr08.pdf.
[21] http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf
[22] http://stakeholders.ofcom.org.uk/binaries/consultations/wba/statement/wbastatement.pdf
[23] Cable & Wireless UK is a company within the Cable & Wireless Worldwide plc group.
[24] In 2008 Cable & Wireless Worldwide plc completed the purchase of THUS.
[25] Formerly called Global Crossing (UK) Telecommunications Limited ("Global Crossing").
[26] Formerly called COLT Telecommunications.
[27] See further Section 3.

2.16 On 14 October 2009 Ofcom issued determinations finding that, in breach of its relevant cost orientation obligation (Condition H3.1), BT had overcharged the Disputing CPs for 2 Mbit/s PPC trunk services over the period 1 April 2005 to 30 September 2008 and requiring BT to repay the overcharge with interest (the "2009 Final Determinations")[28]. The 2009 Final Determinations made no findings in respect of BT's charges for certain 140/155 Mbit/s PPC terminating segment services and for 34/45 Mbit/s PPC trunk services, which are the subject of the present determinations (we refer to the present determinations as the "Determinations").

BT's appeal of the 2009 Final Determinations

2.17 BT appealed the 2009 Final Determinations under section 192(2) of the Act (the "PPC appeal"). The CAT issued its judgment on preliminary issues in the PPC appeal (the "Preliminary Issues Judgment") on 11 June 2010[29] and on 22 March 2011 issued its judgment (the "PPC Judgment") disposing of BT's appeal of the 2009 Final Determinations.[30] The CAT dismissed BT's appeal in its entirety and upheld the 2009 Final Determinations.

2.18 On 26 April 2011, BT applied to the CAT for permission to appeal to the Court of Appeal against the Preliminary Issue Judgment and the PPC Judgment. On 13 June 2011, the CAT refused BT leave to appeal.[31] On 28 October 2011 BT sought leave from the Court of Appeal to appeal the decision of the CAT. The Court of Appeal gave permission for the case to go before the Court of Appeal, to include consideration of whether permission should be granted.

2.19 The Court of Appeal heard BT's application for permission to appeal and grounds of appeal on 19 to 21 June 2012. On 27 July 2012, the Court of Appeal handed down its judgment dismissing BT's appeal (the "PPC Court of Appeal Judgment").[32]

2.20 We consider that the PPC Judgment and the PPC Court of Appeal Judgment are relevant to our determination of these Disputes and refer to them throughout these Determinations, as relevant.

Conclusion on the exercise of Ofcom's dispute resolution function

2.21 The task for Ofcom in this case is to make a determination for resolving these Disputes, in light of:

2.21.1 the legal framework, in particular Conditions GG3.1 and H3.1; and

2.21.2 the facts of the case.

[28] *Determination to resolve disputes between each of Cable & Wireless, THUS, Global Crossing, Verizon, Virgin Media and COLT and BT regarding BT's charges for partial private circuits:* http://stakeholders.ofcom.org.uk/binaries/consultations/draft_deter_ppc/PPC_final_determination.pdf
[29] *British Telecommunications plc v Office of Communication* [2010] CAT 15 http://www.catribunal.org.uk/files/1146_BT_Judgment_CAT15_110610.pdf
[30] *British Telecommunications plc v Office of Communications* [2011] CAT 5 http://www.catribunal.org.uk/files/1146_BT_Judgment_CAT5_220311.pdf
[31] *British Telecommunications plc v Office of Communication* [2011] CAT 20 www.catribunal.org.uk/files/1146_BT_Judgment_CAT20_130611.pdf[32] Case no: C3/2011/1683 *British Telecommunications plc v Office of Communications* [2012] EWCA Civ 1051 http://www.catribunal.org.uk/files/1146_BT_Judgment_of_the_Court_of_Appeal_270712.pdf
[32] Case no: C3/2011/1683 *British Telecommunications plc v Office of Communications* [2012] EWCA Civ 1051 http://www.catribunal.org.uk/files/1146_BT_Judgment_of_the_Court_of_Appeal_270712.pdf

Section 3

Summary of the Disputes and Ofcom's investigation

The Disputes

3.1 C&W, THUS, Level 3, Virgin and Verizon referred disputes to Ofcom on 25 June 2008 (the "Altnet Disputes").[33] On 20 October 2008 COLT submitted a similarly worded dispute (the "COLT Dispute"). The Disputing CPs alleged that BT had overcharged them for PPC services in the period 24 June 2004 to 25 June 2008, on the basis that BT had failed to comply with its obligations to ensure that its charges for those services were cost orientated. The Disputing CPs requested that Ofcom determine the level of charges that should have applied and direct BT to refund any overcharge, with interest.

3.2 PPCs are the wholesale inputs used to create leased lines, which are fixed permanent communications connections providing capacity between two points. There are two main parts to PPCs – terminating segments and trunk segments. Terminating segments can consist of up to four services: connection, main link, local end and distribution. PPCs are purchased as either a terminating segment or as a terminating segment combined with a trunk segment. CPs are able to combine PPCs with their own networks to offer leased line services to their own customers. A more detailed explanation of PPCs and their constituent parts is set out in Section 6.

Scope

3.3 Ofcom informed the Disputing CPs and BT (the "Parties") of its decision to accept the Disputes for resolution and published details of the Disputes on its website on 28 July 2008[34] and 3 December 2008[35]. We published the finalised scope of the Altnet Disputes on 27 August 2008:[36]

> *"… to determine whether, in the period from 24 June 2004 to 30 September 2008* [the "Relevant Period"]*:*
>
> *i) BT has or will have overcharged the Parties for PPCs (based on whether or not BT's charges for the underlying trunk and terminating elements of those PPCs were, during that time, reasonably derived from the costs of*

[33] In 2008 Cable & Wireless Worldwide plc completed the purchase of THUS. Footnote 4 of the Disputing CPs' response to our Draft Determinations states: "[…] THUS plc, […] is now, like C&W, a wholly owned subsidiary of Cable & Wireless Worldwide. C&W would note that, in relation to these disputes and the main PPC case, it was also acting on behalf of Energis Communications Ltd and Your Communications (again, both subsidiaries of Cable & Wireless Worldwide), both of which contracted with BT for higher bandwidth PPCs and were in dispute with BT regarding those services."
[34] For the Altnet Disputes.
[35] For the COLT Dispute.
[36] In doing so, we addressed BT's request that the period of the Disputes be amended to end on 30 September 2008 (rather than the date of our conclusion of the Disputes as we had initially proposed). BT had committed to implement the charge control proposals that Ofcom would shortly be publishing (i.e. the Leased Lines Charge Control consultation, published on 8 December 2008 (the "2008 LLCC Consultation"): http://stakeholders.ofcom.org.uk/binaries/consultations/llcc/summary/leasedlines.pdf) from 1 October 2008. We concluded that it was appropriate to amend the end date of the Disputes.

provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs including an appropriate return on capital employed) and, if so;

ii) by how much the Parties will have been overcharged; and

iii) whether and by how much BT should reimburse the Parties".[37]

3.4 We published the finalised scope of the COLT Dispute on 3 December 2008, in identical terms save for the identity of the parties. Full details of the Disputes and our reasons for accepting them are set out in Section 2 of the 2009 Final Determinations.

2009 Final Determinations

3.5 We concluded in the 2009 Final Determinations that BT had overcharged the Disputing CPs for 2 Mbit/s PPC trunk services by nearly £42 million in the period 1 April 2005 to 30 September 2008, but that BT did not overcharge for these services in 2004/05. We also concluded that BT did not overcharge for other PPC services (with the exception of those listed at paragraph 3.7 below) over the Relevant Period.

3.6 The 2009 Final Determinations explained that, as a result of financial information becoming available for 2008/09, we had identified concerns about whether BT had overcharged for certain 140/155 Mbit/s PPC terminating segment services and for 34/45 Mbit/s PPC trunk services. We set out our intention to issue separate draft or final determinations to resolve the Disputes in relation to all 140/155 Mbit/s PPC terminating segment services and 34/45 Mbit/s PPC trunk services, once we had obtained further data from BT. We explained that we would then assess fully these services and identify whether overcharging had occurred and what, if any, repayments should be required.[38] It is these services that are the subject of these Determinations.

Services considered in these Determinations

3.7 These Determinations therefore resolve the Disputes in respect of BT's charges during the Relevant Period for five PPC services:

3.7.1 34/45 Mbit/s PPC trunk services;

3.7.2 140/155 Mbit/s PPC terminating segment connection services;

3.7.3 140/155 Mbit/s PPC terminating segment main link services;

3.7.4 140/155 Mbit/s PPC terminating segment distribution services; and

3.7.5 140/155 Mbit/s PPC terminating segment local end services.

Draft Determinations

3.8 On 8 February 2012 we issued our draft determinations setting out our provisional conclusions for resolving the Disputes in respect of these five services (the "Draft Determinations")[39]. We gave the Parties and interested parties until 5pm on 5 April

[37] http://stakeholders.ofcom.org.uk/binaries/consultations/draft_deter_ppc/PPC_final_determination.pdf
[38] 2009 Final Determinations, paragraph 7.82.
[39] http://stakeholders.ofcom.org.uk/binaries/consultations/ethernet_services/summary/ppc.pdf

2012 to comment on the Draft Determinations. On 26 March 2012, we extended the time for responding until 5pm on 20 April 2012.

The Ethernet Disputes

3.9 On 13 September 2010, we accepted for resolution disputes between BT and each of TalkTalk Telecom Group plc ("TalkTalk") and British Sky Broadcasting Ltd ("Sky") in relation to the cost orientation of BT's charges for certain wholesale Ethernet services. We subsequently accepted disputes between each of Virgin, Cable & Wireless plc group ("C&W") and Verizon and BT about BT's charges for certain Ethernet services. We refer to these disputes as the "Ethernet Disputes".

3.10 Our provisional conclusions in relation to the Ethernet Disputes were issued on 8 February 2012 (dispute involving TalkTalk, Sky and Virgin),[40] 22 February 2012 (dispute involving CWW)[41] and 4 April 2012 (dispute involving Verizon).[42] Our final determinations of the Ethernet Disputes were issued on 20 December 2012 (the "Ethernet Determinations").[43]

3.11 The Ethernet Disputes share certain common issues with these Disputes, and some of the information provided by the Parties is relevant to both sets of disputes and, where relevant, the approach we have adopted in resolving these Disputes is consistent with the approach we have taken in the Ethernet Disputes.

Information provided by BT

3.12 As discussed in Section 6 of the 2009 Final Determinations, we have required BT to provide a range of information for the purposes of resolving these Disputes.

3.13 Prior to publishing the 2009 Final Determinations, we sent BT three notices under section 191 of the Act,[44] requiring BT to provide information in connection with the services in dispute,[45] and received submissions in relation to the Disputes from BT and the Disputing CPs:

3.13.1 On 1 October 2008, we sent BT a section 191 notice seeking information in connection with the services in dispute (the "1 October 2008 section 191 notice"). BT responded to this notice on 7 and 13 October 2008. We also asked a series of follow-up questions following BT's responses to the section 191 notice.

3.13.2 On 14 October 2008, BT submitted a response to the Disputing CPs' submissions ("BT's 14 October 2008 submission"). BT's 14 October 2008 submission sets out BT's principal arguments which we took into account in the 2009 Final Determinations. It was accompanied by a report prepared on BT's behalf by Deloitte & Touche LLP entitled *A Review of Proposed Adjustments to BT's PPC Revenues and Costs* (the "first Deloitte Report").

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40 http://stakeholders.ofcom.org.uk/binaries/consultations/ethernet-services/summary/Ethernet-services.pdf
41 http://stakeholders.ofcom.org.uk/binaries/consultations/prov-deter-cw-bt-ethernet/summary/amended_010312.pdf
42 http://stakeholders.ofcom.org.uk/binaries/consultations/dispute-verizon-bt-wes/summary/WES_Dispute.pdf
43 http://stakeholders.ofcom.org.uk/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw_01052/
44 Referred to in these Determinations as a "section 191 notice".
45 These services included the services currently in dispute as well as those which were the subject of the 2009 Final Determinations.

3.13.3 On 23 December 2008, we sent BT a section 191 notice seeking additional information in connection with the services in dispute (the "23 December 2008 section 191 notice"). BT responded to this notice on 9 January 2009 and provided additional clarification on 29 June 2009.

3.13.4 On 27 April 2009, we published draft determinations in relation to 2 Mbit/s trunk services (the "2009 Draft Determinations"). We received responses to those draft determinations from the Disputing CPs collectively on 2 June 2009 and from BT on 5 June 2009 ("BT's 5 June 2009 submission"). We wrote to BT on 15 July 2009 regarding the information provided in BT's 5 June 2009 submission and BT responded on 7 August 2009 ("BT's 7 August 2009 letter").

3.13.5 On 3 August 2009, we sent BT a section 191 notice seeking additional information in connection with the services in dispute (the "3 August 2009 section 191 notice"). BT responded to this notice on 27 August 2009.

3.14 On 12 November 2009 (after the 2009 Final Determinations were issued) we sent BT a section 191 notice (the "12 November 2009 section 191 notice") requiring it to provide certain financial data relating to BT's charges for 140/155 Mbit/s PPC terminating segment services and 34/45 Mbit/s PPC trunk services. BT provided its response on 20 November, 24 November and 22 December 2009. BT subsequently provided clarification and additional information in respect of its response on 12 January 2010.

3.15 On 22 October 2010 we sent BT a section 191 notice seeking information in connection with the Ethernet services which were the subject of the Ethernet Disputes (the "22 October 2010 section 191 notice"). BT responded to this notice in several tranches on 3, 15 and 22 November 2010, 12 January 2011, 18 February 2011 and 4 May 2012. We also asked a series of follow-up questions following BT's responses to the section 191 notice.

3.16 On 9 May 2011, in relation to the Ethernet Disputes, BT informed Ofcom that "*there are anomalies in BT's LRIC model*" leading to Distributed Stand Alone Cost ("DSAC") figures "*significantly lower than they should have been*" being published in its RFS for all of the years covered by the Ethernet Disputes (and therefore these Disputes) ("BT's 9 May 2011 letter").[46] We wrote to BT on 11 May 2011 seeking further information on the issue; BT responded on 20 May 2011 ("BT's 20 May 2011 response").

3.17 On 20 May 2011 BT provided a confidential response to submissions made by the other parties to the Ethernet Disputes ("BT's 20 May 2011 submission"), also noting that BT had discovered "*a number of errors*" in its published DSACs. BT provided a non-confidential version of this response on 27 May 2011.

3.18 On 26 May 2011 we met with BT to discuss its proposed amendments to its published DSACs.

3.19 BT wrote to Ofcom on 27 May 2011 (the "27 May 2011 letter") making a number of arguments relating to our assessment of whether BT has overcharged for 34/45 Mbit/s PPC trunk services and 140/155 Mbit/s PPC terminating segment services. The 27 May 2011 letter confirmed that the DSAC errors referred to in BT's 9 May 2011 letter, its 20 May 2011 response and its 20 May 2011 submission, and its

[46] BT's 9 May 2011 letter, paragraphs 2 and 3.

proposals for addressing those errors, should also apply to these Disputes. We therefore sent BT two information requests in relation to both the Ethernet Disputes and these Disputes:

3.19.1 on 16 June 2011 we sent BT a section 191 notice seeking further information on BT's proposed DSACs (the "16 June 2011 section 191 notice"). BT responded on 22 June and 30 June 2011. BT's response of 22 June 2011 annexed some spreadsheets which were provided on 23 June 2011. We refer to these as the "23 June 2011 spreadsheets";

3.19.2 on 23 June 2011 we sent BT a draft section 191 notice seeking further information on the role and the work of BT's advisers in calculating BT's revised long run incremental costs ("LRICs") and DSACs. On 27 June 2011 BT wrote to Ofcom claiming that some of the information requested was subject to legal litigation privilege.

3.20 We wrote to BT on 30 June 2011 seeking further explanation of BT's reasons for claiming litigation privilege in relation to the work done by its advisers on its proposed DSACs. We held a meeting with BT on 6 July 2011, after which BT provided a worked example of its DSAC calculations on 14 July 2011. On 22 July 2011 BT provided an outline of the instructions given to its advisers (including a timeline) and the resulting output. We met with BT and its advisers to discuss this matter on 4 August 2011, and on 11 August 2011 BT provided written responses to the questions we had set out in the agenda to the meeting ("BT's 11 August 2011 response").

3.21 On 5 July 2011 we sent BT a section 191 notice requiring it to provide further financial information relating to the Disputes, and documents relating to price reduction decisions taken by BT following amendments to the *Leased Lines Charge Control - Statement* published on 2 July 2009[47] (the "2009 LLCC Statement") (the "5 July 2011 section 191 notice"). BT provided its response on 7 July and 21 July 2011 and subsequently provided clarification and additional information in respect of its response.[48]

Responses to the Draft Determinations

3.22 We received responses to our Draft Determinations from:

3.22.1 BT on 20 April 2012 ("BT's response to our Draft Determinations"). BT's response to our Draft Determinations included a report prepared by Deloitte LLP: "BT Partial Private Circuits dispute: Evidence on cost variability and forecasting" (the "second Deloitte Report");

3.22.2 the Disputing CPs on 19 April 2012 ("the Disputing CPs' response to our Draft Determinations"); and

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[47] http://stakeholders.ofcom.org.uk/binaries/consultations/llcc/statement/llccstatement.pdf. The 2009 LLCC Statement was appealed to the CAT, which referred certain price control matters to the Competition Commission ("CC"). The CC issued a determination which resulted in the CAT directing Ofcom to make a number of changes to the charge control (the "CC's 30 June 2010 Determination"), which led to a revised charge control being published on 14 October 2010: http://stakeholders.ofcom.org.uk/binaries/consultations/openreachframework/statement/revisedsmpconditions.pdf References to the 2009 LLCC Statement in these Determinations are to the statement as amended.

[48] Email from Tom James (BT) to Louise Marriage (Ofcom), 26 July 2011 ("BT's 26 July 2011 e-mail); letters from Neena Rupani (BT) to Teresa Krajewska (Ofcom), 13 September 2011 ("BT's 13 September 2011 letter") and 26 September 2011; letter from Neena Rupani (BT) to Louise Marriage (Ofcom), 20 October 2011 ("BT's 20 October 2011 letter").

3.22.3 Verizon on 20 April 2012 ("Verizon's response to our Draft Determinations").

3.23 On 14 May 2012, we provided a non-confidential version of BT's response to our Draft Determinations to each of the Disputing CPs, and of the Disputing CPs' and Verizon's responses to our Draft Determinations to BT. We received additional comments from:

3.23.1 BT on 28 May 2012 ("BT's comments on the Disputing CPs' response"); and

3.23.2 the Disputing CPs on 28 May 2012 ("Disputing CPs' comments on BT's response").

Responses to our provisional conclusions in the Ethernet Disputes

3.24 At or around the same time, we received responses to our provisional conclusions in the Ethernet Disputes from BT ("BT's response to our Ethernet Provisional Conclusions") and each of the parties to the Ethernet Disputes.

3.25 BT states that its response to our Draft Determinations *"adopts"* sections 2 [Ofcom's Duties and Proposed Approach], 3 [Background and Historical Context] and 10 [BT's position in relation to the PPC Judgment] of its response to our Ethernet Provisional Conclusions subject to the changes that need to be made for the purposes of these Disputes, and that it should be *"read with"* that response and BT's skeleton filed in support of its PPC appeal to the Court of Appeal (as discussed at paragraphs 2.18 and 2.19).[49]

3.26 The Disputing CPs note in their comments on BT's response that *"Additional comments have also been provided by each of Cable&Wireless UK, Virgin Media and Verizon in relation to BT's response to Ofcom's draft and provisional determinations on the Ethernet Disputes. As many of the arguments put forward by BT, including those on cost adjustments, are common to both disputes we have kept this submission short in order to avoid repetition…".*[50]

3.27 We have taken into account the responses referred to by the Parties where we consider that they are relevant to our resolution of these Disputes.

Comments on the PPC Court of Appeal Judgment

3.28 On 11 July 2012, we wrote to the Parties informing them that we considered it appropriate not to issue our final determinations of the Disputes (or the Ethernet Disputes) until after the Court of Appeal had handed down its judgment in the PPC appeal and we had had an opportunity to consider its implications for the matters in dispute.

[49] BT's response to our Draft Determinations, paragraphs 6 to 8. BT informed us, however, in its comments on the PPC Court of Appeal Judgment (see below) that: "*BT does not persist with those arguments advanced in section 10.2 and paragraphs 358 thru 360* [relating to allegations of procedural error] *of its 20 April 2012 Ethernet response, those points having been resolved against BT in the Judgment*" (page 3).

3.29 On 6 August 2012, we wrote to the Parties, drawing their attention to the PPC Court of Appeal Judgment and inviting them to consider its impact on their submissions. We received responses from:

3.29.1 Verizon on 20 August 2012;

3.29.2 C&W and Virgin (jointly) on 23 August 2012; and

3.29.3 BT on 24 August 2012.

Section 4

History of BT's cost orientation obligations

4.1 This Section sets out the history of BT's cost orientation obligations in relation to PPCs.

4.2 As set out in detail below:

4.2.1 the cost orientation requirements on BT have been clearly set out in policy statements and guidelines; and

4.2.2 the distributed long run incremental cost ("DLRIC") floors and DSAC ceilings are well established as benchmarks of cost orientation (see Annex 7 for an explanation of these measures).

The development of BT's cost orientation obligations

4.3 The concepts of DLRIC and DSAC, and their use as floors and ceilings respectively in a test of BT's compliance with its cost orientation obligations, have a history going back to the mid-1990s.

4.4 Prior to October 1997, BT's charges for all of its interconnection services (except for those that were deemed competitive) were set directly by the Office of Telecommunications ("Oftel"). This was done annually, with charges set on the basis of historic cost accounting ("HCA") and on the basis of FAC.

The Network Charge Control consultations

4.5 The December 1995 Network charge control ("NCC") consultation[51] (the "1995 NCC Consultation") started the process of moving away from the use of HCA and FAC methodology. Oftel stated that it was minded to "…*move away from detailed control of charges for all interconnection services in every year*...", and towards a forward looking LRIC standard. This included a system of "*floors and ceilings"* for charges for each "*network component*",[52] so that such charges would be "...*limited by ceilings set by reference to stand-alone cost*".[53]

4.6 In March 1996 Oftel published a further consultation, in which it refined its approach in relation to the *"floors and ceilings"* so that the focus was on *"services*" rather than "*components*".[54]

4.7 In June 1996, Oftel published a consultation entitled *Pricing of Telecommunications Services from 1997: Oftel's proposals for Price Control and Fair Trading* (the "June 1996 Consultation"). The June 1996 Consultation set out the proposed "floors and

[51] *Pricing of Telecommunications Services from 1997, controls and consultative document on BT's price interconnection charging*, December 1995.
http://www.ofcom.org.uk/static/archive/oftel/publications/1995_98/pricing/pri1997/contents.htm
[52] Services use a combination of components, so the cost of a service is the sum of the cost of the individual components which make up the service.
[53] Paragraphs 5.1 to 5.4 of the 1995 NCC Consultation.
[54] *Pricing of Telecommunications Services from 1997, second consultative document on BT price controls and interconnection charging*, March 1996
http://www.ofcom.org.uk/static/archive/oftel/publications/1995_98/pricing/pri1997a/contents.htm

ceilings" approach and proposed that the burden of proof would lie with BT to demonstrate that its charges were not anti-competitive or unfair if they were above the level of the ceiling. Oftel set out draft amendments to Condition 13 of BT's licence to introduce a cost orientation obligation.[55]

4.8 In December 1996, Oftel published a further NCC consultation document. Oftel proposed a more flexible approach to floors and ceilings:

> "*Oftel now proposes that floors and ceilings should not be used so deterministically. They will be the main yardsticks which Oftel will use as a first test to consider whether a charge is anti-competitive or not. Other factors will also be considered*."[56]

4.9 Oftel consulted again in May 1997 (the "May 1997 NCC Consultation"), reiterating that floors and ceilings would be used as a first order test [57]:

> "*Oftel proposes to use floors and ceilings as a first test when investigating whether or not a charge is anti-competitive or excessive. Floors and ceilings constitute one type of evidence, but other factors are also important. In assessing the economic effects of any charge it is vital to consider the context of the market in which that charge applies. The relevant economic market must be identified and the nature of competition in that market analysed. The key question is the effect of the charge: floors and ceilings are useful yardsticks, since charges below the floor might typically be expected to be anti-competitive and charges above the ceiling usually excessive, but circumstances may exist in which a charge below the floor is beneficial to customers and has no adverse effect on the competitive process, or a charge above the ceiling may be justified*."[58]

The 1997 NCC Statement

4.10 In July 1997, Oftel published a statement entitled *Network charges from 1997* (the "1997 NCC Statement"). The 1997 NCC Statement noted that BT would be producing:

> *"audited LRIC Cost Statements… that give Oftel and [Other Licensed Operators] the BT floors and ceilings for the components comprised in the Standard Services*."[59]

4.11 The 1997 NCC Statement clarified that the use which would be made of such floors and ceilings was to be found in draft guidelines (Annex A of the 1997 NCC Statement) which were intended to:

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[55] *Pricing of Telecommunications Services from 1997: Oftel's proposals for Price Control and fair Trading*, June 1996, Annex D.
http://www.ofcom.org.uk/static/archive/oftel/publications/1995_98/pricing/pri1997b/contents.htm

[56] *Network Charges from 1997 – Consultative Document*, December 1996, paragraph 1.14.
http://www.ofcom.org.uk/static/archive/oftel/publications/1995_98/pricing/netcha97/contents.htm

[57] BT comments at footnote 53 of its response to our Ethernet Provisional Conclusions that our reference to a "first order test" is incorrect, as the words used in the May 1997 NCC consultation are "first test". The May 1997 NCC Consultation refers to a "first order test" in Annex B, paragraph 70 and Appendix III.

[58] *Network Charges from 1997, Further consultation on proposals for new charging arrangements*, May 1997, paragraph 6.28
http://www.ofcom.org.uk/static/archive/oftel/publications/1995_98/pricing/ncctitle.htm.

[59] http://www.ofcom.org.uk/static/archive/oftel/publications/1995_98/pricing/ncct797.htm, paragraph 2.28.

"*set out the structure of the controls, how they will operate, and how Oftel will approach investigations of competition issues raised about interconnection charges or other terms and conditions of interconnection*."[60]

Introduction of a cost orientation obligation

4.12 On 26 July 1997, European Directive 97/33/EC was published (the "Interconnection Directive").[61] Article 7(2) of the Interconnection Directive required charges for interconnection made by entities with SMP to be transparent and cost orientated:

> "*Charges for interconnection shall follow the principles of transparency and cost orientation. The burden of proof that charges are derived from actual costs including a reasonable rate of return on investment shall lie with the organization providing interconnection to its facilities. National regulatory authorities may request an organisation to provide full justification for its interconnection charges, and where appropriate shall require charges to be adjusted*."

4.13 Articles 7(5) and 8(2) of the Interconnection Directive required National Regulatory Authorities ("NRAs") such as Oftel to ensure that entities with SMP in relevant interconnection markets kept regulatory accounts for the purpose of assessing compliance with the obligations under the Directive.

4.14 Oftel had proposed in its NCC consultations that BT would be subject to a cost orientation obligation in respect of interconnection services which were not competitive. On 1 October 1997, BT's licence was amended to include the following cost orientation obligation:

> "*The Licensee shall secure, and shall be able to demonstrate to the satisfaction of the Director, that the charges offered, payable or proposed to be offered or payable by an Operator to the Licensee for each Standard Service are reasonably derived from the costs of providing the Service based on a forward looking incremental cost approach (except to the extent the Director considers it appropriate that for a transitional period, or in any particular case, the Licensee apply another cost standard) and related to the amounts applied to the relevant Network Components or Network Parts*."[62]

The Network Charge Control Guidelines

4.15 In October 1997, Oftel issued the *Network Charge Control Guidelines* (the "1997 NCC Guidelines"). Annex C provided guidance to BT on how Oftel would approach the question of BT's compliance with the cost orientation obligation:

> "*Condition 13.4 of BT's Licence requires that the charge for each of BT's standard services be reasonably derived from the forward looking incremental costs of that service … In the event of a complaint … a first order test will be whether the charge in question falls between its incremental cost floor and stand-alone cost ceiling … The primary focus of investigation of a complaint under Condition…13.4* [BT's cost orientation condition] *will however be the effect of the charge on competition and on*

[60] 1997 NCC Statement, paragraph 1.22.
[61] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31997L0033:EN:HTML
[62] Licence condition 69.1. http://www.ofcom.org.uk/static/archive/oftel/publications/1995_98/pricing/licmod.htm

> *consumers. The methodology for deriving floors and ceilings is described in detail at Annex C to these Guidelines*." [63]

4.16 Annex C stated that the "stand alone cost ceiling" would not be the stand alone cost ("SAC") of an individual component or service, but rather DSAC, being the SAC of the broad increment (as defined in BT's LRIC model – see paragraphs 5.9 to 5.16 for more detail), distributed among the services in that increment. Paragraph C.5 stated that:

> "*The methodology derives floors and ceilings initially in terms of component costs but, to be used as a test for abusive charging, they will be applied to interconnection services (because interconnecting operators purchase services not components*)."

4.17 The 1997 NCC Guidelines were re-issued in December 2001 (the "2001 NCC Guidelines") [64] and reiterated a first order test using DLRIC and DSAC as the relevant floor and ceiling.[65]

The Common Regulatory Framework

4.18 On 25 July 2003, the suite of EU directives known as the Common Regulatory Framework ("CRF") came into effect, superseding earlier EU instruments regulating electronic communications. Those directives were implemented in the UK via the Act. The CRF comprises five EU communications directives.[66]

4.19 Article 16 of Directive 2002/21/EC (the "Framework Directive") requires each NRA to carry out an analysis of the relevant markets; where it determines that a relevant market is not effectively competitive it must identify undertakings with SMP on that market and impose on them appropriate regulatory obligations. These obligations, commonly referred to as "SMP conditions", include the setting of price controls and basis of charges (cost orientation) obligations. Section 45 of the Act empowers Ofcom to set conditions of various kinds, including SMP conditions.

4.20 Article 13(3) of Directive 2002/19/EC (the "Access Directive") makes clear that (as under the Interconnection Directive) the burden of proof in relation to cost orientation lies on the operator concerned:

> "*Where an operator has an obligation regarding cost orientation of its prices, the burden of proof that charges are derived from costs including a reasonable rate of return on investment shall lie with the operator concerned*."

4.21 Ofcom has to date carried out two market reviews that have imposed regulatory obligations on BT in relation to PPCs.

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[63] http://www.ofcom.org.uk/static/archive/oftel/publications/1995_98/pricing/ncc1097.htm, paragraph 3.5.

[64] *Guidelines on the operation of the Network Charge Controls from October,* December 2001 http://www.ofcom.org.uk/static/archive/oftel/publications/ind_guidelines/pcrg1201.pdf

[65] We refer to the 1997 NCC Guidelines and the 2001 NCC Guidelines collectively as the "NCC Guidelines", unless the context requires them to be distinguished.

[66] The Framework Directive (see the footnote to paragraph 2.8 above), Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities (the "Access Directive"), Directive 2002/20/EC on the authorisation of electronic communications networks and services (the "Authorisation Directive"), Directive 2002/22/EC on the universal service (the "Universal Service Directive"), and Directive 2002/58/EC on the processing of personal data (the "Privacy and Electronic Communications Directive").

The 2004 Leased Lines Market Review

4.22 On 24 June 2004, Ofcom published a market review of leased lines (the "2004 LLMR Statement") [67] which set out our analysis and conclusions in relation to leased lines markets (including TISBO services) at that time.

4.23 Ofcom concluded that BT had SMP in the markets for:

4.23.1 wholesale low bandwidth TISBO (which includes circuits of bandwidths up to and including 8 Mbit/s);

4.23.2 wholesale high bandwidth TISBO (which includes circuits of bandwidths above 8 Mbit/s and up to and including 155 Mbit/s); and

4.23.3 wholesale trunk segments at all bandwidths.

4.24 As a result of these conclusions, Ofcom imposed a number of SMP conditions on BT under section 45 of the Act, including:

4.24.1 a basis of charges obligation (covering cost orientation and a cost accounting system), set out at paragraph 2.14, in each of the markets identified in paragraph 4.23;

4.24.2 a price control obligation in the two TISBO markets identified above; and

4.24.3 a requirement not to unduly discriminate in each of the three markets identified above.

4.25 We set out the reason we imposed these obligations in the 2004 LLMR Statement:

> "*Regulation at the wholesale level is designed to address the problems which result from the existence of SMP in the relevant wholesale market. In particular it is designed to ensure that the SMP at the wholesale level does not restrict or distort competition in the relevant downstream markets or operate against the interests of consumers, for example through excessively high prices"*[68]

4.26 Explaining why we were imposing the basis of charges obligation in relation to the TISBO markets, we said:

> *"As BT has been identified as having SMP in this market, the availability of wholesale TISBO services at cost orientated prices would help to ensure that the resulting competition in the retail leased lines markets and other downstream markets should lead to lower prices."* [69]

Similarly, in relation to the wholesale trunk segments market:

> *"As BT has been identified as having SMP in relation to this market, the availability of wholesale trunk segments at cost orientated prices would ensure that communications providers were able to compete in the retail*

[67] *Review of the retail leased lines, symmetric broadband origination and wholesale trunk segments markets*, published on 24 June 2004:http://stakeholders.ofcom.org.uk/consultations/llmr/

[68] 2004 LLMR Statement, paragraph 6.14 (in paragraph 8.2 we stated that these comments also applied to the wholesale trunk segments market).

[69] 2004 LLMR Statement, paragraph 6.72.

> *leased lines markets in such a way that it results in downward pressure on retail prices and provides the benefits of competition to customers."*[70]

And, in relation to both:

> *"It might be argued that the Competition Act should be used to avoid excessive or predatory pricing. However, Ofcom considers that sectoral tests are likely to be more stringent and more effective than the Competition Act, giving the SMP communications provider less latitude and providing greater certainty for access customers*."[71]

4.27 The charge control obligations imposed on BT in the markets for low bandwidth TISBO (Condition G4) and high bandwidth TISBO (Condition GG4) were intended as interim measures while a more detailed analysis of how BT's costs of providing PPC TISBO services would change over the coming years was carried out. Subsequently, on 30 September 2004, Ofcom published its analysis of BT's PPC TISBO costs and its revisions to the charge control obligations.[72]

4.28 Conditions G3.2 and GG3.2 provide:

> *"For the avoidance of any doubt, where the charge offered, payable or proposed for Network Access covered by Condition [G1/GG1] is for a service which is subject to a charge control under Condition [G4/GG4], the Dominant Provider shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that such a charge satisfies the requirement of Condition [G3.1/GG3.1]."*

The 2008 Business Connectivity Market Review

4.29 On 8 December 2008, Ofcom published its second review of the markets for retail leased lines, symmetric broadband origination and wholesale trunk segments, publishing its conclusions in a statement (the "2008 BCMR Statement").[73]

4.30 Ofcom identified in the 2008 BCMR Statement that:

> "*The current regulatory framework has worked well in promoting competition in some markets, but in Ofcom's view has failed to deliver improved competitive conditions in others."*

4.31 Ofcom concluded that BT continued to have SMP in the low bandwidth TISBO market (which was defined on the same basis as in the 2004 LLMR Statement), and again imposed cost orientation, charge control and non-discrimination obligations (amongst others).

4.32 In relation to the high bandwidth TISBO market, Ofcom identified that a separate geographic market exists for the Central and East London Area ("CELA") and the rest of the UK (excluding the Hull area as before). Ofcom concluded that BT did not have SMP in the CELA. This differs from the conclusions in the 2004 LLMR Statement, where we did not distinguish between the CELA and the rest of the UK and concluded that BT had SMP in the whole of the UK.

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[70] 2004 LLMR Statement, paragraph 8.41.
[71] 2004 LLMR Statement, paragraph 6.73 and 8.42.
[72] *Partial Private Circuits Charge Control:*
http://stakeholders.ofcom.org.uk/binaries/consultations/ppc_charge_control/statement/ppc_stmnt.pdf
[73] http://stakeholders.ofcom.org.uk/binaries/consultations/bcmr08/summary/bcmr08.pdf

4.33 Ofcom additionally identified that the high bandwidth TISBO market should only comprise 34/45 Mbit/s circuits as 140/155 Mbit/s circuits now fall within a separate very high bandwidth TISBO market. A second very high bandwidth TISBO market for circuits with bandwidths above 155 Mbit/s was also identified. Previously, we had concluded that the high bandwidth TISBO market comprised 34/45 Mbit/s and 140/155 Mbit/s circuits, with the very high bandwidth TISBO market comprising circuits of above 155 Mbit/s.

4.34 In the high bandwidth TISBO and the very high bandwidth 140/155 Mbit/s TISBO markets outside the CELA, Ofcom concluded that BT has SMP and imposed cost orientation, charge control and non-discrimination obligations (amongst others). No SMP obligations were imposed in relation to the very high bandwidth above 155 Mbit/s TISBO market.

4.35 In relation to trunk, Ofcom concluded that BT continues to have SMP in the market for wholesale trunk segments at all bandwidths in the whole of the UK. Although we had anticipated in the 2004 LLMR Statement that competition would develop on at least some trunk routes, we concluded that this had not in fact happened. We therefore again imposed cost orientation and non-discrimination obligations in the same terms and with the same numbering as in 2004. We additionally concluded that it was appropriate to impose a charge control as well (a departure from our previous approach in the 2004 LLMR Statement).

The 2009 Leased Lines Charge Control

4.36 The Leased Lines Charge Control consultation (the "2008 LLCC Consultation") was published at the same time as the 2008 BCMR Statement and set out proposals as to the scope and form of the new charge controls that should apply to leased line services in light of the conclusions in that statement.[74] The 2008 LLCC Consultation included details of the charge controls proposed on TISBO services.

4.37 The charge controls were set in the 2009 LLCC Statement. The 2009 LLCC Statement defines six charge control baskets, of which the traditional interface ("TI") basket is of particular relevance to the issues under consideration in the Disputes. The TI basket contains all BT low bandwidth TISBO, high bandwidth TISBO (outside the CELA), very high bandwidth 155 Mbit/s TISBO (outside the CELA) and trunk services.

The 2012 Business Connectivity Market Review and the 2012 Leased Lines Charge Control

4.38 Ofcom is undertaking a further review of the markets for retail leased lines, symmetric broadband origination and wholesale trunk segments, pursuant to its obligations under the CRF. On 18 June 2012, we published a consultation identifying concerns about the extent of competition in the provision of leased lines in the UK and proposing measures to address those concerns (the "2012 BCMR consultation").[75] We published a further consultation, revising some of our proposals on 15 November 2012.[76]

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[74] http://stakeholders.ofcom.org.uk/binaries/consultations/llcc/summary/leasedlines.pdf

[75] http://stakeholders.ofcom.org.uk/consultations/business-connectivity-mr/summary.

[76] http://stakeholders.ofcom.org.uk/binaries/consultations/bcmr-reconsultation/summary/BCMR_Nov_2012.pdf

4.39 On 5 July 2012, we published the 2012 LLCC consultation, which set out specific proposals for new charge controls for certain leased line services.[77]

Conclusion on the development of BT's cost orientation obligations

4.40 The requirements on BT relating to cost orientation have been set out clearly in a number of policy consultations, statements and guidelines made by both Oftel and Ofcom. These various statements have established DLRIC floors and DSAC ceilings as well understood benchmarks of cost orientation. This is intended to achieve a balance between regulatory certainty for all CPs and flexibility for BT. This approach is well understood by BT and industry.

Views of the Parties

4.41 BT argued in its response to our Ethernet Provisional Conclusions that this history does not reflect "*the way that Ofcom's approach to cost orientation has developed over time*".[78] It claims that it contains "*many inaccuracies*."[79] However, BT gives just one example of an alleged inaccuracy, arguing that the quotation taken from the May 1997 NCC Consultation omitted "*the most important point*" (see paragraph 4.9 above).

4.42 BT also considers that Ofcom "*fails to set out crucially important parts of the 1997 Guidelines*." It refers in particular to statements in the 1997 NCC Guidelines to the effect that: [80]

4.42.1 investigations into complaints about charges would focus on "*the effect or likely effect of the charge on competition and on consumers*";[81]

4.42.2 in investigating complaints about charges, the DLRIC floors and DSAC ceilings test should not be applied "*mechanistically*" and there "*may be circumstances in which charges set out side the bands of floors and ceilings are not abusive, or charges set within the band are abusive*";[82]

4.42.3 for DLRIC floors and DSAC ceilings to "*be used as a test for abusive charging, they will be applied to interconnection services (because interconnecting operators purchase services not components)*";[83] and

4.42.4 looking at cost information on the basis of interconnection services as increments involves a "*degree of further complexity beyond the scope of the incremental costs methodology developed so far because the incremental cost of services would depend not on the total incremental costs of the components, but on the shape of the cost function for each component".*[84]

4.43 The Disputing CPs did not comment on the history set out in our Draft Determinations.

[77] http://stakeholders.ofcom.org.uk/consultations/llcc-2012/summary.
[78] BT's response to our Ethernet Provisional Conclusions, paragraph 46.
[79] BT's response to our Ethernet Provisional Conclusions, paragraph 47.
[80] BT's response to our Ethernet Provisional Conclusions, paragraph 50.
[81] 1997 NCC Guidelines, paragraph 3.5 and Annex C, paragraph C.2.
[82] *ibid*., Annex C, paragraph C.2.
[83] *Ibid.,* Annex C, paragraph C.5.
[84] *Ibid*., Annex C, paragraph C.18.

Our analysis

4.44 We consider it remains useful to present the consultations and statements published by Oftel and Ofcom, which are relevant to the issues raised by these Disputes.

4.45 In response to BT’s example of an inaccuracy, we have included the full quotation from the May 1997 NCC Consultation at paragraph 4.9 of this document. However, we do not consider that the words previously omitted alter the relevance of the quotation. We have also included the full quotation from the 1997 NCC Guidelines at paragraph 4.15.

Section 5

BT's regulatory financial reporting obligations and BT's LRIC model

History of BT's regulatory financial reporting obligations

5.1 The reporting of financial data is a key regulatory requirement intended to ensure that BT complies with its cost orientation obligations. BT was first required to publish financial information in 1998, following publication of the 1997 NCC Statement and the 1997 NCC Guidelines, with the aim of allowing Ofcom to monitor BT's performance against the NCC. The 1997 NCC Statement confirmed that BT would have to produce:

> "*audited LRIC Cost Statements … that give Oftel and [Other Licensed Operators] the BT floors and ceilings for the components comprised in the Standard Services.*" (paragraph 2.28)

5.2 The 1997 NCC Guidelines set out the financial information BT was required to publish:

> *"BT is required to publish:*
>
> - *Statements of incremental costs for the Network Business for 1997/8 by 30 November '98, for 1998/9 by 31 August '99, and thereafter by 31 July each year. These will show the attribution of costs to each network component and part, a matrix of interconnection components (showing the make-up from cost categories), and provide incremental cost floors and stand-alone cost ceilings for all services in the call termination, general network, and interconnection specific baskets and for those subject to RPI+0% safeguard caps.*
>
> - *CCA FAC statements annually. These are to be published each year at the same time as the LRIC Statements (for 1996/7 and 1997/8 though, CCA accounts will be published by 30 September whereas LRIC was required by 30 November as set out above).*
>
> - *HCA FAC statements until the year 1998/9. HCA FAC accounts will then be discontinued."*[85]

5.3 Oftel further set out BT's reporting obligations and their purpose in the 2001 NCC Guidelines:

> "*BT is required to prepare and publish financial information for interconnection services unless Oftel is satisfied that it is not a proportionate obligation for it to require this level of cost and charge information. BT has to publish financial information to enable: a) the industry to view actual long run incremental, current and stand alone costs and charges for interconnection services and the components*

[85] 1997 NCC Guidelines, paragraph 3.22. CCA refers to Current Cost Accounting; HCA refers to Historic Cost Accounting. These accounting methodologies are explained in Annex 7.

making up these services; and b) to provide transparency in the calculation of interconnection charges so that other market players are in a position to ascertain that these charges have been fairly and properly calculated. The financial information also helps to enable Oftel to make determinations on specific charges or in assessing whether BT has breached competition rules."[86]

5.4 The 2004 LLMR Statement proposed the imposition on BT of additional cost accounting and accounting separation obligations to allow for monitoring of compliance with the SMP cost orientation obligations imposed on BT in certain markets including the TISBO market:

> "*In particular, obligations of cost orientation, price controls and non discrimination can require the imposition of financial reporting regimes to monitor dominant providers' compliance with these obligations*".[87]
>
> *"Given the imposition of LRIC with an appropriate mark-up for the recovery of common costs on both BT and Kingston, and a charge control for BT, Ofcom is proposing that BT and Kingston should maintain appropriate cost accounting systems, that demonstrate that the obligations of cost orientation and (for BT) the charge control are being met. This will enable Ofcom to monitor compliance with those obligations*".[88]
>
> "*In order to demonstrate cost orientation of a service or product, it is necessary for the dominant provider to establish cost accounting systems that capture, identify, value and attribute relevant costs to its services and products in accordance with agreed regulatory accounting principles, such as cost causality. A key part of this process is the stage which identifies those parts of the underlying activities or elements that directly support or are consumed by those services or products. These elements are referred to as network components. As these components are frequently used to provide more than one product or service, it is also necessary to determine how much of each component is used for each service or product that should be cost-orientated. The service/product costing methodology applies the utilisation of these components (which are characterised by common usage measures) to the appropriate service product*."[89]

5.5 The reporting obligations proposed in the 2004 LLMR Statement were imposed on 22 July 2004 in *The Regulatory Financial Reporting obligations on BT and Kingston Communications final statement and notification* (the "2004 Financial Reporting Notification").[90] BT is obliged annually to provide to Ofcom and to publish detailed financial statements in accordance with the conditions set out in that statement. We refer to these documents as BT's RFS (Regulatory Financial Statements). The RFS set out, among other data, the revenues, volumes, FAC, DLRIC and DSAC for services that are subject to cost orientation conditions. They are published after the end of the financial year to which they relate.[91]

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[86] 2001 NCC Guidelines, paragraph 3.17.
[87] 2004 LLMR Statement, paragraph 10.1.
[88] 2004 LLMR Statement, paragraph 10.10.
[89] 2004 LLMR Statement, paragraph 10.13.
[90] http://stakeholders.ofcom.org.uk/binaries/consultations/fin_reporting/statement/finance_report.pdf
[91] SMP Condition OA6, set in the Financial Reporting Notification, requires that the RFS are published within 4 months after the end of the period to which they relate.

5.6 BT also produces Additional Financial Statements ("AFS"), which give a breakdown of the published accounts information by individual service, which the RFS does not. BT does not publish the AFS but provides them to Ofcom on a confidential basis.

5.7 Each year, Ofcom reviews the detailed reporting requirements with BT in the light of regulatory developments in the year. Ofcom consults on any changes or updates to be adopted in the forthcoming RFS for that year, in advance of BT preparing the year end regulatory accounts. Ofcom's review does not involve an assessment of whether charges are cost orientated.

5.8 BT must be able to demonstrate to our satisfaction that those charges covered by a cost orientation obligation are compliant with that obligation. The fact that BT is not required to publish the information to demonstrate this in its RFS does not mean it is not required to be able to provide this information if asked.[92]

The application by BT of its LRIC model since 1997

5.9 BT has therefore had to comply with its regulatory financial reporting obligations since 1997 and take responsibility for setting its own prices, subject to the requirement that they comply with any charge controls imposed and that they be cost orientated. The RFS provide Ofcom and CPs with data that they can use to assess whether BT is setting charges which are cost orientated.

5.10 As part of this compliance process, BT adopted a model ("BT's LRIC model") to calculate the costs of providing services in many different markets in relation to which BT has SMP obligations, for example in the fixed call termination market. BT's LRIC model has been used as the basis for identifying its view of its incremental costs of providing services and identifying how common costs have been apportioned between different services to derive DLRIC and DSAC information and forms an important input into the RFS.

Regulatory use of BT's LRIC model

5.11 The RFS, which reflect the outputs from BT's LRIC model, have been:

5.11.1 used by Ofcom when setting charge controls and carrying out assessments of compliance with cost orientation obligations;

5.11.2 relied on by Ofcom and parties in appeals in relation to our decisions on these matters and accepted by the CAT (for example, the PPC appeal); and

5.11.3 relied on by the Competition Commission ("CC") when determining price control matters arising in appeals of charge controls set by Ofcom.

5.12 Ofcom has imposed cost orientation and financial reporting obligations on BT in relation to a number of markets. We have noted above that one role of financial reporting obligations is for BT to demonstrate the cost orientation of its prices (see paragraph 5.4). In each of these markets an SMP condition applies which contains a cost orientation obligation which is worded in a similar way to the SMP obligation in this case.

[92] We discuss the availability of data not published in the RFS in Section 13.

5.13 In the PPC Judgment the CAT commented that one of the purposes of regulatory financial statements is to ensure that the appropriate data is published to enable compliance with SMP conditions to be monitored.[93]

5.14 BT's charges which are subject to cost orientation obligations have been paid by CPs over many years (including by the customers in this case who have been purchasing services which are the subject of the Disputes over a period spanning five years).

5.15 Other customers have purchased other services which are the subject of cost orientation SMP obligations in markets which include the TISBO market and are covered by BT's LRIC model. Because the LRIC model distributes costs across a number of services which are subject to a cost orientation obligation, any change in that distribution of costs to PPCs products has the potential to have material consequential effects on the costs of those other regulated services.

5.16 The RFS (which use the outputs of BT's LRIC model) have been relied on by BT in disputes and in responding to consultation documents.

Views of the Parties

5.17 We received no comments from the Parties on this section.[94]

[93] PPC Judgment, paragraph 161.
[94] BT argued in its response to our Ethernet Provisional Conclusions that Ofcom was wrong in its provisional conclusion in the Ethernet Disputes that BT is required to be able to provide disaggregated data if required, despite being permitted to publish more aggregated data in its RFS (see paragraph 5.20 of the Ethernet Determinations). We do not consider BT's comments to be relevant to these Disputes.

Section 6

Leased lines and PPCs

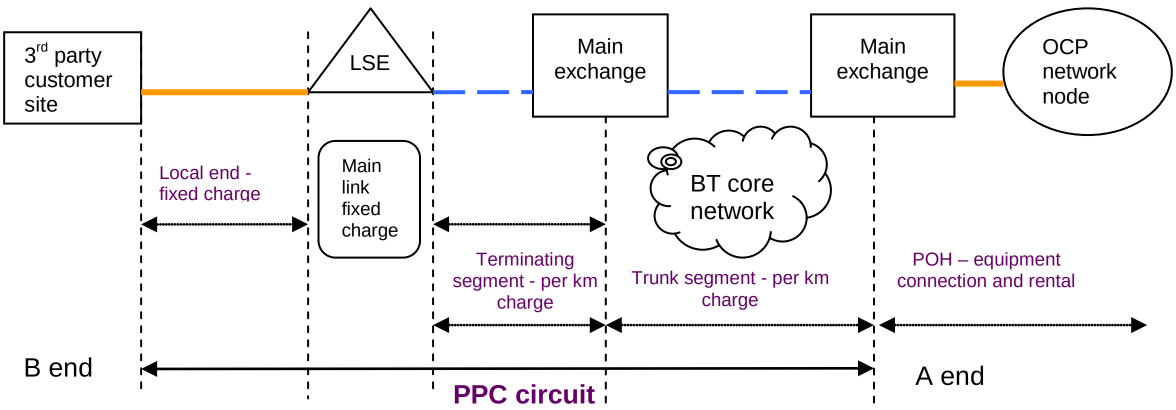
6.1 Leased lines, also known as private circuits, provide a connection which has dedicated capacity, at a range of bandwidths, between two points and can be used to carry voice and data traffic. They are a key building block in the communications networks on which UK businesses depend. CPs compete to provide retail leased line services to business customers.

6.2 Wholesale leased lines are used by CPs as inputs to their retail leased lines services. These may take the form of complete circuits connecting two or more end-user sites, or PPCs connecting customer sites to points in the purchasing CP's network.

6.3 PPCs comprise third party infrastructure, a point of handover ("POH")[95] and the circuit connecting them. The third party infrastructure attracts a single charge and an annual rental charge. The POH attracts a connection charge and annual rental charges. Note that one POH can support many PPCs. The circuit comprises three segments: the local end, between the 3rd party customer and the local services exchange ("LSE"); the terminating segment, between the LSE and the main exchange; and the trunk segment between the main exchange and the POH. The local end attracts a fixed annual charge that is not distance related. The terminating and trunk segments attract a fixed annual charge (main link fixed charge) and distance related annual charges (terminating segment and trunk segment charges).

6.4 The diagram below illustrates the constituent parts of a PPC.[96]

Figure 6.1: Constituent parts of a PPC



6.5 Not all PPCs will be sold with a trunk segment – this will generally depend on the proximity of the POH to the local serving exchange. All PPCs will have at least one terminating segment. The exact charges are dependent on the PPC elements purchased and the bandwidth of the circuit.

[95] A POH is a high capacity link, which connects a CP's network with that of BT and comprises the physical infrastructure (duct and fibre) as well as electronics at both or one end of the link.
[96] Diagram adapted from BT Wholesale - Partial Private Circuits Product Handbook, 2011, figure 4.3; https://www.btwholesale.com/pages/downloads/service_and_support/contractual_information/docs/ppcoffer/briefings/ppc_product_handbook_Issue_4_sept2010.pdf

6.6 Local end and terminating segments run between the respective customer premises or other communications provider ("OCP") and the closest BT LSE and are provided over copper or fibre-optic pair local ends using SDH or PDH distribution.[97] The main link and trunk segments run between the LSE and the associated main exchange and are provided over fibre-optic cable.

6.7 While all PPCs will have a local end, the need for a main link will be determined by where the purchaser interconnects with BT. If the purchaser is interconnected at the LSE then no main link will be required, otherwise at least some main link will be required. Terminating segment prices also consist of connection and distribution charges.

6.8 At the OCP end (A above), a PPC provides connectivity between an OCP's network and an end user, across BTs network via a POH.

Views of the Parties

6.9 We received no comments from the Parties on this Section.

[97] SDH and PDH (Synchronous and Plesiochronous Digital Hierarchy) are transmission technologies that support the transmission of various bandwidths of data over fibre optic networks and are used extensively in the provision of leased lines services.

Section 7

Which charges should be cost orientated?

Overview

7.1 In assessing whether or not BT's charges in dispute were cost orientated over the Relevant Period, we first have to consider which charges must be cost orientated for the purposes of Conditions GG3.1 and H3.1.

7.2 The section is structured as follows:

7.2.1 the requirements of Conditions GG3.1 and H3.1 and the findings of the PPC Judgment and the PPC Court of Appeal Judgment;

7.2.2 a brief summary of our Draft Determinations;

7.2.3 the responses of the Parties to the Draft Determinations; and

7.2.4 our conclusions on the level of aggregation to adopt in resolving the Disputes.

The requirements of Conditions GG3.1 and H3.1

7.3 The charges within the scope of these Determinations are those in relation to BT's 34/45 Mbit/s PPC trunk services and BT's various 140/155 Mbit/s PPC terminating segment services. As we explained in Section 2, both sets of charges have been subject to separate SMP cost orientation obligations during the Relevant Period which were imposed on BT following an analysis of the wholesale trunk segments and TISBO markets and findings that BT has SMP in the relevant markets in the 2004 LLMR Statement (see paragraphs 4.22 to 4.35).[98]

7.4 Condition H3.1 was imposed in relation to charges for services that fall within the wholesale trunk segments market, which includes 34/45 Mbit/s PPC trunk services. Condition GG3.1 was imposed in relation to charges for services that fall within the wholesale high bandwidth TISBO market, which includes 140/155 Mbit/s PPC terminating segment services. The wording of the conditions is identical[99]:

> *"Unless Ofcom directs otherwise from time to time, the Dominant Provider shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that each and every charge offered, payable or proposed for Network Access covered by Condition [GG1/H1] is reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs including[100] an appropriate return on capital employed*."

7.5 Conditions GG1 and H1 require the provision of Network Access on reasonable request. The definition of Network Access is found in section 151 of the Act:

[98] Cost orientation conditions were re-imposed in relation to these services as a result of further analysis of the relevant markets in the 2008 BCMR Statement.
[99] Save for the condition number to distinguish to which services each applies, and the use of 'and' instead of 'including' in Condition H3.1.
[100] In Condition H3.1, 'and' is used instead of 'including'.

(3) In this Chapter references to network access are references to—

(a) interconnection of public electronic communications networks; or

(b) any services, facilities or arrangements which—

(i) are not comprised in interconnection; but

(ii) are services, facilities or arrangements by means of which a communications provider or person making available associated facilities is able, for the purposes of the provision of an electronic communications service (whether by him or by another), to make use of anything mentioned in subsection (4);

and references to providing network access include references to providing any such services, making available any such facilities or entering into any such arrangements.

(4) The things referred to in subsection (3)(b) are—

(a) any electronic communications network or electronic communications service provided by another communications provider;

(b) any apparatus comprised in such a network or used for the purposes of such a network or service;

(c) any facilities made available by another that are associated facilities by reference to any network or service (whether one provided by that provider or by another);

(d) any other services or facilities which are provided or made available by another person and are capable of being used for the provision of an electronic communications service.

The PPC Judgment and the PPC Court of Appeal Judgment

7.6 Condition H3.1 was applied by Ofcom in the 2009 Final Determinations and considered by the CAT in the PPC Judgment and the Court of Appeal in the PPC Court of Appeal Judgment. In the PPC Judgment, the CAT considered which charges had to be cost orientated for the purposes of assessing BT's compliance with Condition H3.1, given the requirement that BT secure that *"each and every charge offered, payable or proposed for Network Access"* is cost orientated.

7.7 In the PPC Judgment, the CAT found that "*the starting point for any question about BT's cost orientation obligations… is the true construction of Condition H3.1*"[101]. The CAT found that Ofcom was correct to consider, discretely, the charges for each separate trunk service offered by BT. It found that:

"*According to Condition H3.1, "each and every charge offered" must be cost orientated. We consider that the effect of these words is to render the test for*

[101] PPC Judgment, paragraph 214.

cost orientation applicable separately to each discrete trunk service - i.e. the charge for each bandwidth must be cost orientated."[102] (Emphasis added)

7.8 In the CAT's view such a construction "*makes sense*" because a purchaser of any particular service "*will want to know that the particular service he is buying is cost orientated. He will doubtless be rather less concerned with the cost orientation of services he is not purchasing*".[103]

7.9 The CAT also agreed with Ofcom's submission that the potential for an aggregated approach (in particular aggregation of trunk and terminating segments) to undermine the charge control on particular services was in that case a *"strong point in favour"* of the disaggregated approach.[104]

7.10 In addition, if cost orientation was assessed on an aggregated basis (including aggregation of charges for different trunk bandwidths), this would permit cross-subsidisation between different groups of purchasers of PPC circuits. The CAT considered this to be *"a powerful pointer in favour"* of its construction of Condition H3.1.[105]

7.11 Furthermore, the CAT found that: "…*we fail to see how either OFCOM or this Tribunal could sanction an approach to cost orientation that disregarded the clear meaning of Condition H3.1*."[106]

7.12 In the PPC Court of Appeal Judgment, which was handed down after our Draft Determinations were issued, the Court of Appeal upheld the CAT's approach to cost orientation.

7.13 The Court of Appeal said that the question of how Condition H3.1 should be applied for the purposes of assessing BT's compliance with that Condition was what was appropriate "*on the facts and in the context of the regulatory purposes of [Condition H3.1] and the overall scheme of the Act and CRF*".[107]

7.14 The Court of Appeal found that, on the facts of that case:[108]

7.14.1 "*under the express terms of Condition H3.1 and under Article 13(3) of the [Access Directive] the burden was on BT to justify its prices for trunk segments of PPCs*"; and

7.14.2 BT's approach of adopting an aggregated assessment taking into account the overall price charged by BT for entire PPCs, including terminating segments, was "*fundamentally misconceived*" because it would undermine the regulatory regime and its objectives and conflate distinct schemes of regulation.

7.15 The Court of Appeal also found that Ofcom and the CAT were correct to consider that if BT's approach were adopted in that case, "*BT could charge an exploitative charge in one market and an exclusionary charge in the other as long as overall the charges were in an acceptable range*" and that this risk of anti-competitive pricing

[102] PPC Judgment, paragraph 228.
[103] PPC Judgment, paragraph 228.
[104] PPC Judgment, paragraph 227.
[105] PPC Judgment, paragraph 228.
[106] PPC Judgment, paragraph 229.
[107] PPC Court of Appeal Judgment, paragraph 68.
[108] PPC Court of Appeal Judgment, paragraph 80.

"*would be inconsistent with* [Ofcom's] *duties and obligations to protect consumers and to promote competition*". [109]

Our Draft Determinations

7.16 In the Draft Determinations, we provisionally concluded that we should consider whether BT has secured that each and every disputed charge is cost orientated. We reached this conclusion on the basis of the specific wording of Conditions GG3.1 and H3.1, having regard to the approach set out by the CAT in the PPC Judgment.

Views of the Parties

7.17 BT notes that, prior to the handing down of the PPC Judgment, it was "*unsure of the way in which both BT should and Ofcom would approach the task of monitoring compliance with the basis of charges conditions application to the trunk and TISBO markets*". It states that "*BT had assumed (wrongly) that the basis of charges condition applied to PPCs on an end to end basis, as opposed to individual charges for specific services*". BT argues that, had it known what it knows now at the time of setting its charges, it would have reviewed and set charges in a different way.[110]

7.18 The Disputing CPs "*agree with Ofcom's assessment of cost orientation at a disaggregated level*". They consider that this approach: "*is consistent with the SMP cost orientation requirement in Conditions GG3.1 and H3.1 which relates to "each and every charge"*", "*is the most apt methodology to ensure compliance by BT with its regulatory obligations*" and "*is in line with the finding of the CAT in the PPC Judgment*". [111]

7.19 The Disputing CPs note that: "*the CAT held that BT did not have any legitimate expectation that Condition H3.1 would be applied on an aggregated basis, nor was it unclear exactly how the condition would be applied*".[112]

7.20 In its comments on the PPC Court of Appeal Judgment, BT states that: "*[i]t is now clear that prices for services falling within separate regulatory markets, where one of these products is subject to a charge control and the other a cost orientation obligation, cannot be aggregated together as a single charge for the purpose of assessing compliance with the latter obligation*", but suggests that the position in respect of charges for services falling within the same regulatory market or the aggregation of prices for services at different bandwidths that fall within the same regulatory market "*remains unresolved*". However, BT also notes that its position in relation to the correct approach to aggregation remains unchanged from its response to the "*various dispute references and its responses to the various draft and provisional determinations and conclusions*".[113]

7.21 C&W and Virgin and Verizon argue that the PPC Court of Appeal Judgment supports assessing cost orientation at a disaggregated level.[114]

[109] PPC Court of Appeal Judgment, paragraph 76.
[110] BT's response to our Draft Determinations, paragraphs 25 to 27.
[111] Disputing CPs' response to our Draft Determinations, paragraph 3.1; also Verizon's response to our Draft Determinations, page 1 and the Disputing CPs' comments on BT's response, paragraph 5.
[112] Disputing CPs' response to our Draft Determinations, paragraph 3.5.
[113] BT's comments on the PPC Court of Appeal Judgment.
[114] C&W and Virgin's comments on the PPC Court of Appeal Judgment, paragraph 3; Verizon's comments on the PPC Court of Appeal Judgment, page 2.

Our analysis

7.22 BT argues that the position in respect of charges for services in the same market is *"unresolved"*. However the CAT not only rejected BT's arguments in relation to aggregating across the terminating segment and trunk markets but also different bandwidths within the trunk market.[115][116].

7.23 We note BT's statement that it was not aware of how cost orientation obligations would be enforced at the time of setting its prices. However, we do not accept that the cost orientation obligation was unclear. We note the CAT's comments that "*the prices that are cost orientated by Condition H3.1 are clearly identified by that provision*"[117]. We consider that if we were to apply Conditions GG3.1 and H3.1 other than in accordance with their clear meaning we would undermine the regulatory regime established for the TISBO market by the 2004 LLMR Statement.

Conclusion

7.24 Conditions GG3.1 and H3.1 require that "*each and every charge offered, payable or proposed for Network Access"* shall be cost orientated. The Parties have not made any comments which we consider provide any basis for us to depart from the approach we adopted in the Draft Determinations. We have therefore, consistent with the approach of the CAT in the PPC Judgment and the Court of Appeal in the PPC Court of Appeal Judgment, resolved these Disputes by assessing each individual charge in dispute separately.

[115] PPC Judgment, paragraph 228, quoted at paragraph 7.7 above.
[116] We note that in its response to our Ethernet Provisional Conclusions, BT accepts that the CAT found that *"it was inappropriate to aggregate services provided at different bandwidths, for example 2 Mbit/s trunk with 144 Mbit/s trunk services"* - BT's response to our Ethernet Provisional Conclusions, paragraph 220.
[117] PPC Judgment, paragraph 238.

Section 8

Approach to determining whether BT's charges were cost orientated

Introduction

8.1 In this Section we set out our approach to determining whether BT's charges in dispute were cost orientated in the Relevant Period, taking into account the arguments made by the Parties both prior, and in response to, our Draft Determinations.

8.2 In the Draft Determinations we set out that, given the similarities between the issues under consideration here and those considered in the 2009 Final Determinations, we considered it appropriate to adopt the same approach to assessing BT's charges that we adopted in the 2009 Final Determinations. That approach was upheld by the CAT in the PPC Judgment, which itself was upheld by the Court of Appeal in the PPC Court of Appeal Judgment.

8.3 The approach we proposed to adopt seeks to address two key questions in relation to BT's charges, both of which stem from Conditions GG3.1 and H3.1:

8.3.1 Has BT demonstrated to our satisfaction that its charges in dispute were cost orientated?

8.3.2 If it has not done so, do we consider BT's charges to nevertheless be cost orientated?

8.4 We received comments from the Parties on the appropriate assessment methodology in this case. We consider these arguments in this Section. We address the comments of the Parties in relation to how we carry out our assessment in Section 13.

8.5 The scope of the Disputes relates to overcharging. Therefore, while BT's failure to demonstrate to our satisfaction that its charges are cost orientated constitutes a breach of its obligations (i.e. a 'no' to the first question), it is only where such a breach is accompanied by overcharging (i.e. a 'no' to the second question) that we consider whether to require a remedy.

8.6 The various cost concepts relevant to these Determinations were discussed in detail in the 2009 Final Determinations[118] and the PPC Judgment.[119] Rather than explain these concepts again in this document, we have provided brief definitions in Annex 7.

Our approach to resolving these Disputes

8.7 In our Draft Determinations:

8.7.1 we started by considering what BT's obligations in relation to cost orientation require and the implications of those obligations for determining these Disputes, including why we considered DSAC to be the appropriate

[118] 2009 Final Determinations, Annex 11.
[119] PPC Judgment, Section IV: "The Economics of Cost Orientation" and Annex B.

primary cost benchmark to use in assessing whether the charges relevant to these Disputes are cost orientated (i.e. the so-called "DSAC test"); and

8.7.2 we set out why and how we ensured that the DSAC test is not implemented in a mechanistic way.

8.8 At both stages, we considered the findings of the CAT in the PPC Judgment, which we considered was a relevant precedent.

8.9 Below we set out, in relation to both stages outlined in paragraph 8.7, a summary of our Draft Determinations, followed by the views of the Parties and our analysis.

BT's obligations in relation to cost orientation and their implications for resolving these Disputes

Our Draft Determinations

What do BT's obligations in relation to cost orientation require?

8.10 In our Draft Determinations, we noted that the charges in dispute are subject to SMP cost orientation obligations imposed on BT in the 2004 LLMR Statement. The relevant obligations are Condition GG3.1 and Condition H3.1 (the "Relevant Conditions"). Condition H3.1 was considered in the PPC Judgment, and the wording of Condition GG3.1 is identical.

8.11 BT's compliance with these cost orientation obligations is at the heart of these Disputes. Therefore, in order to determine whether or not BT has overcharged the Disputing CPs, we proposed to assess BT's compliance with its cost orientation obligations in respect of each of the charges in dispute.

8.12 The Relevant Conditions require that:

8.12.1 first, each and every charge covered by the Relevant Conditions must:

a) be reasonably derived from the costs of provision based on a forward looking long run incremental cost approach;

b) allow for an appropriate mark up for the recovery of common costs; and

c) include an appropriate return on capital employed; and

8.12.2 second, BT must be able to demonstrate this to Ofcom's satisfaction.

8.13 If BT is unable to fulfil these two requirements for any of the charges covered by Condition GG3.1 and/or H3.1, it will be in breach of Condition GG3.1 and/or H3.1 respectively.

8.14 The CAT considered in the PPC Judgment how the first of these requirements operates:[120]

> "***Stage 1: Deriving prices from LRIC****. In the first instance, prices must be reasonably derived from LRIC. This means that, essentially, SAC is to be*

[120] PPC Judgment, paragraph 245.

> *disregarded when setting prices, and the prices are to be based upon (or reasonably derived from) incremental costs. In other words, in the first instance, prices are to be set without reference to common costs.* (emphasis in original)
>
> "***Stage 2: A mark-up for common costs****. It is well recognised... that if a firm prices all products or services at LRIC, common costs fall out of account, and will not be recovered. The firm will make a loss. This is recognised in the second stage of Condition H3.1, which permits "an appropriate mark up for the recovery of common costs". As we have noted (paragraphs 85 to 95 above), there are a number of ways in which common costs can be allocated between services/products, and Condition H3.1 does not stipulate which, save to say that the mark-up (and so, the method of allocation for common costs) must be "appropriate".*
>
> "***Stage 3: The cross-check.*** *Condition H3.1 expressly states that prices shall include an appropriate return on capital employed. At first blush, this provision may seem redundant, since interest on borrowed capital is a common cost that should be reflected in prices derived using Stages 1 and 2. However, return on shareholders' equity is not an accounting cost but still should be "appropriate". The provision is an important one, because it ensures that prices orientated in accordance with Stages 1 and 2 are fair in this respect."*

8.15 We considered in the Draft Determinations that the key question for resolving the Disputes is how to determine what constitutes "*an appropriate mark up for common costs*" in Stage 2 above. We noted that there is no uniquely correct or appropriate method for allocating common costs.[121] The Relevant Conditions therefore give BT flexibility to adopt whatever methodology it chooses for the allocation of common costs provided it is appropriate. As the CAT noted:

> *"BT is given a discretion in terms of how it allocates common costs, which discretion is circumscribed by the need for the method of allocation to be "appropriate"."*[122]

Implications of BT's cost orientation obligations for Ofcom in determining the Disputes

8.16 BT's discretion over its allocation of common costs at Stage 2, and the allied requirement for it to be able to demonstrate to our satisfaction that its exercise of discretion is appropriate, has implications for how Ofcom should approach disputes regarding BT's compliance with its cost orientation obligations.

8.17 At paragraph 249 of the PPC Judgment the CAT explained how it expects BT's discretion and Ofcom's right to monitor the exercise of that discretion to operate:

> *"(1) It is, in the first instance, for BT to decide how to allocate common costs. Were BT to do so "appropriately" then – provided this was capable of demonstration to the satisfaction of OFCOM – we do not consider that it would be open to OFCOM to impose upon BT an alternative method of allocating common costs, even if that were also an "appropriate" method. (As we have noted, there is no one way of allocating common costs, and we consider that there will generally be several "appropriate" ways.)*

[121] 2009 Final Determinations, Annex A11.10.
[122] PPC Judgment, paragraph 246. See also paragraph 247.

(2) If, however, BT were unable to demonstrate to the satisfaction of OFCOM that it had allocated common costs appropriately, this would amount to a breach of Condition H3.1 […]

(3) Assuming, for the moment, non-compliance with Condition H3.1, the next question that arises is how it is tested whether BT's prices for the relevant product or service are or are not cost orientated. Such a question might well arise in the course of a Compliance Process or – as here – in the course of a Dispute Resolution Process. Even assuming that BT has failed to demonstrate that its cost orientation obligation has been complied with, this does not necessarily mean that BT's prices are not cost orientated. All that has happened is that BT has failed to demonstrate that they are cost orientated. In our view, in such circumstances, it is for Ofcom – given that BT has failed to demonstrate compliance – to test whether common costs have been appropriately allocated".[123]

8.18 We proposed to follow the CAT's approach for resolving these Disputes. As such, our assessment of the alleged overcharge essentially involves answering two key questions:

8.18.1 Has BT demonstrated to our satisfaction that its charges in dispute were cost orientated (i.e. do they meet the criteria set out at paragraph 8.12.1 above)? If it has done so, then there is no overcharging. BT is afforded discretion in how it demonstrates that its charges are cost orientated, as long as it can demonstrate to our satisfaction that its chosen approach is appropriate.

8.18.2 If it has not done so, we must ask whether BT's charges were nevertheless cost orientated (i.e. based on an appropriate allocation of common costs). This raises an important question: what is the most appropriate cost benchmark or test for Ofcom to use in assessing compliance?

<u>DSAC as an appropriate mechanism for allocating costs</u>

8.19 We next explained why we proposed that DSAC is the appropriate primary cost benchmark to use in assessing whether the charges relevant to these Disputes are cost orientated, noting that there are a number of methodologies which could potentially be used to allocate common costs.

8.20 We noted our explanation in Section 5 of the 2009 Final Determinations as to why we considered DSAC to be the most appropriate cost benchmark for our assessment of BT's compliance with the relevant condition. Our decision was based on a number of reasons including:

8.20.1 the DSAC approach reflects the practical application of underlying economic theory, recognising the major conceptual and practical challenges of implementing SAC/combinatorial tests;[124]

8.20.2 in our view DSAC strikes an appropriate balance between the desire to provide BT with the incentives and flexibility to both reduce costs and efficiently recover common costs, and the desire to protect consumers and

[123] PPC Judgment, paragraph 249.
[124] 2009 Final Determinations, paragraph 5.56.

competition from either harmful or anti-competitive charges that could arise from boundless pricing flexibility;[125] and

8.20.3 the use of DSAC was recognised by BT (including in its own yearly Primary Accounting Documents ("PAD") throughout the Relevant Period) as the approach that Ofcom would adopt for analysing complaints that charges were unreasonable "*in order to avoid complex combinatorial tests*" and that the DSAC represents the "*maximum price that can be charged*".[126]

8.21 We also noted that the CAT found in the PPC Judgment that:[127]

8.21.1 *"[i]n this case, DSAC represented the best single measure for assessing whether the condition had been satisfied and so marked the upper limit or ceiling on the permissible mark up of prices"*;

8.21.2 the two other approaches available to Ofcom (i.e. SAC/combinatorial testing and FAC) were not appropriate on the basis of *"FAC being too rigid and combinatorial tests being unworkable".* As a consequence, the CAT found "*[...] our conclusion is that in the context of orienting to cost prices like 2Mbit/s trunk, DSAC was the only practicable test to use*";

8.21.3 *"BT's...contention was that that there was a lack of transparency and a lack of legal certainty in OFCOM's use of DSAC. Again, we reject this contention ... We consider the operation of Condition H3.1 to be clear and we are not persuaded that there is any legal uncertainty in the present case...(i)… DSAC was not unknown in the context of communications regulation, including to BT: given the materials that we have described, we do not consider that BT can have been in any way surprised or taken aback by OFCOM's resort to the DSAC test"*; and

8.21.4 *"[...] BT's third contention was that OFCOM treated prices above DSAC as intrinsically excessive and in breach of Condition H3. Our conclusion is that this is precisely what Condition H3.1 requires."*

8.22 Given the clear similarities and overlaps between the issues in these Disputes and those considered in the 2009 Final Determinations and the PPC appeal, we proposed to apply the DSAC test in resolving these Disputes.

Views of the Parties

What do BT's obligations in relation to cost orientation require

8.23 BT does not directly address our description of the requirements of the Relevant Conditions nor whether DSAC is the appropriate cost standard for assessing cost orientation in its response to the Draft Determinations. However, as noted at paragraph 7.17 above, it argues that "*[u]p and until the PPC Judgment was handed down BT remained unsure of the way in which both BT and Ofcom would approach*

[125] 2009 Final Determinations, paragraph 5.112.

[126] 2009 Final Determinations, paragraph 5.56. See section 5.3.5 *(Distributed Stand Alone Cost (DSAC) of Network Components)* of the Primary Accounting Documents which BT published each year throughout the Relevant Period. For example, the 2009/10 Primary Accounting Documents: http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2010/PrimaryAccountingDocuments2010.pdf.

[127] PPC Judgment, paragraph 307.

the task of monitoring compliance with the basis of charges conditions application to the trunk and TISBO markets"[128].

8.24 The Disputing CPs did not comment on our description of what BT's obligations require.

Implications of BT's cost orientation obligations for Ofcom in determining the Disputes

8.25 Further, BT says it "*adopts*" certain sections[129] of its response to our Ethernet Provisional Conclusions subject to the changes that need to be made for the purposes of these Disputes. It is not clear to us exactly what BT is arguing is relevant to these Disputes. However, for completeness, we set out some of BT's comments in response to our Ethernet Provisional Conclusions in the following paragraphs.

8.26 In its response to our Ethernet Provisional Conclusions, BT argued that there "*are a number of aspects of Ofcom's proposed approach to the interpretation and proposed application of Condition HH3.1...which Ofcom never made clear to BT until after the periods affected by its proposed determinations*".[130] In particular, BT argued that the guidance available *"prior to condition HH3"* did not make clear:

8.26.1 *"how exactly the floors and ceilings would be applied, and certainly did not suggest that they would be applied inflexibly, without taking account of other relevant market features"*;

8.26.2 *"the level of disaggregation at which the obligation would apply"*; or

8.26.3 that BT could 'fail' the test "*on the basis of a single year of assessment*".[131]

8.27 BT argued that if Ofcom applied its proposed approach to assessing cost orientation in the Ethernet Disputes (which was consistent with the proposed approach of Ofcom in the Draft Determinations), Ofcom would be acting contrary to its duties as regulator under section 3(3) of the Act, including the requirements of transparency, consistency, acting in a proportionate manner and respecting the requirements of legal certainty.[132]

8.28 In addition, referring specifically to the NCC Guidelines, BT argued in its response to the Ethernet Provisional Conclusions that:

8.28.1 the 1997 NCC Guidelines provided guidance that "*[t]he primary focus of investigation […] will however be the effect or likely effect of the charge on competition and on consumers*"; and

8.28.2 although the DLRIC floors and DSAC ceilings initially looked at component costs, when "*used as a test for abusive charging they had to be applied to the service as a whole* '*because interconnecting operators purchase services not components*'" – BT argued that the 1997 NCC Guidelines recognised the limitations of relying solely on component costs.[133]

[128] BT's response to our Draft Determinations, paragraph 25.
[129] See paragraph 3.25.
[130] BT's response to our Ethernet Provisional Conclusions, paragraph 22.
[131] BT's response to our Ethernet Provisional Conclusions, paragraph 51.
[132] BT's response to our Ethernet Provisional Conclusions, paragraph 22. See also BT's response to our Provisional Conclusions, paragraphs 28 to 32.
[133] BT's response to our Ethernet Provisional Conclusions, paragraph 50.

8.29 Given the similarity of: (i) the time periods covered; and (ii) the methodology proposed in these Disputes and the Ethernet Disputes, it appears that BT may consider its arguments in relation to Ofcom's duty to make clear its policy as regards the parameters of cost orientation and compliance with the cost orientation obligations, and whether such clarity existed, to be relevant to these Disputes.

8.30 BT also argued in its response to the Ethernet Provisional Conclusions that the PPC Judgment is limited to the grounds of appeal upon which the CAT reached its conclusion.

8.31 As noted in paragraph 3.25 above, BT also states that it adopts certain submissions made in its response to our Ethernet Provisional Conclusions[134] in relation to errors of law which it alleged the CAT had made in the PPC Judgment "*subject to those changes which need to be made for the purposes of TISBO and Trunk markets and these Disputes*".[135] In its response to our Ethernet Provisional Conclusions, BT argued that it considered that the CAT's approach to cost orientation was legally flawed because it:

8.31.1 failed to have regard to Ofcom's duties under section 3(3) of the Act to act in a manner which is transparent, accountable, proportionate and consistent;

8.31.2 failed to have regard to the scheme and objectives of the CRF, including the duty placed on Ofcom to promote competition; and

8.31.3 failed to take account of Ofcom's 1997 and 2001 NCC Guidelines (see paragraphs 4.15 to 4.17 above), including their provision that the primary focus when assessing cost orientation is the effect or likely effect of a charge on competition and consumers.[136]

8.32 In its comments on the PPC Court of Appeal Judgment, BT states that the Court of Appeal found that BT's arguments in relation to the CAT's approach to cost orientation were "*ones of fact and application of regulatory policy and not of law*", and that "*[g]iven the facts of this dispute and the relevant regulatory policy considerations*" BT maintains the arguments summarised above, "*including to the extent those issues are applicable to PPC2*".

8.33 In response to BT's comments, the Disputing CPs ask why BT did not ask Ofcom for clarification if it was in any way unsure of the interpretation of its cost orientation obligation.[137]

<u>DSAC as an appropriate mechanism for allocating costs</u>

8.34 The Disputing CPs agree with Ofcom that:

> "*the appropriate measure of cost orientation in these Disputes is DSAC and that, as the CAT found in the PPC Judgment, this marks the upper limit or ceiling on the permissible mark up of prices*".[138]

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[134] See section 10 of BT's response to our Ethernet Provisional Conclusions.
[135] BT's response to our Draft Determinations, paragraph 6.
[136] BT's response to our Ethernet Provisional Conclusions, paragraphs 361 to 371.
[137] Disputing CPs' comments on BT's response, paragraph 6.
[138] Disputing CPs' response to our Draft Determinations, paragraph 4.1.

8.35 Verizon additionally notes that although it supports Ofcom's adoption of DSAC as being the appropriate model for assessing BT's compliance with its cost orientation obligations in these Disputes, it considers there is a good case for a FAC-based approach, rather than a DSAC-based approach (although it does not set out this case). Verizon consider that this is something Ofcom should investigate when considering future disputes.[139]

Our analysis

What do BT's obligations in relation to cost orientation require

8.36 We disagree with BT that there was any lack of clarity as to how we would consider its compliance with its cost orientation obligations over the Relevant Period for the following reasons:

8.36.1 the wording of the Relevant Conditions is clear; and

8.36.2 we have provided clear guidance regarding how cost orientation will be assessed, including guidance on the application of DLRIC floors and DSAC ceilings in assessing cost orientation since 1997 (see paragraphs 4.3 *et seq.* above). BT has not demonstrated that it tried to follow this guidance.

8.37 This view is consistent with the PPC Judgment where, in response to similar arguments from BT, the CAT found that "*Condition H3.1 is a provision that is, in fact, very clearly drafted and whose meaning is, therefore, correspondingly clear*".[140]

8.38 Conditions GG3.1 and H3.1 state that 'each and every' charge must be cost-orientated. We therefore consider that it is clear that cost orientation will be assessed in relation to each individual charge in dispute, in accordance with the wording of the condition (see Section 7).

8.39 The fact that an obligation is not prescriptive does not mean that it lacks clarity. In the PPC Judgment, the CAT found the economic concepts in Condition H3.1 to be *"very specific and clear"*.[141] Furthermore it held:

> *"We consider the operation of Condition H3.1 to be clear and we are not persuaded that there is any legal uncertainty in the present case. BT had a discretion in how it chose to orientate its prices for individual PPC services, subject to that orientation being appropriate and subject to OFCOM's regulatory scrutiny".*[142]

8.40 In relation to the NCC Guidelines, we note the CAT's view that:

> "*As regards documents in the more distant past – like for instance – Oftel's "Guidelines on the Operation of the Network Charge Controls", published in 1997 and 2001 – we recognise that they contribute to an understanding of how the regulatory controls and related concepts evolved. However, in terms of construction of the SMP conditions, they are of mainly historical interest, and tend to be of marginal, if any, assistance.*"[143]

[139] Verizon's response to our Draft Determinations, page 2.
[140] PPC Judgment, paragraph 308.
[141] PPC Judgment, paragraph 244.
[142] PPC Judgment, paragraph 307(2).
[143] PPC Judgment, paragraph 204.

8.41 We consider that our approach is consistent with the NCC Guidelines. For example, in Section 13 we ensure that our application of the DSAC test is not mechanistic. However, in light of the CAT's view on the relevance of the NCC Guidelines, we do not place great weight on this consistency.

8.42 We reject BT's argument that the reference in the 1997 NCC Guidelines to operators purchasing services not components supports its position. In our view this argument is based on a misunderstanding of the nature of components and services. The importance of a correct understanding of this distinction is clear at paragraph 11.9 below, where we explain their application in calculating DSACs.

Implications of BT's cost orientation obligations for Ofcom in determining the Disputes

8.43 In relation to BT's argument that Ofcom had never given any indication that there could be a breach of the cost orientation obligations in respect of a single year, we note that BT makes a similar argument in relation to 140/155 Mbit/s terminating segment main link services. We discuss this argument and our conclusions on this point at paragraphs 8.88 to 8.92 below.

8.44 In relation to BT's arguments in relation to errors of law which it alleged the CAT had made in the PPC Judgment, the Court of Appeal rejected BT's argument that the CAT's or Ofcom's approach to cost orientation was flawed.[144] We therefore do not consider that BT's objections to the CAT's approach to cost orientation have merit.

8.45 We consider that there are clear similarities and overlaps between the issues under consideration here and those considered in the 2009 Final Determinations and the PPC appeal. For example:

8.45.1 as we have noted in paragraph 8.10, the wording of the cost orientation obligations for the services in dispute (Conditions GG3.1 and H3.1) is identical;

8.45.2 Conditions GG3.1 and H3.1 originated from findings of SMP in the same market review, i.e. the 2004 LLMR; and

8.45.3 the PPC services currently under consideration are in the scope of the Disputes covered by the 2009 Final Determinations and the period in dispute is the same.[145] The same guidance was therefore available to BT and other CPs on how we would assess cost orientation.

8.46 In addition, we note that 34/45 Mbit/s trunk services fall within the same economic market as the 2 Mbit/s trunk services considered in PPC appeal and are subject to the same SMP Condition (Condition H3.1).

8.47 We therefore consider that the PPC Judgment, as upheld by the Court of Appeal, is relevant for our approach to assessing BT's compliance with the Relevant Conditions in these Disputes.

[144] PPC Court of Appeal Judgment, paragraph 80.
[145] As explained in paragraph 3.6, we were unable to resolve in the 2009 Final Determinations concerns about overcharging for 34/45 Mbit/s PPC trunk and 140/155 Mbit/s PPC terminating segment services.

DSAC as an appropriate mechanism for allocating costs

8.48 We also disagree with BT that there was a lack of clarity as to whether Ofcom would use DSAC as the primary benchmark for assessing its compliance with the Relevant Conditions. The extensive history of the development of BT's cost orientation obligations and the use of the DSAC test is summarised in Section 4 above. As we explained in the 2009 Final Determinations, BT understood that DSAC represented the maximum price allowable throughout the Relevant Period, as evidenced by BT's PAD:

> *"Combinatorial tests have not been specified in the case of the Core increment. Instead, the recovery of the Intra Core Fixed Common Costs has been prescribed by Ofcom through the use of distributed LRICs ("DLRICs") in determining cost floors. This restricts pricing flexibility by setting a price floor for components in excess of the actual LRICs. Ofcom uses this restriction in order to avoid complex combinatorial tests."*[146]

> *"The economic test for an unduly high price is that each service should be priced below its Stand Alone Cost. As with price floors this principle also applies to combinations of services. Complex combinatorial tests are avoided through the use of DSACs, which reduce pricing freedom by lowering the maximum price that can be charged. This results in ceilings for individual components that are below their actual SACs."*[147]

8.49 The CAT dismissed BT's arguments that there was a lack of transparency or certainty in our use of DSAC in the PPC Judgment, as set out at paragraph 8.21.3 above, and concluded that the role of the DSAC test was important, stating that *"the use of DSAC as a test for cost orientation was not only entirely appropriate, but actually the only satisfactory available course open both to BT (in seeking to comply and show compliance with Condition H3.1) and to OFCOM (in seeking to monitor that compliance)*"[148]. As explained at paragraph 8.45 above, we consider that there are clear similarities and overlaps between the issues under consideration here and those considered in the 2009 Final Determinations and the PPC appeal.

8.50 We also note that one of BT's grounds of appeal in the PPC appeal was that *"OFCOM has erred in its approach to cost orientation by relying on an unlawful and inappropriate rule for cost recovery and cost orientation (the distributed stand alone costs ("DSAC") test)."* This ground is quite widely cast and involved the CAT considering not only "*Is DSAC an appropriate test for cost orientation purposes <u>at all</u>?*" but also "*If so, what emphasis can properly be placed on DSAC? Or put another way, what does "first order" test mean?*".[149] In our view, these considerations have relevance not only to Condition H3.1 but also to BT's cost orientation obligations more generally.

8.51 For the reasons set out at paragraphs 8.48 to 8.50 above, we conclude that it is appropriate to use DSAC as the primary cost benchmark for considering cost orientation for the charges in dispute in this case. This is consistent with our approach in the 2009 Final Determinations and with the PPC Judgment (which was upheld by the Court of Appeal).

[146] BT PAD 7 September 2006 5.3.3, page 65.
[147] BT PAD 7 September 2006 5.3.5, page 68.
[148] PPC Judgment, paragraph 287.
[149] PPC Judgment, paragraph 276(2).

Ensuring that the DSAC test is not implemented in a mechanistic way

Our Draft Determinations

8.52 We noted that in the 2009 Final Determinations we did not consider it appropriate to apply the DSAC test in a purely mechanistic manner.[150] Rather, we considered that "*other factors need to be taken into consideration before it can be concluded that charges are unreasonable or otherwise anti-competitive*".[151] We considered a range of factors beyond the DSAC test. For a number of services, this led us to conclude that, despite failing the DSAC test for at least one year, the charges for those services nevertheless did not constitute overcharging.

8.53 In the PPC Judgment the CAT concluded that, although Condition H3.1 requires Ofcom to treat prices above DSAC as "*intrinsically excessive*" and in breach of the Condition,[152] "*Ofcom must guard against the possible injustices of a mechanistic application of a test for the allocation of common costs*". The CAT considered that "*Ofcom acted appropriately in looking to other factors in addition to the mere fact that DSAC had been breached by BT's prices*".[153]

8.54 The CAT's reasoning for adopting this position reflects the fact that the regulated firm (in this case BT) is prospectively seeking to ensure that it complies with the cost orientation obligation (at the time it sets its charges) while Ofcom is retrospectively assessing whether BT has been compliant (at the time the Disputes were brought to Ofcom). The CAT accepted that:

> "....*even a firm doing its level best to comply with Condition H3.1 (by, for example, seeking to apply DSAC) might find that, even so, the DSAC ceiling was on occasion breached. We consider that, in such circumstances, such a firm might well be in compliance with Condition H3.1, in that its mark up for the recovery of common costs would have been "appropriate*".
>
> "*Accordingly, when retrospectively seeking to determine compliance with Condition H3.1, it would not be right for Ofcom to apply DSAC (or, no doubt, any test for the allocation of common costs) in a mechanistic way. That would overlook the fact that that it is hard in practice for the regulated firm to comply absolutely with whatever test is being used to determine the appropriate allocation of common costs*."[154]

8.55 The CAT concluded that Ofcom acted correctly in considering:

8.55.1 the magnitude and duration by which charges exceeded DSAC;

8.55.2 whether, and the extent to which, charges exceeded FAC; and

8.55.3 the rate of return on capital employed.[155]

8.56 Reflecting the considerable overlap between the Draft Determinations and the 2009 Final Determinations, we proposed to consider each of these three factors before drawing our conclusions on whether BT has overcharged the Disputing CPs for the

[150] 2009 Final Determinations, paragraph 5.37. See also paragraphs 5.91-5.121.
[151] 2009 Final Determinations, paragraph 5.37.
[152] PPC Judgment, paragraph 307(3).
[153] PPC Judgment, paragraph 305.
[154] PPC Judgment, paragraph 303 and 304.
[155] PPC Judgment, paragraph 305.

services in dispute. We discussed how, in particular, we proposed to take into account the magnitude and duration by which charges exceeded DSAC.

Magnitude and duration by which charges exceed DSAC

8.57 When we considered whether the charges in dispute are cost orientated, we proposed to take into account the magnitude and duration by which charges exceeded DSAC[156] as part of our assessment of overcharging. We said this was consistent with the approach we adopted in the 2009 Final Determinations and was found to be appropriate by the CAT (as noted at paragraph 8.53 above).

8.58 The reason for doing so is that the DSACs of an individual service can vary from year to year, meaning that an unchanged charge that was below DSAC in one year might be above DSAC the following year. In considering the extent to which charges above DSAC in individual years can constitute overcharging, it is therefore relevant to bear in mind that BT sets its charges on the basis of the information that is available to it at the time. Given that the DSACs for the year are only known after the end of the year, BT does not know with certainty what the appropriate value will be when setting its charges. For example, if charges do not change materially in a year but the DSAC unexpectedly declines[157], it could be argued that it is unreasonable to consider that this one charge in isolation represents an overcharge.

8.59 In the 2009 Final Determinations we therefore concluded that overcharging had occurred where charges had been persistently above DSAC for the majority of the period (i.e. for at least three out of the five financial years to which the Disputes related). We argued that charges above DSAC for this length of time indicated that BT had failed to take action to alter its charges appropriately. However, where charges exceeded DSAC in fewer than three financial years, we argued that consideration of the specific circumstances was warranted.[158]

8.60 We proposed that it was clearly appropriate for us to take into consideration any factors that we identify as relevant to our decision, as we did in the 2009 Final Determinations. However, we noted that, given BT's better understanding of its pricing decisions and the information available to it at the time of making those decisions, we would normally expect BT to identify and explain the specific circumstances that we should consider when assessing individual charges.

8.61 The CAT made it clear that the DSAC benchmark is important. Therefore, in order to conclude that a charge that exceeds DSAC does not constitute overcharging due to the circumstances surrounding the pricing decision, we said that we would need BT to provide us with a specific and evidence-based explanation of those circumstances.

Comparison of revenues to FAC and analysis of ROCE

8.62 Our assessment also took account of the level of charges compared to FAC and the ROCE earned from the services in dispute, consistent with our approach in the 2009 Final Determinations.

[156] We consider in Section 10 the DSAC data we should use for our assessment.
[157] For example, as a result of an unexpected holding gain incurred on an asset used by the relevant services.
[158] 2009 Final Determinations, paragraphs 5.95 and 5.96.

<u>Economic harm</u>

8.63 We noted that the CAT had also concluded that "*the need to show economic harm – of any sort – is not a pre-requisite for a finding that Condition H3.1 has been breached*"[159] and therefore "*we do not consider there to be a role for an economic harm test when Ofcom is seeking to assess whether BT has breached Condition H3.1*".[160] On the basis of the CAT's conclusions we did not propose to consider economic harm.

Views of the Parties

8.64 BT argues that:

> "*Despite many references to the contrary in the Draft Determinations, Ofcom has adopted a highly mechanistic approach in the Draft Determinations, in clear contrast to the CAT's PPC Judgment:*
>
> - *Ofcom has failed to take account of the point at which information is available to set prices, yet this is critical to its findings of a lack of cost orientations […];*
> - *this contrasts with the CAT's warning that a firm is prospectively seeking to comply with its obligations, yet Ofcom's assessment is retrospective;*
> - *Ofcom's additional comparisons of prices versus FAC and levels of ROCE do not amount to further evidence of a lack of cost orientation; and*
> - *no account is taken of customer needs or commercial context,: BT is reluctant to change relative pricing structures dramatically as wholesale customers often enter into long term supply contracts and want pricing stability."*[161]

8.65 The Disputing CPs agreed that the DSAC test should not be applied in a mechanistic way and that Ofcom should also consider other factors as it did in the 2009 Final Determinations, including the magnitude and duration of the amounts by which BT's charges exceeded DSAC, whether, and the extent to which, charges exceeded FAC and the rate of return on capital employed.[162] They do not agree with BT that Ofcom has adopted a 'mechanistic' approach.[163]

<u>Magnitude and duration by which charges exceed DSAC</u>

8.66 BT argues that, given the volatility displayed by DSACs at the service level, "*Ofcom is correct to consider BT's prices over an extended period and not solely on each year in isolation*". It argues that "*a pragmatic method of using this additional information to genuinely guard against applying the DSAC test in a purely mechanistic way, or imposing rate of return regulation, would consider the relationship between revenues earned and DSACs in previous years*". It suggests "*looking at average DSACs on a rolling 3 or 4 year basis. The average DSAC could then be used as a mechanism to guide pricing for the forthcoming year. This would provide a transparent forward guide for customers who desire stability of pricing*".[164]

[159] PPC Judgment, paragraph 327.
[160] PPC Judgment, paragraph 329.
[161] BT's response to our Draft Determinations, paragraph 10.
[162] Disputing CPs' response to our Draft Determinations, 4.2; Verizon response to our Draft Determinations, page 1.
[163] Disputing CP comments on BT's response, paragraph 9.
[164] BT's response to our Draft Determinations, paragraphs 21 and 22.

8.67 However, BT argues that Ofcom has "*proposed to determine compliance in a wholly mechanistic way.*" It argues this is particularly stark "*for 140/155 Mbit/s main link services where Ofcom is proposing to find overcharging where revenues exceeded DSAC in only a single year*".[165]

8.68 BT also argues that Ofcom has failed "*to take into consideration the limitations imposed by the availability of information at the time charges are set or reviewed*" which BT claims is "*inconsistent with the approach taken by the CAT in the PPC Judgment*".[166] Specifically, BT argues that "*it is difficult to forecast, with perfect accuracy, individual product and unit costs in a multiproduct firm where significant proportion of the costs for a product are common and shared with a large number of other products*" and it is hard to predict PPC costs one year ahead. BT also explains "*large and unpredictable changes in costs*" can act as specific drivers of DSAC variability for each of the services in dispute given the "*interdependence between all products that use a common cost, and the tiny fractions used by the products in this dispute*", and suggests there is a time lag between when BT sets prices for PPCs and when information becomes available to allow a comparison with DSACs.[167]

8.69 As noted above, the Disputing CPs disagree with BT that we have adopted a mechanistic approach to assessing cost orientation. They argue that:

> "*We do not believe that Ofcom has taken a mechanistic approach to the issues at stake, it has merely sought to apply a consistent framework and has taken into account all the specific facts and circumstances of the dispute. Indeed, Ofcom devote considerable time to explaining the need not to take a mechanistic approach, whilst noting that DSAC remains an important benchmark and that in order to conclude that a charge exceeding DSAC did not constitute overcharging it would need to consider evidence supplied by BT. Ofcom then go on to consider the evidence that was supplied by BT, for example, taking into account CCA adjustments, and the argument that BT would only have known of specific DSAC fluctuations when the DSAC figure for the relevant Financial Year became available. Ofcom also offered BT an additional opportunity to provide yet further submissions and evidence-based explanation of any circumstances as to why DSACs fell below costs in relevant years, which BT seeks to address in its response. Such an approach is far removed from a mechanistic application of the DSAC "rule"; we would have far more sympathy for BT's position over a single year overcharge finding if it could demonstrate that it had taken all reasonable steps to comply with a cost orientation obligation for a product that is subject to an SMP finding.*"[168]

8.70 In addition, the Disputing CPs argue that:

> *"If BT had been genuinely caught out by a step change in costs or revenues, but had operated a robust internal compliance procedure and had taken corrective action, albeit a little late, then it might have been open to Ofcom to reach a different conclusion over single year prices above DSAC. However,*

[165] BT's response to our Draft Determinations, paragraph 15.
[166] BT's response to our Draft Determinations, paragraph 23.
[167] BT's response to our Draft Determinations, paragraph 24.
[168] Disputing CPs' comments on BT's response, paragraph 9.

the facts of this case are quite different, with BT showing a serious disregard for its obligations." [169]

8.71 The Disputing CPs also argue:

> *"If Ofcom were to conclude that any charge above DSAC for only a single year does not give rise to a finding of overcharge then it would create a perverse incentive for BT to periodically disregard the cost orientation obligation safe in the knowledge that pricing above DSAC was likely to be permissible in single year episodes. As Ofcom set out, the only permissible way to prevent such an incentive is to require clear evidence to show that DSAC levels fell in a manner that was not reasonably foreseeable"*.[170]

<u>Comparison of revenues to FAC and ROCE analysis</u>

8.72 BT argues that it is to be expected that some prices will be persistently above FAC and consequently consistently earning a higher ROCE. Having already tested whether BT's charges exceed DSAC in some years, finding that BT's charges exceed FAC and ROCE in others is not further evidence of possible overcharging but the inevitable outcome of BT exercising its freedom "*to set prices in a basket both higher and lower than FAC*".[171]

8.73 The Disputing CPs agreed that we should also consider whether, and the extent to which, charges exceeded FAC and the ROCE as part of our assessment.[172] The Disputing CPs consider that BT "*misses the point*" of Ofcom's use of comparisons with FAC and ROCE as a "*sense check*" rather than as a benchmark for assessing cost orientation.[173]

<u>Economic harm</u>

8.74 As noted at paragraph 3.25 above, BT 'adopts' its views set out in Section 10 of its response to the Ethernet Provisional Conclusions, including its argument that the CAT erred in treating the 1997 and 2001 NCC Guidelines, which *"made clear that an economic harm assessment was the 'primary focus' of the investigation"*, as *"in effect irrelevant to the question of determining whether BT's prices were cost orientated"*.[174] BT states that:

> *"...in any assessment of BT's cost orientation condition and in particular whether BT has breached its cost orientation obligation Ofcom must:-*
>
> 1. *carefully consider the actual effects on competition and investment;*
> 2. *conduct a proper economic analysis;*
> 3. *only intervene if it is proportionate; and*

[169] Disputing CPs' comments on BT's response, paragraph 10.
[170] Disputing CPs' comments on BT's response, paragraph 11.
[171] BT's response to our Draft Determinations, paragraph 20.
[172] Disputing CPs' response to our Draft Determinations, paragraph 4.2
[173] Disputing CPs' comments on BT's response, paragraph 11.
[174] BT's response to our Provisional Conclusions, paragraphs 369 and 370.

4. *act consistently with its (or its regulatory predecessor's) statements and approaches previously adopted*."[175]

8.75 The Disputing CPs however "*strongly support*" our provisional conclusion that it was not necessary to consider economic harm in assessing whether BT has breached its cost orientation obligations, which they suggest is supported by the CAT's conclusion in the PPC Judgment that there was no need to show economic harm of any sort for a finding that the relevant SMP condition had been breached.[176]

Our analysis

8.76 BT and the Disputing CPs' responses address two aspects of the non-mechanistic application of the DSAC test:

8.76.1 First, whether the DSAC test should be applied non-mechanistically and, if so, how a non-mechanistic application should be applied; and

8.76.2 Second, whether our proposed assessment of BT's specific charges in dispute followed a non-mechanistic approach.

8.77 We address the additional arguments and evidence that relate to the first of these two aspects below, since we consider that these are relevant to our considerations in this section. We consider the arguments and evidence provided in relation to the second aspect, including BT's arguments in relation to forecasting difficulties, in Section 13.

8.78 In light of the comments of the Parties, we remain of the view that it is appropriate to apply the DSAC test in a non-mechanistic manner. In particular, we have considered the following factors in reaching our conclusions on overcharging:

8.78.1 the magnitude and duration by which charges exceeded DSAC;

8.78.2 whether, and the extent to which charges exceeded FAC; and

8.78.3 the rate of return on capital employed.

8.79 For the reasons set out in paragraphs 8.57 to 8.60 above, such an approach is consistent with our approach in the 2009 Final Determinations and the PPC Judgment. Consistent with the views of the Disputing CPs, we therefore disagree with BT that we have adopted a "*highly mechanistic approach*" which is not consistent with the PPC Judgment.

8.80 Further, in relation to BT's arguments set out in paragraph 8.64 above:

8.80.1 As is clear from our detailed assessments of the charges in dispute in Section 13 below, our assessment of BT's charges, where relevant, considers in detail "*the point at which information is available to set prices*" and its relevance to our conclusions.

8.80.2 As we set out in paragraphs 8.93 to 8.96 below, we consider that comparisons of prices to FAC and consideration of BT's service-level

[175] BT's response to our Provisional Conclusions, paragraph 365.
[176] Disputing CPs' response to our Draft Determinations, paragraph 4.3. See also Verizon's response to our Draft Determinations, page 2.

ROCEs are useful cross-checks on the DSAC test, consistent with the findings of the CAT in the PPC Judgment.

8.80.3 BT has not provided evidence that complying with the DSAC test would require BT to "*change relative pricing structures dramatically.*"[177] If BT had provided such evidence, we could have taken it into account.

8.81 As we set out in paragraph 8.53 above, in the PPC Judgment the CAT concluded that Ofcom should not apply the DSAC test mechanistically. In doing so, the CAT appeared to accept that there may be cases where a charge above DSAC does not necessarily constitute overcharging. Similarly, in our view, while such circumstances would be unusual, we accept that a charge below DSAC may in some circumstances represent overcharging, as set out in the 1997 NCC Guidelines and the 2009 Final Determinations.

Magnitude and duration by which charges exceed DSAC

8.82 As noted above, we disagree with BT that our approach is inconsistent with the PPC Judgment.

8.83 In the 2009 Final Determinations we set out that:

> *"Where charges exceeded DSAC in fewer than three financial years, consideration of the specific circumstances is warranted. The relevant circumstances may include:*
>
> *i) The number of financial years in which charges exceed DSAC, the magnitude of the excess in each of those years and the trend;*
>
> *ii) Average charges compared to DSAC across the whole period;*
>
> *iii) The reasons for the excess and the trend, such as:*
>
> *a. increase in the charges for the service in question;*
>
> *b. reduction in underlying costs; or*
>
> *c. reduction in costs arising from the accounting treatment of cost that does not provide a true picture of underlying costs in that financial year….*
>
> *The first two of these possible reasons for the excess of charges over DSAC (increase in charges or reduction in underlying costs) would generally be consistent with evidence of overcharging. But if the reason for the excess of charges over DSAC was due to the third reason (the accounting treatment of cost), this could contribute to an explanation of the excess that did not indicate overcharging."*[178]

8.84 These are factors we have considered in our assessment of BT's charges in dispute in this case (see Section 13 below). For the purposes of resolving these Disputes we do not consider average charges compared to average DSACs across the whole of the Relevant Period, as we suggested might be relevant in the 2009 Final Determinations. We believe our approach is appropriate given the importance placed by the CAT on the DSAC test and its findings in relation to treating charges above

[177] BT's response to our Draft Determinations, paragraphs 10 and 19.
[178] 2009 Final Determinations, paragraphs 5.96 to 5.97.

DSAC as "*intrinsically excessive*". Further, the use of the Relevant Period as the basis of calculating the averages is largely arbitrary. However, we do place weight on the factual context for the failure of the DSAC test. In cases where charges are above DSAC for a limited period, and by a relatively small amount, or well below DSAC both before and after this limited period, we take account of the factual context when assessing overcharging.

8.85 BT notes that "*given the volatility displayed by DSACs at a service level, Ofcom is correct to consider BT's prices over an extended period and not solely on each year in isolation*"[179]. However, BT suggests looking at average rolling DSACs as a 'pragmatic' way of applying the DSAC test over a period of time.[180] We disagree with BT, as we explain below.

8.86 The approach BT adopts internally to monitor compliance with its cost orientation obligations is a matter for BT. It would be for BT to decide if it considers it appropriate to monitor the rolling average DSAC over a number of years as part of its own internal compliance procedure (alongside other annual data).

8.87 However, we do not consider it is appropriate for us to use a rolling average approach to assess cost orientation in resolving these Disputes as our approach (based on annual data) can take into account difficulties relating to cost volatility and the time when information became available, if BT can provide specific and evidenced-based arguments that such difficulties were relevant in individual cases. We consider that following BT's 'pragmatic' approach could allow BT a significant additional margin of flexibility, which is inappropriate given that our approach can take into account the concerns driving BT's suggestion.

8.88 As set out in paragraph 8.67 above, BT argues that our mechanistic application of the DSAC test is demonstrated by our proposed finding of overcharging in the case of 140/155 Mbit/s terminating segment main link services, where revenues exceeded DSAC in only a single year. We disagree with BT's argument.

8.89 We would expect BT to be compliant with its regulatory obligations at all times. We gave no indication in the NCC Guidelines or the 2004 LLMR Statement[181] that we would only find that BT had breached its cost orientation obligations where prices had exceeded DSAC for a certain period. Further, BT's RFS are reported on the basis of each year's cost and revenue data, rather than as a weighted or moving average over time. We therefore do not consider that BT could have expected anything other than to have to demonstrate that its charges were at all times compliant with its cost orientation obligations, including for a single year. Consistent with this, our view in the 2009 Final Determinations was that charges above DSAC are likely to indicate overcharging, unless there are valid reasons to suggest that this is not the case. This is consistent with the CAT's view that we should treat a charge that fails the DSAC test as "*intrinsically excessive*".

8.90 Where a charge exceeds DSAC for a limited period of time and/or by a narrow margin, this suggests that we should consider whether there is evidence that this does not represent overcharging. It does not, however, automatically imply that the charge is not an overcharge.

[179] BT response to our Draft Determinations, paragraph 21.
[180] BT's response to our Draft Determinations, paragraph 22.
[181] Or in the 2008 BCMR Statement, which was published after the Relevant Period.

8.91 We said in the Draft Determinations that consideration of the specific circumstances would be relevant where charges exceed DSAC in less than the majority of years in the Relevant Period. As we also explained in the Draft Determinations, in order for us to conclude that the circumstances surrounding the pricing decision mean that there is no overcharging (despite a charge exceeding DSAC), we need a specific and evidence-based explanation of those circumstances. Given BT's better understanding of its pricing decisions and the information available to it at the time of making those decisions, BT is normally best placed to provide us with such an explanation, where it exists. We also proposed in the Draft Determinations that any explanation would need to provide:

8.91.1 a detailed description of which cost category (or categories) were the main contributors to the change in unit costs;

8.91.2 what the underlying reason for these cost changes was; and

8.91.3 an explanation as to why, as a consequence, BT considered the changes, at least in large part, to be either not reasonably foreseeable or likely to be temporary in nature.

8.92 We still consider this to be the correct approach in this case. We consider BT's arguments and evidence on these issues, including those relating to forecasting difficulties and the timing of implementing its pricing decisions in Section 13.

<u>Comparison of revenues to FAC and ROCE analysis</u>

8.93 As we set out in the 2009 Final Determinations, a charge above FAC (and therefore a ROCE above BT's WACC) is not intrinsically an indicator that a charge is not cost orientated. We therefore accept that certain charges (for example, some charges within a charge control basket) may be persistently above FAC, but nevertheless cost orientated. However, we remain of the view that, if a charge was above DSAC, and revenues were significantly above FAC, this evidence would corroborate a conclusion of overcharging.

8.94 Where charges are above DSAC, we therefore also consider the relationship of charges to FAC to determine whether a charge is nonetheless cost orientated. The use of FAC in this manner can act as a useful cross-check to ensure that unjust outcomes are avoided.

8.95 FAC and ROCE are closely related, as ROCE is generally derived on a FAC basis. However, ROCE is a well understood and widely used metric within the industry, including being used in a wide range of regulatory applications. Considering BT's ROCE (as compared to BT's appropriately measured cost of capital) for the relevant services in dispute is therefore a useful additional way of considering evidence on FAC.

8.96 In the PPC Judgment, the CAT found we acted correctly in considering these factors in order to ensure the DSAC test is not applied mechanistically, and noted that an "*appropriate return on capital employed*" is expressly mentioned in the Condition.

<u>Economic harm</u>

8.97 In relation to the question of whether it is necessary to show economic harm, we note that the Court of Appeal upheld the CAT's PPC Judgment and agreed *"that, on the particular facts of the present case [the PPC appeal], it was not necessary for Ofcom* *or the Tribunal to find specific adverse economic consequences of BT's pricing in order to determine that BT was in breach of Condition H3.1.*"[182] We therefore consider that we do not need to demonstrate that economic harm has occurred as a result of BT's charges in order to find it has breached its cost orientation obligations. However, for completeness and as in the 2009 Final Determinations, in paragraphs 13.230 to 13.269 below we set out why we nevertheless consider that any overcharging by BT in this case is likely to be associated with economic harm.

Conclusion and summary of our approach to determining whether BT's charges were cost orientated

8.98 Having considered the views of the Parties, for the reasons set out above, we do not consider it appropriate to depart from the approach to assessing BT's charges that we set out in the Draft Determinations. Therefore, we adopt the same three steps in our assessment that we proposed in the Draft Determinations, namely:

Step 1

We start our analysis by considering whether the evidence BT has provided during the course of these Disputes demonstrates to our satisfaction that each and every charge was reasonably derived from the costs of provision based on a forward looking LRIC approach and allowing an appropriate mark up for the recovery of common costs including an appropriate return on capital employed, in accordance with its obligations under Conditions GG3.1 and H3.1.

Step 2

In the event that BT's evidence does not satisfy us that it has met the requirements of Conditions GG3.1 and H3.1, we then go on to consider whether BT's charges were nevertheless cost orientated. We do this by comparing the relevant PPC charges with their respective DSACs to identify any revenues exceeding DSAC.

Step 3

Finally, before drawing our conclusions on overcharging, we consider:

- the magnitude and duration of the amounts by which charges exceeded DSAC;
- whether, and the extent to which charges exceeded FAC; and
- the rate of return on capital employed.

If we conclude that BT overcharged for the services in dispute, we will then calculate the level of overcharge.

[182] Court of Appeal Judgment, paragraph 80.

Section 9

Has BT satisfactorily demonstrated that its relevant charges were cost orientated?

Introduction

9.1 In this section we assess whether BT has demonstrated to our satisfaction that each and every one of its PPC charges in dispute was cost orientated during the Relevant Period.

9.2 Prior to the publication of the 2009 Final Determinations, BT provided three forms of evidence in support of why its PPCs charges (including those relevant to these Determinations) were cost orientated:

9.2.1 data on individual service SAC and a sub-set of combinatorial tests;

9.2.2 international benchmarking; and

9.2.3 analysis of the individual circuits sold to CPs.

9.3 Each of these types of evidence was considered by Ofcom in the 2009 Final Determinations and by the CAT in the PPC appeal. Both the CAT and Ofcom found the evidence provided by BT was insufficient to discharge its obligation to demonstrate to our satisfaction that its charges were cost orientated. In the Draft Determinations, we summarised both sets of conclusions, before considering their relevance to the Draft Determinations. We recap this summary and our provisional conclusions before considering the responses of the Parties to the Draft Determinations and setting out our final conclusions.

Summary of conclusions in the 2009 Final Determinations and PPC Judgment

BT's combinatorial tests

The 2009 Final Determinations

9.4 In its 5 June 2009 submission, BT provided evidence on standalone costs for individual services and a set of combinatorial tests.[183] It argued that the results of this analysis showed that it had not overcharged for PPCs.

9.5 In the 2009 Final Determinations, we provided a detailed explanation of why we concluded that this evidence was not sufficiently relevant or reliable to alter our conclusions on overcharging. As well as identifying a number of general difficulties in applying and interpreting SAC and combinatorial test evidence, we also explained our concerns over the quality and robustness of the specific evidence provided by BT.[184]

[183] 2009 Final Determinations, paragraph 7.16.
[184] See paragraphs 5.71, 7.96-7.133 and Annex 15 of the 2009 Final Determinations.

The PPC Judgment

9.6 The CAT in the PPC Judgment also considered BT's evidence on combinatorial tests:

> "*Had BT demonstrated an absence of over-recovery of common costs through a series of combinatorial tests, then this would have been an appropriate way of demonstrating an appropriate mark-up for the recovery of common costs. However, at the end of the day, it was common ground that such combinatorial tests as were conducted by BT during the course of the Dispute Resolution Process were insufficient to establish this*."[185]

9.7 As a consequence the CAT concluded:

> *"The limited combinatorial tests carried out by BT were insufficient to demonstrate that BT had complied with its cost orientation obligation…"*[186]

International benchmarking

The 2009 Final Determinations

9.8 The first Deloitte Report, provided by BT with its 14 October 2008 submission, contains evidence on international benchmarking. The study used data from nine incumbent operators in Western Europe that were subject to the same EU regulatory framework as BT is in the UK. BT argued that this evidence demonstrated that its PPC charges were not high compared to those of the other incumbent operators.

9.9 In paragraphs 7.136 to 7.150 of the 2009 Final Determinations we considered BT's evidence and explained why we concluded that it should not be given significant weight in our assessment. In summary our concerns were:

9.9.1 the circumstances compared in the international benchmarking were not similarly defined, given the differences in networks, geography, competition and regulation in the countries included;

9.9.2 the analysis did not consider cost differences between countries;

9.9.3 there was an obligation for cost orientated trunk charges in only three of the nine countries included in the analysis;

9.9.4 for four of the nine countries, trunk prices were not available and terminating segment prices were used as a proxy, resulting in a likely overestimation of prices; and

9.9.5 it was no substitute for actual price and cost data for BT's services in the UK.

The PPC Judgment

9.10 The CAT considered the role of BT's benchmarking evidence in the PPC Judgment, noting that:

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[185] PPC Judgment, paragraph 265.
[186] PPC Judgment, paragraph 261.

> "*The importance of international comparisons depends upon the issue in question. Here we are considering compliance with a cost orientation obligation that is, so we have found, tightly and clearly drawn. BT's prices must be orientated to BT's LRIC, with a mark-up for BT's common costs, and taking into account BT's cost of capital. It seems to us that in this context, even if it comprised very detailed and clear information as to the charges of other operators, an international comparison can say very little about BT's compliance with Condition H3.1.*"[187] [Emphasis in original]

9.11 The CAT went on to conclude that:

> "*…we consider that OFCOM was right, in this case, to regard the Deloitte report as having really very little relevance to the question of whether BT's common costs had been appropriately allocated in compliance with Condition H3.1. We consider that the answer to this question was firmly rooted in BT's own costs and prices.*"[188] [Emphasis in original]

BT's circuit analysis

The 2009 Final Determinations

9.12 As part of its 5 June 2009 submission, BT also submitted an analysis of the revenues earned for individual circuits (i.e. the specific combination of trunk and terminating segment services) compared to DSAC for those circuits. On the basis of this analysis BT argued that very few circuits were sold above DSAC.

9.13 We considered the relevance of BT's circuit analysis to the Disputes in paragraph 7.57 of the 2009 Final Determinations, concluding that it was of "*limited relevance*" on the basis that it is predicated on considering the appropriateness of charges on an aggregated basis.

The PPC Judgment

9.14 This position was supported by the CAT:

> "*…we consider that OFCOM was right, in the Determination, to conclude (in paragraph 7.57 of the Determination) that "BT's circuit analysis is of limited relevance to these Disputes. While it is informative to note that, even on the basis of BT's preferred approach of offsetting trunk charges with terminating charges, it is still possible to conclude that there was overcharging (given that charges exceeded DSAC)…we fundamentally disagree with the aggregation of trunk and terminating charges upon which BT's circuit analysis is based.*""[189]

Our Draft Determinations

9.15 For the reasons we have presented above, Ofcom concluded in the 2009 Final Determinations that the evidence supplied by BT was not sufficiently relevant and/or reliable to demonstrate that its PPC charges were cost orientated over the period of the Disputes.

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[187] PPC Judgment, paragraph 266.
[188] PPC Judgment, paragraph 273.
[189] PPC Judgment, paragraph 264.

9.16 We noted that the CAT's conclusions in paragraphs 274 and 275 of its PPC Judgment provide support for our position:

> "*Our conclusion is that none of the material adduced by BT to OFCOM, whether before or during the Dispute Resolution Process was sufficient to discharge the onus, which was on BT, to show that its prices for 2 Mbit/s trunk segments were compliant with the requirements of Condition H3.1. In particular:*
>
> *(1) The data on which BT relied – which we have summarised in paragraphs 132 to 135 above – looked at the prices for PPCs on an aggregated basis, which is not what Condition H3.1 calls for.*
>
> *(2) The same objection can be made in respect of BT's circuit analysis, which is also an aggregated assessment, albeit one done by reference to the actual circuits purchased by the Altnets.*
>
> *(3) BT's international benchmarking and combinatorial tests were inconclusive and essentially irrelevant, for the reasons we have given.*
>
> *Accordingly, BT was in breach of Condition H3.1 in that it could not demonstrate to the satisfaction of OFCOM that Condition H3.1 was satisfied."*

9.17 We set out in the Draft Determinations that, although the CAT's conclusions relate to 2 Mbit/s PPC trunk services (the primary focus of the PPC appeal), the rationale underpinning those conclusions (i.e. points 1 to 3 made by the CAT quoted above) are, in our view, equally applicable to all PPC services, including those currently under consideration.

9.18 In the period between the handing down of the PPC Judgment and the publication of the Draft Determinations, BT did not provide any additional evidence in relation to its combinatorial tests, international benchmarking or circuit analysis. Furthermore, it did not during this period submit any further evidence in relation to 140/155 Mbit/s PPC terminating segment local end, main link or connection services.[190] As a consequence, and consistent with our conclusions in the 2009 Final Determinations and the CAT's conclusions in the PPC Judgment, we provisionally concluded in the Draft Determinations that BT had not demonstrated to our satisfaction that its recovery of common costs from 140/155 Mbit/s PPC terminating segment local end, main link or connection services, over the Relevant Period, was appropriate. We therefore proposed to conclude that BT was in breach of Condition GG3.1 in respect of these services over the Relevant Period.

9.19 In respect of 34/45 Mbit/s PPC trunk and 140/155 Mbit/s PPC terminating segment distribution services, BT provided in its 27 May 2011 letter additional representations in the period between the PPC Judgment and the publication of the Draft Determinations. We noted that, rather than providing new cost or price benchmarking evidence, BT's representations focussed on its view of the circumstances surrounding its charges and how it believes these circumstances should be taken into account in considering the appropriateness of those charges that we find to be in excess of DSAC. These representations included arguments as to why it considers its charges for 34/45 Mbit/s PPC trunk and 140/155 Mbit/s PPC terminating segment distribution services were cost orientated over the Relevant Period. We took the view

[190] Other than some arguments with regard to local end terminating segments considered in Section 13 below.

that these representations were relevant for us to consider in ensuring that our application of the DSAC test is not mechanistic when assessing whether there had been overcharging (we discuss this further in Section 13). As such, BT failed to demonstrate to our satisfaction that these charges during the Relevant Period were in compliance with its cost orientation obligations

Views of the Parties

9.20 In their response to our Draft Determinations the Disputing CPs agree with Ofcom's provisional conclusions, noting that:

> *"The Disputing CPs agree with Ofcom's conclusion that BT has failed to demonstrate that each and every charge for the higher bandwidth PPC services was cost-oriented."*[191]

9.21 In particular, they note the evidence previously put forward by BT regarding data on individual service SAC and a sub-set of combinatorial tests, international benchmarking and circuit analysis. They "*agree with Ofcom that BT's evidence is of equally limited relevance to these Disputes*".[192]

9.22 The Disputing CPs "*consider that the truth of the matter is that the PPC Product Management team within BT took an incredibly blasé attitude to PPC pricing. They themselves admit that they did not look at the RFS when setting prices for PPCs or assessing cost orientation, instead reviewing billed revenues against total management costs and the resulting ROCE for BT's PPC products as a whole. This approach was completely inadequate as regards ensuring that BT complied with its cost-orientation obligations (a point also made by the CAT in the PPC Judgment) and indicates that in fact BT had no real idea or concern whether or not its charges were compliant.*"[193]

9.23 In its response to our Draft Determinations, BT did not make any new submissions regarding the three types of evidence previously considered by Ofcom and the CAT. It did however acknowledge that its approach to compliance was not "*all that it should have been*" and that it assumed "*for good reasons*" that provided: "*(i) it did not increase its charges; (ii) the actual unit costs of providing a service were unlikely to significantly decrease; (iii) the ROCE for BT's PPCs portfolio was reasonable, that BT would comply with the basis of charges obligation*".[194]

9.24 As noted at paragraph 7.17 above, BT has argued that, up until the PPC Judgment was handed down, BT was unsure of the way in which BT should approach the task of monitoring compliance with its cost orientation obligations.[195]

9.25 The Disputing CPs suggest that "*BT has failed to demonstrate that it adopted an alternative well developed methodology to assess compliance with the condition; indeed BT's pricing compliance safeguards were largely non-existent*". In response to BT's comments on "*its apparent confusion over how to interpret the cost orientation obligation placed upon it*", the Disputing CPs pose the question: "*If BT was in any way unsure of the interpretation of its cost orientation obligation, why did it not ask Ofcom for clarification?*" They state that they understand BT's "*laissez faire approach*

[191] Disputing CPs' response to our Draft Determinations, paragraph 5.1.
[192] Disputing CPs' response to our Draft Determinations, paragraphs 5.5 to 5.7.
[193] Disputing CPs' response to our Draft Determinations, paragraph 7.8.
[194] BT's response to our Draft Determinations, paragraph 26.
[195] BT's response to our Draft Determinations, paragraph 25.

involved a superficial review of ROCE at an aggregated level with no accompanying compliance process" and suggest that since BT's arguments "*have already been run and lost by BT in its appeal of the original PPC dispute to the CAT…we see no reason why Ofcom should not reach the same sound conclusion as it did in PPC1*".[196]

9.26 As noted at paragraph 8.68 above, BT also sets out arguments relating to difficulties forecasting costs and the availability of information when setting prices. In connection with this, BT puts forward a number of arguments relating to its view of the circumstances surrounding its charges for 34/45 Mbit/s PPC trunk and 140/155 Mbit/s PPC terminating segment distribution and main link services and how it believes these circumstances should be taken into account in considering the appropriateness of those charges we find to be in excess of DSAC.[197] These arguments are set out in more detail in Section 13.

9.27 BT also provides further evidence in relation to the appropriateness and accuracy of the adjustments to BT's published data proposed by Ofcom in the Draft Determinations. BT argues that the proposed adjustments are subject to a number of errors and suggests a number of revisions to Ofcom's proposed approach.[198] These arguments are set out in more detail in Section 12. BT's suggested revisions to our proposed approach to adjustments would in particular affect the data that we use for the purposes of assessing whether there was overcharging for 144/155 PPC terminating segment connection services and 140/155 Mbit/s PPC terminating segment local end services.

Our analysis

9.28 BT's response to our Draft Determinations did not provide any further evidence in relation to its combinatorial tests analysis, its international benchmarking analysis or its circuit analysis. In light of this, we continue to consider that this evidence does not demonstrate to our satisfaction that BT's charges were cost orientated for the reasons set out in our Draft Determinations, and consistent with the 2009 Final Determinations and the PPC Judgment.

9.29 We note BT's acknowledgment that its approach to compliance was not "*all that it should have been*". We also note that Conditions GG3.1 and H3.1 clearly place an obligation on BT to ensure that its charges are cost orientated. If BT has any doubt as to how this is to be achieved, it is for BT to direct its attention to this question and to develop an appropriate response. BT has not provided evidence that it undertook either of these steps.

9.30 As noted at paragraph 9.26 above, BT argues that Ofcom should take account of the circumstances surrounding its charges for 34/45 Mbit/s PPC trunk and 140/155 Mbit/s PPC terminating segment distribution and main link services. Consistent with our approach in the Draft Determinations, we take the view that BT's representations are relevant for us to consider in ensuring that the DSAC test is not applied in a mechanistic manner as part of our assessment of overcharging. For the purposes of these Determinations, we therefore set out in detail our conclusions on BT's arguments in paragraphs 13.94 to 13.135 and 13.146 to 13.158.

[196] Disputing CPs' comments on BT's response, paragraphs 2 to 6.
[197] BT's response to our Draft Determinations, paragraphs 23 to 125.
[198] BT's response to our Draft Determinations, paragraphs 126 to 195.

9.31 As noted at paragraph 9.27 above, BT raises a number of arguments as to how it considers that our approach to the proposed adjustments to BT's published data should be altered and puts forward new evidence in support. For the purposes of these Determinations, we assess BT's arguments in detail in Section 12. In summary, as a result of BT's new evidence, we now find that BT's external revenues for 140/155 Mbit/s terminating segment connection services were below external DSAC for 2007/08 and 2008/09 (i.e. the years relevant to these Disputes for which we have data). While we recognise that there may be circumstances in which charges below DSAC are not compliant with the cost orientation obligations, the Parties have not put forward specific arguments in this case which cause us to consider that these charges below DSAC may not be cost orientated. We therefore consider that BT's charges for 140/155 Mbit/s terminating segment connection services in these two financial years were cost orientated and that BT has satisfactorily demonstrated this.

9.32 However, for the first three financial years of the Relevant Period (i.e. 2004/05 to 2006/07), BT was unable to provide us with financial data to enable us to compare its charges for 140/155 Mbit/s terminating segment connection services with DSAC. Furthermore, it provided no additional arguments specifically in relation to connection charges in these three years in response to our Draft Determinations. As such, we are unable to conclude that BT has demonstrated to our satisfaction that its charges for 140/155 Mbit/s terminating segment connection services in 2004/05 to 2006/07 were cost orientated. We therefore consider these charges further in Section 13.

9.33 We consider in Section 12 BT's comments on the financial data for 140/155 Mbit/s PPC terminating segment local end services. We continue to find that charges exceeded DSAC in each of the final three financial years of the Relevant Period. We therefore continue to consider that BT has not satisfactorily demonstrated that its charges were cost orientated in respect of 140/155 Mbit/s PPC terminating segment local end services for the final three years of the Relevant Period. We therefore consider these charges further in Section 13.

Section 10

How do we establish BT's costs of providing PPC services?

Introduction

10.1 Given our conclusion in Section 9 that BT has failed to demonstrate to our satisfaction that its relevant charges were cost orientated during the Relevant Period, we must now undertake our own assessment of BT's charges. As described in Section 8, we do this by first applying the DSAC test.

10.2 In order to resolve the Disputes, we need to establish the appropriate data for assessing cost orientation. This Section sets out the framework we will use to consider:

10.2.1 whether we should depart from BT's original DSACs as published in the RFS for 2004/05 to 2008/09 and replace them with BT's revised DSACs which are based on a revised methodology; and

10.2.2 whether we should make accounting adjustments to BT's costs as reported in the RFS.

10.3 We apply this framework to consider what the appropriate DSACs are in Section 11 and then consider the accounting adjustments in Section 12.

10.4 We note that this framework, and the reasoning supporting it, is consistent with that set out in Section 11 of the Ethernet Determinations. Given the similarities in the issues under consideration, we consider it appropriate to take a consistent approach in these Disputes.

Our Draft Determinations

10.5 In our Draft Determinations, we noted that BT has considerable discretion as to its approach to calculating DSACs and there may be more than one 'appropriate' methodology. However, we also noted the importance of Ofcom and CPs being able to rely on the figures published in BT's RFS to assess whether BT complied with its obligations at the relevant time.

10.6 We noted in respect of BT's revised DSACs that the amendments retrospectively change the DSACs not only for the services relevant to these Disputes but also for a range of other services. In addition, for some of these other services BT's published cost data has formed the basis of previous regulatory decisions.

10.7 We explained that Ofcom's approach to allowing revisions of historic published data such as the RFS has important implications for BT's incentives to provide appropriate and accurate information in its RFS in the future. We considered that allowing BT to change its methodology retrospectively when the original methodology is not obviously inappropriate or subject to errors, risks creating an incentive for BT to change its methodology whenever a change may be to BT's advantage.

10.8 We therefore proposed that Ofcom should rely on the published RFS for the purposes of determining these Disputes, unless there are errors in BT's RFS, or the methodology used in preparing the RFS was obviously inappropriate. We argued that this was consistent with the views of the CAT in the PPC Judgment.

10.9 We considered that the decision as to whether a specific approach is appropriate is necessarily linked to the analytical issue or policy objective that it is being used to address, and that if the approach is evidently inconsistent with the objective, then this would support a conclusion that it was obviously inappropriate.

10.10 We also set out in our Draft Determinations how we proposed to analyse the costs and revenue associated with each service. We considered that there were some areas where it was necessary to make adjustments to BT's published data to ensure it could be relied upon for determining the Disputes, in particular to:

10.10.1 correct for straightforward errors in the RFS data, especially for misstatements of volumes and the associated impacts on revenues and costs; and

10.10.2 ensure that revenues are compared against the appropriate costs. We noted that it is not always possible to directly compare the revenues and costs reported in BT's RFS because the data for a service may include revenues and costs associated with a different service, or relevant revenues and costs may be reported elsewhere. This means that the costs of a service may not always be matched against the revenues to which they relate.

10.11 In making these adjustments we noted the CAT's comment in the PPC Judgment that Ofcom's adjustments to the RFS "*may, perhaps, be justified because BT's originally published regulatory financial statements could not be relied upon*."[199]

Views of the Parties

10.12 The Disputing CPs agree that "*the appropriate starting point for resolving the Disputes is the RFS*".[200] They note that "*it is much easier for BT to 'find' errors in its RFS than it is for the Disputing CPs, and this gives BT an inherent advantage especially because the errors BT finds always seam* [sic] *to be in its favour.*"[201]

10.13 They also argue that "*it would send entirely the wrong message to BT in terms of the need to comply with its regulatory obligations if BT were permitted to restate its figures using different methodology [sic] every time its compliance with a cost orientation obligation was questioned in order to mitigate the effects of a dispute. BT could effectively go back and 'game' its SMP obligations.*"[202] They suggest that "*[g]iven the clear incentives (and regulatory obligations) BT has when proposing any such change it is important that any retrospective change is done in a way that is fair and reasonable in the context of all stakeholders*".[203]

[199] PPC Judgment, paragraph 161.
[200] Disputing CPs' response to our Draft Determinations, paragraph 6.1.
[201] Disputing CPs' response to our Draft Determinations, paragraph 6.14.
[202] Disputing CPs' response to our Draft Determinations, paragraph 6.3.
[203] Disputing CPs' response to our Draft Determinations, paragraph 6.15.

10.14 BT did not comment on our approach to departing from its RFS in its response to the Draft Determinations.[204] Its specific comments in relation to accounting adjustments are set out below in Section 12.

Our analysis

The RFS are an important reference point for determining BT's costs and revenues

10.15 As set out in Section 5, BT's RFS are an important part of the regulatory framework. Not only are they of importance to us in performing our regulatory functions in accordance with our statutory duties, but they are also important for BT's customers and competitors as they provide the information needed to assess whether BT is abiding by its regulatory obligations and competing fairly. We would normally therefore expect the RFS to constitute the best available information for us to use in fulfilling our regulatory functions, including dispute resolution.

10.16 In the 2004 Financial Reporting Notification we explained the need for regulatory financial information:

10.16.1 "*Regulatory financial information is fundamental to the economic regulation of the electronic communications sector and in particular to many of the decisions of Ofcom*."[205]

10.16.2 "*…where…obligations have been imposed it is essential that they are monitored and enforced properly. Therefore, it is necessary to have appropriate regulatory reporting*."[206]

10.16.3 "*Examples [of where] Ofcom requires good-quality financial information from dominant providers, in order to inform decisions and actions, include*:

- *the need for a dominant provider to demonstrate compliance with conditions for cost orientation and non-discrimination;*
- *investigations into potential breaches of conditions, including potential anticompetitive practices, either based on complaints received or on Ofcom's own initiative;*
- *monitoring obligations to ensure compliance with conditions, including deterring anti-competitive practices; and*
- *setting and monitoring price controls.*"[207]

10.17 As we explained in our Draft Determinations, we and other industry stakeholders should be able to rely on the RFS, as the CAT noted in the PPC Judgment:

> "…*in ordinary circumstances (where there is no error in BT's audited regulatory financial statements) we would expect the figures in these statements to stand without great investigation, re-checking or adjustment*

[204] We note that BT commented on our approach in its response to the Ethernet Provisional Conclusions.
[205] Paragraph 2.21 of the 2004 Financial Reporting Notification.
[206] Paragraph 2.23 of the 2004 Financial Reporting Notification.
[207] Paragraph 2.24 of the 2004 Financial Reporting Notification.

by OFCOM. That, after all, is one of the purposes of regulatory financial statements: to ensure that the appropriate data is published to enable compliance with SMP conditions to be monitored."[208]

10.18 BT has a degree of discretion in relation to how it calculates and allocates its costs within the broad frameworks agreed with Ofcom. Allowing BT flexibility is generally desirable because it is unlikely to be proportionate for Ofcom to dictate every single cost allocation method, especially where services are new.[209] However the regulatory regime, and specifically the decisions we make in respect of the use of BT's financial information, should seek to incentivise BT to provide appropriate and accurate information in the RFS.

Adjustments are sometimes necessary and appropriate

10.19 Our starting point for making regulatory decisions assessing compliance with cost orientation obligations which require consideration of BT's costs and revenues, is BT's view of its costs, as published in its RFS. As we set out above, we would expect the RFS to contain the best available information for those decisions. However we have adjusted BT's accounting data on occasion in the past where we considered that this was necessary and appropriate. We have made such adjustments where the published data is in error or based on an obviously inappropriate methodology, to ensure that, as far as possible, we accurately reflect BT's costs and revenues when resolving disputes and undertaking other regulatory duties.

10.20 In the 2009 Final Determinations we made adjustments to:

10.20.1 correct for volume errors;

10.20.2 modify assumptions in the RFS that were not appropriate for the services in dispute;

10.20.3 ensure that the revenues of a service were appropriately matched with the costs of the service; and

10.20.4 exclude costs not relevant to the provision of the services in dispute.

10.21 We can only make adjustments where it is reasonably practical to do so with the evidence available to us. Where we are concerned that data may contain an error or have been produced using an obviously inappropriate methodology, we can only change the data if we have sufficient information to properly address the concern with the published data. If sufficient data is not available to us, the original data in the RFS may still represent the best available information.

Adjustments may lead to undesirable consequences

10.22 We therefore accept that it may be necessary to make adjustments to BT's RFS in cases where we have identified that there is an error or the methodology is obviously inappropriate and it is reasonably practical to make the adjustments. However, in determining the best available information for a specific case, we need to balance this against other considerations which might mean that it is inappropriate to make adjustments. We set out below the factors which we consider relevant to our decision

[208] PPC Judgment, paragraph 161.
[209] BT has over 50,000 cost items that have to be allocated in its accounts. The summarised methodology for allocating costs runs to over 1,000 pages.

as to which cost data we should use in these Disputes. However, they are not intended to be an exhaustive list which would necessarily apply in every situation.

10.23 Under BT's cost structure, there are many costs that are shared between a large number of services, such as the costs of BT's duct network which is used by both regulated and unregulated services. An allocation of these common costs may represent a sizeable proportion of the costs of a service. Changes in the allocation of common costs are therefore likely to impact on the costs of individual services.

10.24 Where adjustments to BT's cost allocations for particular services are limited they may have a fairly immaterial impact on other services. However, if the adjustments involve a larger reallocation of costs then it is likely that they will affect not just the services in question, but also other services that share those costs.

10.25 Where BT (or indeed Ofcom) suggests an adjustment which involves a change to BT's cost allocation methodology and materially affects the costs not just of the services in dispute but other services, we should carefully consider the wider implications of making such an adjustment.

10.26 BT has a discretion regarding how it allocates costs, but once it has determined the methodology it will use and published its RFS, it is important that Ofcom and CPs can rely on the reported allocation methodology. If we permit retrospective changes to cost allocations that materially affect a large number of services then we risk undermining confidence in BT's RFS.

10.27 As noted by the Disputing CPs, we would also provide BT with an incentive not to allocate costs in its RFS in an accurate and appropriate manner, but instead in a manner which is to its advantage in regulatory decisions, especially those with regard to past charges such as in these Disputes. BT would know that, if necessary, it would be able to revise the allocation in future to produce a favourable outcome to a different regulatory decision such as through restating previously published RFS using a different costing methodology.

10.28 In addition, where data published in the RFS have been used in other regulatory decisions (such as for the purposes of setting a charge control), by retrospectively reallocating costs between services we risk introducing inconsistency between regulatory decisions. This can impact on BT's ability to recover its costs, potentially leading to it either under- or over-recovering its costs, and will also affect other stakeholders.

10.29 There is an asymmetry of information between BT on the one hand and other CPs and Ofcom on the other, as highlighted in the Disputing CPs' comments. BT has access to information which enables it to consider the effect of individual changes to its published accounts. It has the ability and the incentive to propose changes which will operate in its favour.[210] In considering whether to accept changes to its published data proposed by BT, we should take this into account, reflecting the importance we place on incentivising BT to provide appropriate and accurate information in the RFS.

[210] The changes proposed by BT, in its response to the Draft Determinations, to its costs in the Disputes generally favour BT in that they increase the costs or reduce the revenues of the services in dispute over the course of the Relevant Period.

How should we consider whether to make adjustments to BT's published financial data?

10.30 In deciding whether to make an adjustment to BT's published data, we need to make a regulatory judgment as to how we should balance the various factors relevant to our decision in order to achieve an outcome which most appropriately meets our statutory objectives.

10.31 We remain of the view that we should take into account the factors identified in our Draft Determinations. However, we consider that it is possible that even where the RFS are based on a methodology that is obviously inappropriate or there are errors in BT's published cost data, in some cases it may not be appropriate to depart from the RFS taking all the relevant considerations into account. We consider that it is appropriate to take the following factors into consideration:

10.31.1 **Does the adjustment correct an error in BT's published RFS?** For example, if revenues or circuit volumes have been misstated; or

10.31.2 **Does the adjustment correct a methodology used in the published RFS that is obviously inappropriate for the purpose of resolving the dispute?** For example, to ensure appropriate matching of revenues and costs of a service.

We consider it necessary for the answer to be 'yes' to one of these two questions for us to consider departing from BT's published RFS.

10.31.3 **With the available evidence, is it reasonably practical to implement the proposed adjustment to the published data in a way that properly addresses the error or inappropriate methodology?** In order for us to make a change to the RFS, it is also necessary for it to be reasonably practical for us to do so in a way that properly addresses the issue identified and provides evidence that is clearly better for the purpose of resolving the Disputes. Where relevant, we should therefore take into account the practical difficulties of making a satisfactory adjustment or implementing a satisfactory revised methodology. Where changes are made to BT's cost allocation methodology, changing one element could have significant knock-on effects on other costs, which may simply be too challenging to model, especially within the context of a dispute, or they may have unforeseen adverse consequences. We should also consider the extent to which it is proportionate for us to investigate different possible changes to costs for the purpose of resolving a dispute.

We therefore also consider it necessary for the answer to be 'yes' to this question for us to consider departing from BT's published RFS.

10.31.4 **Does the proposed adjustment retrospectively alter the financial data on which we relied in previous regulatory decisions including for services outside the scope of the dispute?** As noted at paragraph 10.24 above, if the proposed adjustment involves a change in cost allocation methodology, then such a change could alter the costs of other services not in dispute. We further note at paragraph 10.28 that if the costs of these other services were used in making other regulatory decisions then we should consider the effect that such a retrospective amendment would have on those costs. Introducing inconsistencies in the financial data upon which we make decisions can otherwise impact on BT's ability to recover its costs, potentially leading to it either under- or over-recovering its costs, and will also affect other stakeholders.

10.31.5 **Does accepting revised data create inappropriate incentives for BT to produce appropriate and accurate regulatory financial statements in the future?** Allowing BT to change its methodology retrospectively risks creating an incentive for BT to change its methodology whenever a change may be to BT's advantage. Further, as noted at paragraph 10.29 above, BT is better placed to propose adjustments than other CPs, which may be beneficial to BT if they increase costs of a service in dispute. This does not necessarily make such an adjustment inappropriate, but overall we need to take account of the fact that BT has additional information compared to CPs that enables it to propose adjustments that are in its favour which may affect its incentives for compliance and to produce accurate financial information.

10.32 Whether it is appropriate to make an adjustment or not will depend on the specific circumstances of the change in costs and the regulatory decision in question. We will therefore consider whether to make each of the proposed adjustments to BT's financial data on the facts of these Disputes, taking into account the factors set out above. Where an adjustment has effects on previous regulatory decisions or creates inappropriate incentives for BT, these considerations will (on their own) favour not making the adjustment. In such circumstances, a judgment is required to balance the competing considerations, taking account of the nature and seriousness of the error or inappropriate methodology compared to the consequences for previous regulatory decisions and BT's incentives. We may also consider the materiality of any change which results from consideration of these factors before deciding whether to make the adjustment.

10.33 We consider that applying this framework should ensure consistency in our decisions in these Disputes as to whether it is appropriate to depart from the RFS.

Section 11

Which are the appropriate DSAC data for assessing cost orientation?

Introduction

11.1 We consider that we should rely on the DSAC figures in BT's published RFS unless it is appropriate to use revised data in accordance with the framework set out in Section 10.

11.2 Before we published our Draft Determinations, BT argued in the context of the Ethernet Disputes that we should not use the original DSAC figures it published in its annual RFS during the Relevant Period as the basis for the DSAC test for the purposes of the Ethernet Disputes and that we should instead use new DSAC figures for 2006/07 to 2009/10 that BT had calculated using a revised methodology. BT subsequently confirmed that "*[T]hese adjustments also affect the reported DSACs for the PPC services subject to further scrutiny by Ofcom in this investigation*".[211] BT used this revised methodology to generate the DSACs published in its 2010/11 RFS.

11.3 The outcome of BT's proposals would be to change the levels of LRIC for components and services, with some services (e.g. many Ethernet services) seeing an increase in their LRICs and other services (e.g. many PPC services) having their LRICs reduced. As a result of the change in LRIC levels, the allocation of FCCs between components and services would also change. The DSAC figures against which we would assess whether BT has overcharged for the PPC services in dispute may decrease, potentially increasing the extent to which BT may be deemed to have overcharged for those services. There would be a corresponding, yet significantly more substantial, increase in the DSAC figures across Ethernet services (which were the subject of the Ethernet Disputes).

11.4 We considered BT's arguments and their relevance to these Disputes in our Draft Determinations. We proposed to resolve the Disputes using data based on BT's originally published methodology and not the revised data which it argued we should use. This was consistent with the data that we used in the 2009 Final Determinations, and that which we proposed to use in the Ethernet Provisional Conclusions.

11.5 Since publishing our Draft Determinations, we have received additional information from BT (in the context of the Ethernet Disputes) and our understanding of the drivers behind BT's DSAC calculations has evolved. We conclude below that we should continue to use the DSAC data using the original methodology adopted in the published RFS, but our reasoning has evolved and reflects our updated understanding. This Section sets out that reasoning. We note that our conclusions, and the reasoning supporting them, are consistent with those in the Ethernet Determinations.

[211] BT's 27 May 2011 letter; BT's argument in the Ethernet Disputes is set out in its 20 May 2011 submission, executive summary, paragraph 12.

Background

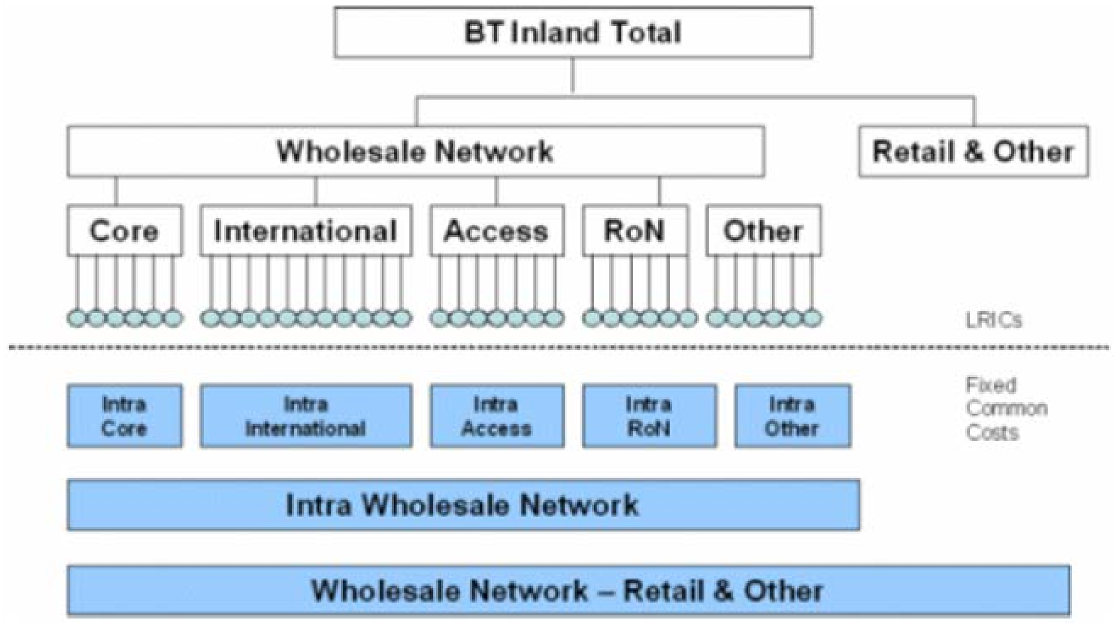
11.6 This sub-section provides a brief overview of the methodology BT has used for calculating DSACs for publication in its annual RFS since 1997. Further detail can be found in BT's PAD which are published annually with its RFS. Alongside the PAD, BT publishes its Long Run Incremental Costs Model: Relationships & Parameters ("LRIC R&P") documents which set out in detail how BT calculates its DSACs (and DLRICs).[212]

11.7 In the context of the Ethernet Disputes, BT provided additional information which gave us a fuller understanding of the methodology BT used for calculating the DSACs in its RFS.[213] The following paragraphs therefore differ in some respects to the explanation we included in our Draft Determinations, which reflected our understanding at the time.

BT's LRIC model structure

11.8 As set out in Section 5, DLRICs and DSACs are calculated using BT's LRIC model. An illustration of the high-level structure of BT's LRIC model is set out below in Figure 11.1.

Figure 11.1: BT's LRIC Model Structure



Source: Extracted from page 52 of BT's Primary Accounting Documents 2009[214]

11.9 For resolving these Disputes, the DSACs of interest are those related to the *services* in dispute. BT's LRIC model however does not directly generate DSACs for individual services. Rather, it calculates DSACs for the individual *components*

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[212] The 2006/07 PAD, LRIC R&P and other accounting documents can be found at http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2007/Regulatoryfinancialstatements2007.htm. The 2010/11 versions of these documents are available at http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2011/index.htm

[213] The information provided by BT is summarised at paragraphs 12.93 to 12.102 of the Ethernet Determinations.

[214] This refers to the financial year 2008/09, but has not changed over the Relevant Period.

that are used by services. To generate the service DSACs reported in the RFS, BT combines (in a calculation made outside of BT's LRIC model) the relevant component DSACs into service DSACs on the basis of specified usage factors (i.e. how much of each component is used by a service).

11.10 When allocating costs, BT's LRIC model divides BT's Wholesale Network into sections known as "increments". As shown in Figure 11.1 above, these five increments are Core, International, Access, Rest of Network ("RoN") and Other. These increments are in turn divided into components (indicated by the circles in the diagram above). The model contains LRICs for each component, each increment and each section of the network (as shown above the line in the diagram) and Fixed Common Costs ("FCCs") that are shared between the components in each increment, between increments and across the whole network (shown below the line).

11.11 Which components are within each of the increments is critical when calculating DSACs. Conceptually the DSACs of core components are equivalent to calculating the SAC[215] of the Core as a single increment and distributing it over the components within the increment. The SAC of the Core will depend on what components it contains as the inclusion of a single component could increase the SAC of the Core significantly.

11.12 To illustrate this, consider the simple case of a cost category with two components. A and B, both with a LRIC of 50, and a FCC between them of 900 (and for illustration assuming no other relevant FCCs). Considering only this cost category (and abstracting for simplicity from all the other cost categories), if both A and B are defined within the same Core increment, the 900 will be an intra-Core FCC. Hence it will be allocated when calculating DLRIC, so A and B will have a DLRIC of 500 (50 + an equal proportionate share of 900), and a DSAC also of 500 (as for this illustrative example we have assumed no further FCCs). However, if A is defined in the Core increment and B in the Access increment, then the 900 will be an Intra-Wholesale Network FCC and A will have DLRIC of 50 (the same as its LRIC as there are now no intra-Core FCCs) and a DSAC of 950 (the same as its SAC, 50 + 900). Therefore, increment definition can have a material effect on DLRICs and DSACs.

Historic changes to BT's LRIC model increments

11.13 The Core increment currently contains the local ends of private circuits[216]. However, BT's approach has changed over time. The summary below reflects our understanding of how BT's approach has changed over time based on relevant documentation we have identified since publishing our Draft Determinations. We note that given that some of these changes were made up to 15 years ago, complete documentation is not readily accessible. While it is possible that the documentation available to us may not be complete, we believe that it provides sufficient historical context to the key changes relevant to this case.

11.14 In 1996/97, the local ends of private circuits were contained within the Access increment in BT's LRIC model. Private circuits, including local ends, were sold from the "Network" business from an Accounting Separation (AS) point of view. BT's

[215] The SAC of the Core is the cost of producing all the components contained within the Core increment and nothing else. For further details see Annex 6.

[216] Private circuits provide a connection which has dedicated capacity, at a range of bandwidths, between two points and can be used to carry voice and data traffic.

accounting documents at the time set out the significance of local ends being within the LRIC model Access increment:

> *"The AS Access relates to the exchange line services... However, Access Network in the LRIC context does not include retail related activities, but it does include the 'local ends' of private circuits. LRIC 'Core Network' and AS 'Network' differs in that the former does not include the local ends of private circuits... These differences are very important. For example, a significant element of fixed common costs that are intra-Access Network in the LRIC analysis would straddle Access and Network under the AS definitions*"[217]. (emphasis added)

11.15 BT changed the increment definition in 1997/98. The change involved moving the local ends of private circuits from the Access increment to the Core increment. In its 1997/98 Accounting Documents BT stated that:

> *"The Access increment no longer includes the local ends of Private Circuits, which were previously included in the Access increment (for LRIC purposes in 96/7). This change has been made to ensure consistency with AS*"[218].

11.16 BT's change to its increment definition was considered by Oftel in 2001 when setting BT's Network Charge and Retail Price Controls. Oftel used LRIC+EPMU data as the basis for setting the charge controls. Oftel noted that:

> *"Since 1997, BT has changed the way costs are attributed in the LRIC model. Specifically, as a corollary of the removal of the local ends of private circuits from the access business to the network business, the cost of duct has been treated as a common cost of access and the core network. Oftel believes that this change is not economically justified and that the cost of duct should continue to be regarded as part of the incremental cost of the access network since it is clearly associated with the provision of local lines. This change also results in an inconsistency with the way the charge control was set in 1997 and with the way the charge for LLU has been set.*"[219] (emphasis added)

11.17 Reflecting Oftel's concerns in relation to the increment definition, BT provided cost information with local ends included in the Access increment which Oftel used to set the Network Charge and Retail Price Controls in 2001.[220]

11.18 Ofcom restated Oftel's concerns as to whether BT's revised increment definition was economically justified in the consultation for the 2005 Network Charge Controls. Although Ofcom decided in the final statement to set the charge controls on the basis of FAC rather than LRIC+EPMU data, prior to the consultation Ofcom once again asked BT to provide cost data based on the local ends being included in the Access increment:

> *"...the LRIC+EPMU figures initially supplied by BT for setting the next NCCs assumed methodological changes to BT's LRIC model which Ofcom believes are not economically justified. This meant that BT's core network costs were materially overstated. In order to produce an appropriate LRIC+EPMU data,*

[217] Page 4 of 1996/97 LRIC R&P.
[218] *BT Accounting Documents*, BT, 13 November 1998, paragraph 6.3.1.3.
[219] *Proposals for Network Charge and Retail Price Controls from 2001*, Oftel, February 2001, paragraph 4.12.
[220] *Proposals for Network Charge and Retail Price Controls from 2001*, Oftel, February 2001, paragraphs 4.14 to 4.16.

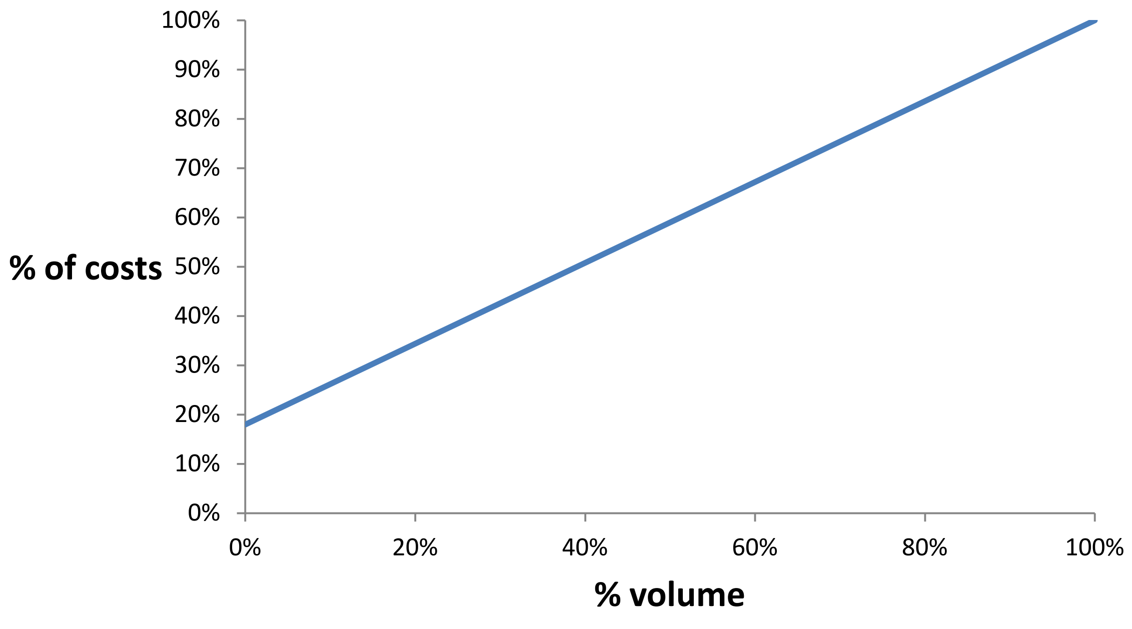
> *Ofcom asked BT to adjust and re-run the LRIC+EPMU model. BT has not yet been able to perform this time consuming task*." [221]

11.19 BT has continued since 1997/98 to include private circuit local ends in the Core increment within its LRIC model. BT did not change the increment definition after 2001 when Oftel commented that it was not economically justified and used cost data reflecting a different increment definition to set the charge network charge controls (with local ends in the Access increment), nor after Ofcom's comments in 2005.

Calculating LRICs

11.20 BT's LRIC model consists of around 400 distinct "cost categories" which form the building blocks for the component costs. For an individual component the total LRIC is the sum of the shares of the various relevant LRICs for the cost categories that are used by that component. The LRICs for the various combinations of cost category and component are calculated using cost volume relationships ("CVRs"). A CVR specifies how BT's total costs[222] vary as the volume of a network component or set of components changes. For example, the Core Transmission Cable (Fibre) CVR specifies that 18% of the costs within the cost category to which the CVR is applied are fixed, with the remaining 82% driven linearly by volume (as set out in Figure 11.2 below – we refer to this as a "straight line CVR"). These CVRs are then used to calculate LRICs. The CVRs and a more detailed explanation of how they are used by BT are contained in BT's LRIC R&P.[223]

Figure 11.2 - Example of a CVR: 18% fixed costs[224]



Source: 2006/07 LRIC R&P, CV019 for Core Transmission Cable (Fibre).

[221] *Review of BT's network charge controls: consultation*, Ofcom, 23 March 2005, paragraph 4.70. A similarly worded paragraph is contained at paragraph 6.75 of the final statement ("*Review of BT's network charge controls*") which was published on 18 August 2005.
[222] Which are produced in BT's accounting system ASPIRE.
[223] See Section 5 of BT's 2009/10 PAD. References to pages of the LRIC R&P in this document are to the 2006/07 LRIC R&P unless otherwise specified.
[224] See CV019 for Core Transmission Cable (Fibre) from the LRIC R&P 2007.

Distribution of FCCs for DLRICs and DSACs

11.21 DLRICs are calculated by distributing FCCs between the components that share the FCCs using an Equi-Proportionate Mark Up ("EPMU") methodology, i.e. proportionate to the LRICs of the components for each individual cost category. FCCs that are shared between components within all wholesale increments of the model are shown in Figure 11.1 as "Intra-Wholesale Network" FCCs. FCCs that are only shared between components in the Core increment are shown as "Intra-Core" FCCs.

11.22 The DLRIC of a component in the Core increment is therefore calculated by taking the LRIC of that individual component and adding to it a share of the Intra-Core FCCs. The share of the FCC is worked out using EPMU. Essentially this means that Intra-Core FCCs are distributed between the components within the Core increment based on the relative size of their LRICs by cost category (i.e. if Component X has twice the LRIC of Component Y in the cost category that gives rise to the FCC, its DLRIC will include twice as much Intra-Core FCC).

11.23 A similar approach is adopted when calculating the DSAC of a component. However, rather than only including a proportion of the intra-increment FCCs, the DSAC also includes a proportion of the FCCs of the "Intra-Wholesale Network", also known as intra-Network FCCs (i.e. those FCCs shared across the whole of the BT wholesale network) and a share of the 'Wholesale Network – Retail and Other' FCCs, also known as "intra-R&O FCCs". The DSAC of a component in the Core increment will therefore be calculated by taking the LRIC of that individual component and adding to it a share of the Intra-Core FCCs, a share of the Intra-Wholesale Network FCCs and a share of the Wholesale Network – Retail & Other FCCs.[225] The entirety of all these FCCs is distributed to the components in the Core increment, since the sum of all of the DSACs in the Core increment is equal to the SAC of that increment.

11.24 In summary for a Core component:

11.24.1 DLRIC is equal to LRIC plus a proportionate share of intra-Core FCCs; and

11.24.2 DSAC is equal to DLRIC plus a proportionate share of intra-Network FCCs plus a proportionate share of intra-R&O FCCs[226].

The role of split cost categories

11.25 The calculation of a DSAC for a Core network component therefore consists of two main stages. First, the calculation of LRICs and FCCs for each of the network component and cost category combinations. Second, the allocation of the relevant FCCs in proportion to the calculated LRICs. There are a number of potentially reasonable ways that these two stages can be implemented within the broad approach for calculating DSACs and BT has a degree of discretion as to which it chooses. As set out above, its chosen approach involves the two stages being performed across around 400 distinct cost categories.

[225] As with DLRICs, these shares are calculated using an EPMU methodology.
[226] There are also common costs that are allocated across only a sub-set of Core components, such as those related to all of Inland Private circuits but these tend to be small.

11.26 Most cost categories use a single CVR to calculate LRICs reflecting the existence of one cost driver[227] for that cost category. However, since 2001, for some cost categories there are two cost drivers. In such circumstances the underlying CVR is three-dimensional, meaning that a three-dimensional diagram would be needed to describe the CVR, with the vertical axis showing the cost and two horizontal axes, one for each cost driver. However, as a simplification BT splits this into two two-dimensional CVRs, i.e. two different types of incremental costs (i.e. one for each driver as in Figure 12.2), but only one set of FCCs. The most significant of these split cost categories are those related to BT's duct network.[228]

11.27 It appears that, when BT introduced the split cost categories for duct in 2001, it had considered the two new duct CVRs in detail and specified that core transmission and local access duct had different LRICs per km. In the core transmission CVR, BT stated that: "*The majority of core transmission network duct has several bores*"[229], whereas it stated in relation to the local access duct CVR that "*[a]lthough the majority of local access duct is single bore, where many cables share the same duct for part of their routes more than one bore will be required.*"[230] BT also made clear that the local access duct contains fixed costs associated with private circuits.[231]

11.28 In preparing its 2010/11 RFS, BT altered its methodology for calculating DSACs.[232] BT explained its revised methodology further during the course of the Ethernet Disputes and these Disputes.[233] In summary, BT's revised methodology removed the split cost categories by amalgamating sub-categories into single categories. Each of these new single categories therefore contained a single aggregated CVR in place of the two separate CVRs which were previously contained in the two sub-categories. As a consequence of revising the CVRs, the revised methodology changed both the LRICs and common cost allocations for component DSACs. We explain our understanding of this change and its implications for these Disputes further below.

Our Draft Determinations

11.29 We set out in our Draft Determinations that, unless there were errors in BT's RFS, or the methodology used in preparing the RFS was obviously inappropriate, Ofcom should rely on the published RFS for the purposes of determining these historic Disputes.

11.30 We noted that BT's revised DSACs not only change DSACs for the services relevant to these Disputes, but also for a range of other services. In addition, for some of these other services BT's published cost data has formed the basis of regulatory decisions. We considered that allowing BT to change its methodology retrospectively when the existing methodology was not obviously inappropriate or subject to errors,

[227] A cost driver is the factor that caused the income, cost or capital employed to be incurred.
[228] 14 cost categories are split in BT's LRIC model.
[229] CVR025 of 2001/02 LRIC R&P.
[230] CVR003 of 2001/02 LRIC R&P.
[231] See last paragraph of CVR003 of the 2001/02 LRIC R&P, which states "*The intercept [of the CVR] contains that cost which is specific to local access, i.e. Duct route and bore volumes solely for access delivery. This includes payphone lines and private circuits in Network in addition to Access itself.*"
[232] This revised methodology is the same revised methodology that BT used to re-calculate its DSACs for the period 2006/07 to 2009/10, referred to at paragraph 11.1.
[233] BT provided information in its 20 May 2011 response and in its response to the 16 June 2011 section 191 notice. It provided further arguments in support of its methodology in its response to a section 191 notice sent in the context of the Ethernet Disputes on 20 January 2012.

risked creating an incentive for BT to change its methodology whenever a change might be to BT's advantage.

11.31 We noted BT's argument that the original methodology was affected by a number of errors in the underlying attribution process. In support of its argument, BT had referred to the existence of a DSAC value below FAC in the published RFS for one of the service and year combinations relevant to the Ethernet Disputes[234].

11.32 Although we did not observe any cases of service-level DSAC below FAC for any of the services relevant to these Disputes within the Relevant Period, we did note that there were a limited number of cases in relation to other services beyond the scope of these Disputes. We acknowledged that it is not typical for DSACs to be less than FAC for individual services. However, we provisionally concluded that the existence of DSAC below FAC would seem to be the consequence of the two measures being calculated on a different basis using largely separate models. They use different allocation methodologies (DSAC is a LRIC-based approach, while FAC is based on an "Activity Based Costing" (ABC) approach) and operate at different levels of granularity. These differences arise from the detailed methodologies that BT has chosen to adopt for each of FAC and DSAC.

11.33 We found there were no mathematical, input or software errors in the implementation of BT's original DSAC methodology. Further, we did not consider there was any evidence that the methodology was inconsistent with the NCC Guidelines or Geoffrey Myers' witness statement in the PPC appeal[235].

11.34 We considered that BT's published DSAC figures were consistent with the policy objective that the use of DSAC is designed to address, namely of providing BT with an appropriately bounded degree of pricing flexibility over the services that share common costs, in that it allows BT a degree of pricing flexibility about how it recovers common costs across a range of services (which share those costs), while providing limits to avoid unreasonably high (or low) prices for services in markets in which BT has SMP to the detriment of consumers of competition.

11.35 We therefore did not believe that BT's representations demonstrated that its original methodology was obviously inappropriate, and found there were no mathematical, input or software errors in its implementation. We considered that the methodology generated DSACs consistent with the policy objective they were designed to address and did so in a way that appeared to have a reasonable economic justification.

Views of the Parties

11.36 The Disputing CPs "*strongly support Ofcom's proposal to reject BT's request to use new DSAC data based on a revised methodology for calculating LRIC and DSACs introduced after the publishing of RFS, rather than the published DSACs.*" [236]

11.37 They also argue that "*[i]t must be assumed that BT is only proposing to use a new methodology retrospectively at this stage because the effect would be to reduce the*

[234] BES 100 Rental in 2006/07.

[235] http://stakeholders.ofcom.org.uk/binaries/consultations/ethernet-services/annexes/GM_Witness_Statement.pdf

[236] Disputing CPs' response, paragraph 6.1.

potential overcharge for Ethernet services, which are now the subject of several different disputes, and would overall be significantly to BT's advantage."[237]

11.38 They argue that "*[i]t is one thing to correct factual errors in volumes and revenues…but quite another to try to retrospectively introduce new cost allocation methodology affecting a number of services and not just PPCs, and where Ofcom (and BT) have relied on the original data in numerous regulatory decisions, including the setting of charge controls and the DSACs used in the Final Determinations and the PPC Judgment*".[238] They consider that: "*[g]iven that the methodology used at the time was neither obviously inappropriate nor contained any mathematical or software errors […] there is no justification in insisting on the revised methodology.*"[239]

11.39 Further, "*[t]he Disputing CPs reject BT's claim that the calculation of the DSACs in the RFS is wrong. The fundamental point is that two different models are being used by BT to calculate FAC (using Activity Based Costing methodology/model) and DSACs (using its LRIC model outputs) separately, which don't always need to produce DSACs that are greater than FAC (see 10.52 in the Draft Determination)*".[240]

11.40 In addition, the Disputing CPs note that "*[l]ike Ofcom, having reviewed the 1997 and 2001 NCC Guidelines and the Geoffrey Myers witness statement we are also at a loss to understand BT's argument with regard to the allocation of Fixed and Common Costs within the current LRIC model being inconsistent with those Guidelines and with the witness statement. It is clear that the distribution of costs under the Guidelines is based on the high-level and commonly understood principle of an equi-proportionate mark-up ("EPMU"). Nothing said either in the 1997 or 2001 NCC Guidelines or in the Geoffrey Myers witness statement is inconsistent with the current LRIC model or its outputs.*" [241]

11.41 BT did not comment on our provisional decision to rely on its published DSAC data for resolving these Disputes. BT's comments in response to our provisional findings on this issue in the Ethernet Provisional Conclusions are set out (and addressed) in Section 12 of the Ethernet Determinations.

Our analysis

Introduction

11.42 As set out above, in these Disputes (as in the Ethernet Disputes) BT argues that we should replace the DSAC data published in its RFS during the Relevant Period with DSAC data calculated by BT using a revised methodology, which it employed for the 2010/11 RFS. The Disputing CPs disagree with BT and argue that we should continue to use the published DSAC data.

11.43 In Section 10 we set out our framework for considering when to depart from the data published in BT's RFS for resolving these Disputes. We apply our framework in the remainder of this Section in deciding whether we should replace the DSACs based on the methodology used in the published RFS for the Relevant Period with those

[237] Disputing CPs' response, paragraph 6.5.
[238] Disputing CPs' response, paragraph 6.12.
[239] Disputing CPs' response, paragraph 6.6.
[240] Disputing CPs' response, paragraph 6.8.
[241] Disputing CPs' response, paragraph 6.13.

calculated using BT's revised DSAC methodology. In section 12 we apply our framework to consider whether other departures from the published RFS data should be made.

11.44 We start by considering whether the necessary conditions as set out at paragraphs 10.31.1 to 10.31.3 are met in this case, before going on to assess the implications of the remaining two considerations for departing from the published data as set out at paragraphs 10.31.4 and 10.31.5. This involves asking:

11.44.1 Does the adjustment correct an error in BT's published RFS? or

11.44.2 Does the adjustment correct a methodology used in the published RFS that is obviously inappropriate for the purpose of resolving the dispute?

We consider it necessary for the answer to be 'yes' to one of these two questions for us to consider departing from BT's published RFS.

11.44.3 With the available evidence, is it reasonably practical to implement the proposed adjustment to the published data in a way that properly addresses the error or inappropriate methodology?

We also consider it necessary for the answer to be 'yes' to this question for us to consider departing from BT's published RFS.

Does the adjustment correct an error in BT's published RFS?

11.45 None of the Parties argued that BT's published DSACs contained software errors, or mathematical errors in the sense of errors in calculation. We conclude that there are no material errors (in the sense of mathematical or software errors) in BT's published RFS for the Relevant Period.

Is the DSAC methodology used in the published RFS obviously inappropriate for the purpose of resolving these Disputes?

11.46 In this section we set out our final conclusions on whether BT's original DSAC methodology used for the Relevant Period is obviously inappropriate. We consider two questions in reaching our conclusions:

11.46.1 **Does BT's chosen approach reflect cost causation?** – if BT's chosen approach does not reflect cost causation then it would not have a reasonable economic justification and would, therefore, be obviously inappropriate; and

11.46.2 **Does BT's chosen approach provide BT with appropriately bounded pricing flexibility?** – we continue to consider that the decision as to whether a specific costing approach is inappropriate or not is necessarily linked to the analytical issue or policy objective that the cost measure is being used to address. As set out above, DSAC is used as a ceiling for individual charges to provide BT with an appropriately bounded degree of pricing flexibility over how it recovers common costs across the services that share those common costs.

11.47 As BT has argued that we should replace data calculated using its original DSAC methodology with data calculated using its revised DSAC methodology (which was used in the RFS from 2010/11 onwards), we also consider, as relevant, the same questions in relation to the revised methodology.

Do BT's DSACs reflect cost causation?

<u>Introduction and overview</u>

11.48 Following our consideration of BT's response to our Ethernet Provisional Conclusions we have an improved understanding of the underlying geography of BT's duct network and the way the duct network was treated within its LRIC model. It is now our understanding that too little of the local access duct cost was allocated to the local access components that caused it to arise, because some of the local access duct cost was allocated to core transmission components that did not give rise to this cost, i.e. this cost appears not to be causally related to those components. Consequently, the DSACs of core transmission components are likely to be overstated and the DSACs of local access components may be understated because the DSAC methodology does not appear to follow the principle of cost causation, which requires in this context that costs should be recovered from services which give rise to them being incurred (either individually or in combination with other services). This problem of not following cost causation affects both BT's original DSAC methodology for the Relevant Period and its revised methodology.

11.49 BT's submissions before the Ethernet Provisional Conclusions and the Draft Determinations and in its response to our Ethernet Provisional Conclusions both focussed on the role of split cost categories in the DSAC methodology used prior to BT's change in methodology for the 2010/11 RFS. As we explain in this section, the use of split cost categories is not necessarily a problem in itself, as they appear to reflect the fact that BT's duct network consists of different elements that have different cost structures. [242] However, because the definition of the Core increment included local access and core transmission components and because of the particular way BT chose to implement its LRIC model, our understanding is that the local access duct costs were not allocated in line with cost causation. BT's change in methodology removes the split cost categories but does not amend the increment definition. As such, the revised methodology seems not to allocate costs in line with cost causation

11.50 In our view, and as we explain in detail below, BT's change in methodology addresses a symptom of the underlying cost causation problem (i.e. some instances of DSAC below FAC) rather than addressing the underlying problem itself (i.e. the increment definition).

11.51 The following sub-sections provide further detail on BT's duct costs and its implications for cost allocation, under the following headings:

11.51.1 The cost structure of BT's duct network;

11.51.2 The use of duct by PPC and Ethernet circuits; and

11.51.3 The role of increment definition and the allocation of FCCs.

[242] Specifically as a percentage of costs, as set out below, the core transmission duct has a lower proportion of fixed costs than the local access duct. Therefore the costs of local access duct are less sensitive to changes in volume.

11.52 However, we start by explaining how our understanding of BT's duct costs has changed since the Draft Determinations and the Ethernet Provisional Conclusions and how our revised understanding affects the arguments we made in relation to the appropriateness of calculating LRIC and DSAC at different levels of granularity.

Our understanding of BT's duct costs has changed since the Draft Determinations

11.53 In our Draft Determinations we explained why we considered the DSAC methodology that BT used for its published RFS during the Relevant Period appeared to have a reasonable economic justification. This informed our provisional conclusion that we did not have reason to believe that BT's chosen methodology was obviously inappropriate.

11.54 Our argument was based on an understanding that the intra-Network FCCs generated by BT's LRIC model could not be meaningfully split between the ".C" and the ".L" cost drivers. However, since then our understanding of the duct CVRs has advanced and we now consider that some, but not all, intra-Network FCCs could be identified with particular drivers. Specifically, we now understand that not all of the intra-Network FCCs identified by BT's LRIC model reflect shared duct. Rather, it appears that they include two other types of FCC, namely that which relates to the local access network only and that which relates to the core transmission network only.

11.55 We set out the reasons why we understand that the intra-Network FCCs extend beyond just shared duct below. We then go on to explain why this results in BT's DSAC methodology failing to reflect cost causation at paragraphs 11.71 to 11.91 below. However, we remain of the view, as we set out in the Draft Determinations, that it is not inappropriate in principle for LRICs and FCCs to be calculated at different degrees of granularity if this reflects the underlying economics of the duct network.

11.56 If FCCs cannot be meaningfully split between the two cost drivers (such as genuinely shared duct) then those FCCs should be allocated across both cost drivers, as is the case with shared duct FCCs, even if there are separate CVRs, i.e. even if the calculation of the LRICs and the allocation of FCC is at a different level of granularity.

The cost structure of BT's duct network

11.57 Each duct route consists of a number of bores, and can be single-bore (where there is just one pipe laid on the route), or can be multi-bore (where multiple pipes are laid on the same route).

11.58 Duct routes can be identified as one of three types: for local access cables only; for core transmission cables only; or for shared use.

11.59 The cost of each of these three types of duct can be categorised as either LRICs or FCC[243].

11.60 Our understanding is that BT calculates the LRICs of its duct network in the following way. As with all CVRs, BT calculates the LRICs from the cost of its existing network. To do this BT calculates the reduction in costs if its duct network

[243] The cost of the duct network includes a return on MCE, and a depreciation element, as well as ongoing operating costs. However, all of these are subject to the same CVR so we do not distinguish between the different categories of costs.

consisted of single bore routes instead of multiple bore routes.[244] The cost of installing double or triple bore duct will not be significantly higher than installing single-bore duct,[245] so the LRIC of double or triple bore duct may be quite low.[246] Where a large number of bores are installed, the LRICs will be proportionally higher because, if multiple bores are installed, wider and more expensive trenches would have to be built.

11.61 The LRIC of duct is therefore the reduction in cost caused by laying single-bore duct instead of multiple-bore duct. As would be expected, the LRIC relative to overall costs is lower than for many other cost categories, as there are significant fixed costs associated with installing a duct network.

11.62 The LRICs of local access and core transmission duct are different because local access and core transmission duct have a different number of bores per km.[247] BT acknowledged this in its LRIC model by splitting the duct cost category into sub-categories known as ".C" (calls – referring to core transmission duct) and ".L" (lines – referring to local access duct).

11.63 The fixed cost of the duct network is what remains of the costs after the LRICs of local access and core transmission duct have been removed. The fixed cost of BT's duct network relates to the residual cost of a single bore network.

11.64 BT's methodology prior to its revision in 2010/11 involved further categorising the fixed cost of a single bore network into:

11.64.1 single bore required for local access only;

11.64.2 single bore required for core transmission only; and

11.64.3 single bore shared between local access and core transmission. [248]

11.65 Our understanding is that BT's LRIC model therefore identified the following sets of costs:

11.65.1 [✂];[249]

11.65.2 [✂];[250]

11.65.3 [✂];[251]

11.65.4 [✂];[252] and

[244] This process is known as "thinning".
[245] NERA, *Reconciliation of top down and bottom up models of Incremental Costs: Final report*, December 1996, page 17: http://www.ofcom.org.uk/static/archive/oftel/publications/1995_98/pricing/top296.htm.
[246] Many local access duct routes will be single bore and as such would have a LRIC of zero. Some Core transmission routes could have a relatively high LRIC if there are many bores installed on a single route.
[247] See CVR003 and CVR025 of LRIC R&P 2002 (not available online).
[248] These fixed costs are estimated using cost functions known as SVs that describe Increment Specific Fixed Costs ("ISFCs"). The local access duct fixed cost was associated with SV003 available on page 168 of the LRIC R&P. The core transmission duct fixed costs was associated with SV025 available on page 171 of the LRIC R&P.
[249] CVR003 of LRIC R&P.
[250] CVR025 of LRIC R&P.
[251] BT's 22 June 2011 response to our 16 June 2011 section 191 notice, Annex 1, question 3.

11.65.5 [✄].

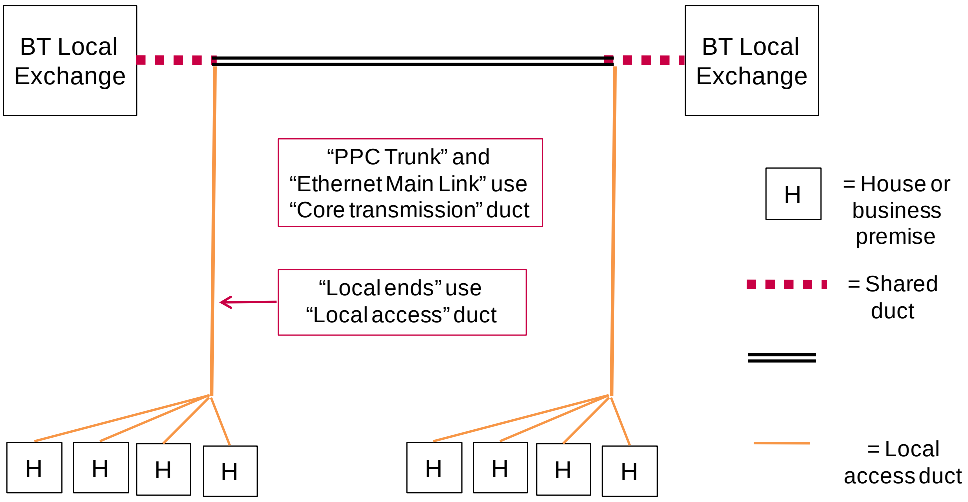
11.66 From an economic point of view it appears reasonable both that local access and core transmission duct would have different LRICs (to take account of the likelihood that core transmission routes have additional bores)[253], and that there would be FCC of duct that could be uniquely identified as being either local access or core transmission.[254]

11.67 Below we discuss the allocation of the different types of FCCs when DSACs for components in the Core increment are derived in BT's LRIC model, both using BT's original DSAC methodology and its revised methodology. In doing so, we examine in particular the FCC of local access duct, because it accounts for such a large proportion of duct cost (around [✄]%).

The use of duct by PPC and Ethernet circuits

11.68 PPC and Ethernet circuits are made up of different services, and these services consume either core transmission, local access, or shared duct, as illustrated in Figure 11.3 below.

Figure 11.3 – Simplified schematic of BT's duct network



Source: Ofcom

11.69 The cost of each of these services is calculated by estimating the costs of the underlying components. As discussed above, in BT's LRIC model components are either tagged by BT as ".C" (core transmission) or ".L" (local access). A mapping of PPC and Ethernet services to components and whether those components are core transmission or local access components is provided in Table 11.1. Since PPC and

[252] BT's 22 June 2011 response to our 16 June 2011 section 191 notice, Annex 1, question 3.
[253] In paragraph 292 of its response to our Ethernet Provisional Conclusions, BT notes that under its DSAC methodology used for the published DSACs for 20006/07 to 2009/10, "*a core network component would have a very different DLRIC value depending upon whether it was in the .c or .l category* *<u>even when the volume of the component was the same</u>*" (emphasis original). BT considers this to be an error. However, as we explain above, for a given volume we consider it to be reasonable that core transmission (i.e. ".C") components would have a larger LRIC than local access (i.e. ".L") components as core transmission duct typically has more bores per km than local access duct.
[254] There are relatively few core transmission routes, but there are many local access routes.

Ethernet services are included in the Core increment, as can be seen from Table 11.1, the Core increment contains both local access and core transmission components which comprise these services.

Table 11.1 – Mapping of services to components of PPC and Ethernet circuits

Service	Main component	Core transmission (CT) or Local access (LA)
PPC Circuits[255]		
PPC local end	PPC local end	LA
PPC distribution	PPC distribution	CT
PPC trunk	PPC trunk	CT
Ethernet Circuits		
WES rental	WES Fibre etc[256]	LA
BES rental	BES Fibre etc[257]	LA
Main link	Ethernet main link	CT

Source: Ofcom

11.70 We note that Table 11.1 does not refer to PPC connection services or main link. This is because duct costs are not allocated to these services and therefore their cost stacks are unaffected by the issues under consideration in this section.

The role of increment definition and the allocation of FCCs

11.71 As we explain in paragraph 11.15 above, for the RFS in 1997/98, we understand that BT changed its increment definition such that it included the local ends of private circuits in the Core increment instead of the Access increment. As a result, the Core increment contains components that use both local access and core transmission duct. This change therefore meant that the LRIC model Core increment departed from the geographic layout of the core transmission network (which, by definition, does not include local access duct), as illustrated in Figure 11.1 above and discussed further below. As we explain in this section, in our view this has important implications for the extent to which BT's DSAC calculations reflect cost causation.

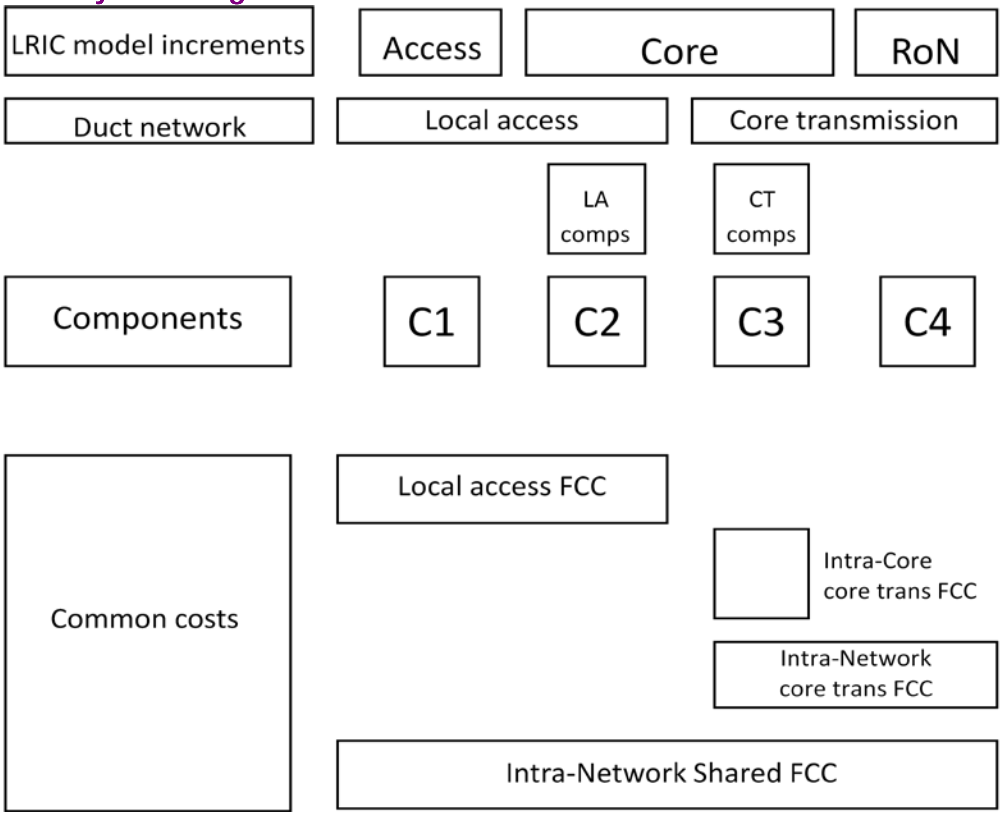
11.72 We now discuss the role of increment definition and mapping of components to services in BT's original methodology during the Relevant Period.[258] We also consider this issue in relation to BT's revised methodology.

[255] There are different PPC bandwidth services and there is usually a single component for each bandwidth, i.e. the PPC 34/45 Mbit/s service consists of the 34/45 Mbit/s component (plus other residual general components).
[256] WES services with different bandwidths use the same underlying component, which is called *WES Fibre etc*
[257] BES services with different bandwidths use the same underlying component, which is called *BES Fibre etc*
[258] The discussion below focuses on our understanding of the key issues relevant to PPCs. It is very similar to that presented in Section 12 of the Ethernet Disputes Final Determinations. However, in the context of Ethernet services there is an additional complication in relation to 2006/07 which we do not refer to here as it is not relevant to PPC services.

Original methodology

11.73 The stylised diagram at Figure 11.4 shows our understanding of BT's LRIC model and the categories of duct costs.

Figure 11.4 – Stylised diagram of BT's LRIC model and duct costs[259]



C1 = Access components
C2 = Local access (local ends) components contained within the Core increment (e.g. PPC terminating segments local ends)
C3 = Core transmission components contained within the Core increment (e.g. PPC trunk components)
C4= Core transmission components contained within the RoN increment.

11.74 As can be seen from Figure 11.4 the local access duct FCC spans both the Core and Access LRIC model increments because local ends are included in the Core increment. When deriving the DSACs for the components in the Core increment, which includes both local ends (C2 in Figure 11.4) and core transmission (C3), the local access FCC is then treated as an intra-Network FCC as laid out in the first row of Table 11.2. This means that in BT's implementation of the LRIC model, as we understand it, the local access FCC is allocated over both local access and core transmission components. However, core transmission components do not give rise to local access costs. The local access FCC should not be included in the SAC of the core transmission components, because a stand-alone network providing core transmission would not incur the local access FCC. For a similar reason DSACs for core transmission that followed cost causation would not include any allocation of the local access FCC. This is illustrated in Figure 11.5.

11.75 Core transmission duct FCC is separated into two categories. First, there is the FCC that spans only the core transmission components within the Core increment,

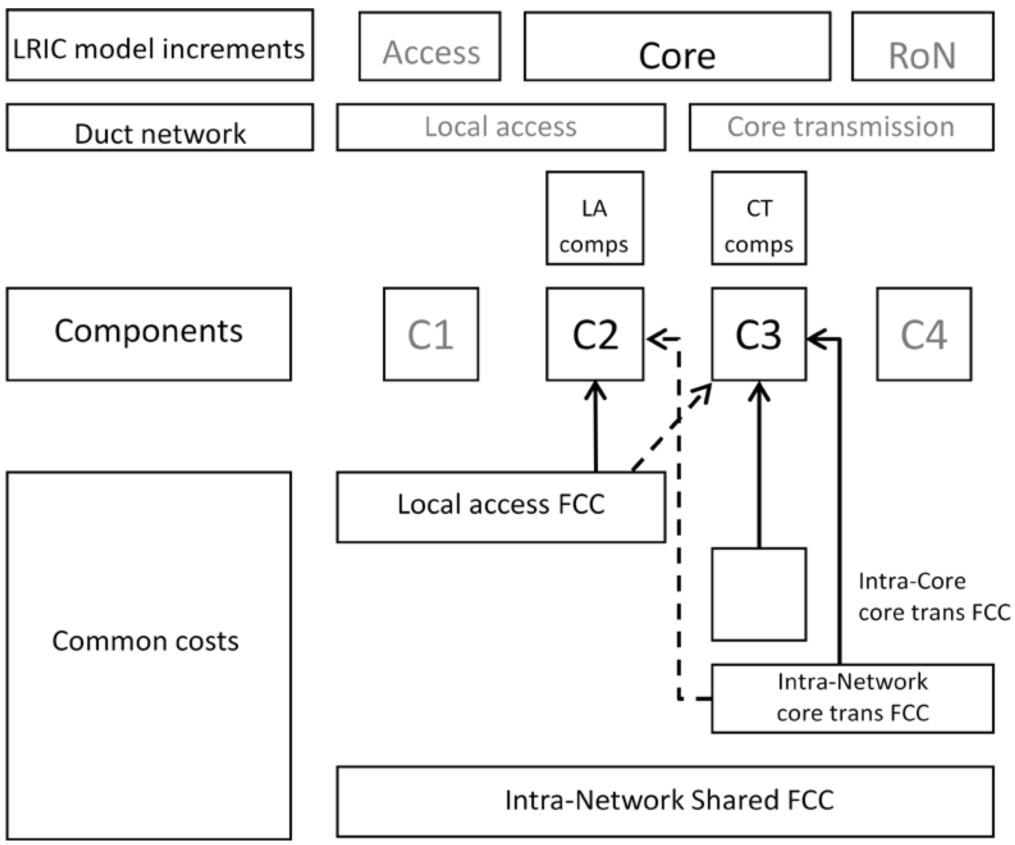
[259] There is one local access component contained with RoN (Payphones) but this has not been included for the sake of simplicity.

i.e. it is only caused by these components. This is the intra-Core FCC. Second, the FCC that spans components in two different increments, Core and RoN. This is included in the intra-Network FCC. Table 11.2 shows the treatment of these FCCs when deriving DSACs for components in the Core increment.

Table 11.2 – Treatment of duct FCCs when calculating Core increment DSACs in BT's original DSAC methodology

FCC	Intra-Core or Intra-Network?	Allocated over which groups of components in the DSACs of local access (C2) and core transmission (C3) components	Cost causation followed?
Local access	Intra-Network	C2 and C3	No – should only be allocated to C2
Core transmission[260]	Intra-Core	C3	Yes
	Intra-Network	C2 and C3	No – should only be allocated to C3
Shared	Intra-Network	C2 and C3	Yes

Figure 11.5 – Stylised diagram of allocation of duct common costs when calculating Core increment DSACs in original methodology



"Intra-Network Shared FCC" allocation not shown to simplify the diagram
Solid lines indicate allocation of FCCs that follows cost causation
Dashed lines indicate allocation of FCCs that does not follow cost causation

[260] The total core transmission FCCs are estimated using SV025 and are allocated between intra-Core and intra-Network using SV019. See the LRIC R&P. The total FCCs of the core transmission duct are around [✂]% of the total duct costs and are split around 3% to intra-Core and 10% to intra-Network. See BT's 22 June 2011 response to our 16 June 2011 section 191 notice, Annex 1, question 3.

11.76 There are two allocations that, as we understand it, do not reflect cost causation:

11.76.1 Some of the local access FCC is allocated to core transmission components. This is because the LRIC model treats the local access FCC as an intra-Network FCC and then allocates it between the local access and the core transmission components. However, the core transmission components do not cause the local access FCC to arise and so none of the costs should be allocated to these components.

11.76.2 Some core transmission costs are allocated to local access components. The core transmission FCC is split between intra-Core and intra-Network. The intra-Core FCCs are allocated to core transmission components, which appropriately follows cost causation. But the intra-Network FCCs are allocated to both local access and core transmission components, even though the local access components do not cause the core transmission FCC to arise.

11.77 Both of these allocations arise because the LRIC model identifies costs as intra-Network and then allocates them over all the components in the Core increment. If the LRIC model increment definitions were in line with the local access and core transmission definitions, i.e. if (as before 1997/98) the local ends were included in the Access increment and not in the Core increment, then these allocations would not arise.

11.78 These concerns about departures from cost causation in the treatment of costs in BT's LRIC model appear to be closely related to the comments made by Oftel in 2001 that the increment definition used by BT in its LRIC model since the 1997/98 RFS is not "*economically justified*". Oftel explained that local access duct should be regarded as part of the incremental cost of the access network (i.e. the Access increment), because it is "*clearly associated with the provision of local lines*" (see paragraph 11.16 above). The concerns expressed by Oftel could have been met by including local ends in the definition of the Access increment, not the Core increment.

Revised methodology

11.79 The revised methodology which BT proposes that we adopt when deriving DSACs to assess overcharging in these Disputes is the same as that BT adopted for its RFS in 2010/11. As we understand it, in the revised methodology BT made two main changes to the way it modelled cost categories with two underlying cost drivers. First, it removed the distinction between ".C" and ".L" components (i.e. it removed split cost categories and simplified the two cost drivers to one cost driver). Second, as a consequence, BT's revised methodology stopped identifying all of the categories of FCC set out above.

11.80 BT informed us that it made these changes by way of an "offline correction" to the LRIC model: instead of calculating LRICs and DSACs within the LRIC model, these were calculated in an Excel spreadsheet.[261]

11.81 The effect of removing the distinction between ".C" and ".L" components and use of a single CVR for both types of component is that the revised methodology calculates LRICs differently from the methodology used during the Relevant Period. The change led to an increase in the LRIC of local end (".L") components and a

[261] BT's 20 May 2011 response, paragraph 20.

reduction in the estimate of the LRIC of core transmission (".C") components. The different pattern of LRICs also led to a different allocation of FCCs between components, since in deriving DSACs the FCCs are allocated in proportion to the LRICs in that cost category.

11.82 We first assess the different treatment of FCCs in BT's revised methodology. Then we consider BT's change to remove split cost categories and to use a single CVR for such cost categories.

Treatment of FCCs

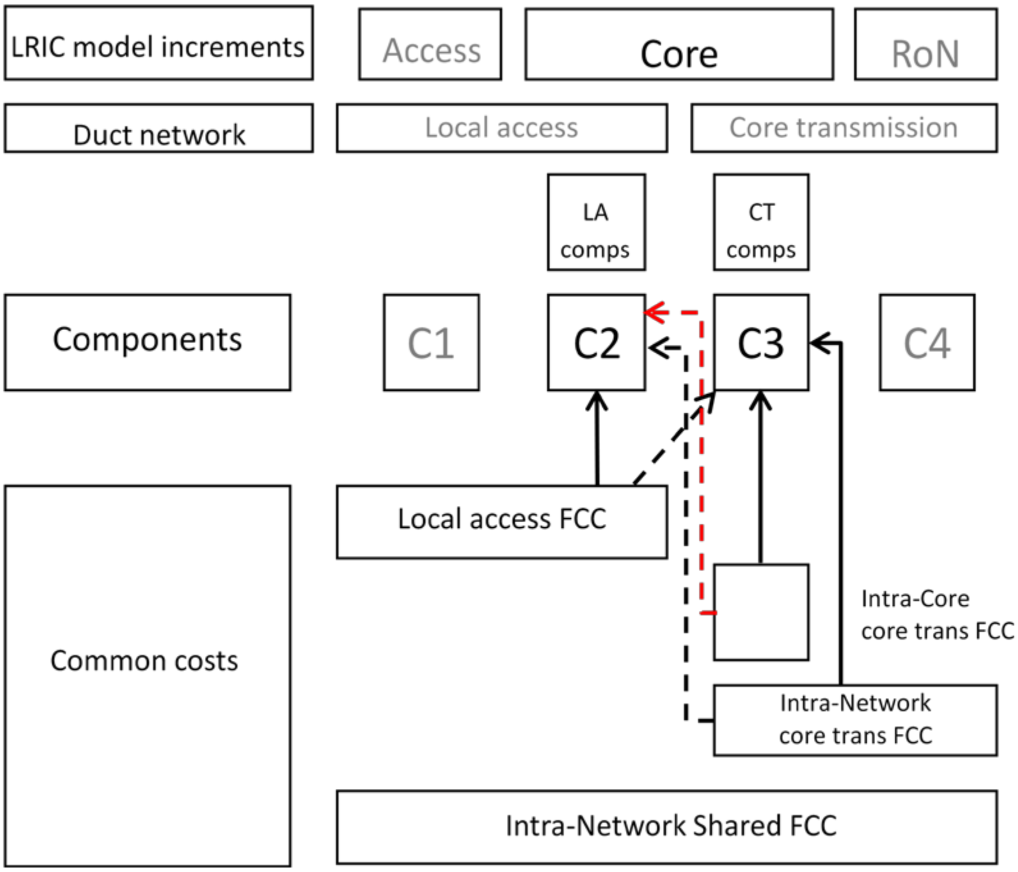
11.83 With BT's revised methodology the LRIC model, as we understand it, no longer separately identifies the FCCs of local access, core transmission and shared duct. The model just identifies one category of duct FCC. This single category of FCC is allocated to both local access and core transmission components when deriving the DSACs for components in the Core increment. For comparison with the original methodology and to assess cost causation, Table 11.3 shows the same categories of duct FCCs as in Table 11.2, even though they are not separately identified in BT's revised methodology.

Table 11.3: Treatment of duct FCCs when calculating Core increment DSACs in revised DSAC methodology

FCC	Intra-Core or Intra-Network?	Allocated over which groups of components in the DSACs of local access (C2) and core transmission (C3) components	Cost causation followed?
Local access	Intra-Network	C2 and C3	No - should only be allocated to C2
Core transmission	Intra-Core	C2 and C3	No - should only be allocated to C3
	Intra-Network	C2 and C3	No - should only be allocated to C3
Shared	Intra-Network	C2 and C3	Yes

Source: Ofcom analysis

Figure 11.6: Stylised diagram of allocation of duct common costs when calculating DSACs in BT's revised DSAC methodology[262]



"Intra-Network Shared FCC" allocation not shown to simplify the diagram
Solid lines indicate allocation of FCCs that follows cost causation
Dashed lines indicate allocation of FCCs that does not follow cost causation

11.84 As can be seen from Figure 11.6, the revised methodology, as we understand it, is still not in line with cost causation. The local access duct FCC, core transmission FCC and shared FCC are all treated as intra-Network common costs and allocated to both local access and core transmission components.

11.85 Our understanding is that the two departures from cost causation in the original methodology are still present in BT's revised methodology (although the effect on the resulting DSAC figures is different because the LRICs are substantially different in BT's revised methodology). That is, some local access duct FCC is still assigned to core transmission components which do not give rise to such costs; and some intra-Network core transmission FCC is still allocated to local access components although this cost is not causally related to such components.

11.86 But in addition there seems to be a third departure from cost causation in BT's revised methodology. The part of the core transmission FCC that is intra-Core is now allocated to local access components as well as core transmission components, even though such costs are causally related only to the core transmission components.

[262] Note that C2 and C3 are still notionally treated as separate components it is just that the same CVR is applied to both components and they are treated equivalently when allocating common costs.

11.87 Our understanding is that BT's revised DSAC methodology therefore does not reflect cost causation in the treatment of duct FCCs. BT's argument in favour of its revised methodology is in essence that it displays a more appropriate relationship between DSACs and FACs and, in particular, avoids DSAC below FAC for any service. However, in our view, BT's justification focuses on the symptom instead of the underlying cause, namely the departure from cost causation in the treatment of duct costs. BT's revised methodology does not resolve what, in our view, are the causes of the departures from cost causation in the original methodology. Indeed, as explained above, in some respects it appears to increase the departure from cost causation in the treatment of duct costs. To the extent that the revised methodology appears to show a relationship between DSACs and FACs more in line with expectations, this may simply be the consequence of offsetting departures from cost causation. But it does not provide confidence that the resulting DSAC figures are more appropriate for the purposes of the Disputes than those derived using the original methodology.

Single CVR

11.88 As noted above, BT's revised methodology involves replacing split cost categories that involved two CVRs (e.g. for duct costs, one CVR for local access and another CVR for core transmission) with a single CVR. This change has a substantial impact on the DSAC figures for two reasons. First, the revised CVR substantially changes the pattern of LRICs compared to the original methodology. Second, and as a consequence, the pattern of allocation of the FCCs is also substantially altered.

11.89 BT's rationale for this change to a single CVR is because it considers that FCCs are not allocated appropriately in the original methodology in split cost categories, because of the different level of granularity as between the derivation of LRICs and the allocation of FCCs. BT also comments that it has been unable to identify the basis for the use of different CVRs between local access and core transmission duct. [263]

11.90 We do not find this is a convincing rationale for the change to a single CVR. This is because, as we understand it, the cause of the departure from cost causation in the allocation of FCC in the original methodology is not the existence of split cost categories. It is our understanding that the two departures from cost causation in the original methodology shown in Table 11.2 and Figure 11.5 could be avoided whilst maintaining split cost categories since the model identifies the distinct categories of FCCs. Furthermore, as we have explained above, in our view the fundamental source of the departures from cost causation is the definition of the increments and in particular the inclusion of local ends within the Core increment. A move to a single CVR does not address these points.

11.91 We also note that separate CVRs for local access and core transmission duct in the original methodology appear to make economic sense – see paragraph 11.27.

Summary of whether BT's original or revised DSAC methodologies reflect cost causation

11.92 Our understanding is that BT's original DSAC methodology (i.e. that used for the published RFS during the Relevant Period) departs significantly from cost causation in the allocation of FCCs when deriving DSACs of local access and core

[263] BT's response to the Ethernet Disputes Provisional Conclusions, paragraph 230.

transmission components for important cost categories such as duct. Specifically, the allocations of the local access and core transmission duct FCCs include allocations to components that do not cause the FCCs to arise. This leads us to conclude on the evidence available to us that this aspect of BT's original methodology is likely to be obviously inappropriate in that it appears not to follow the principles of cost causation.

11.93 We reach the same conclusion for the revised methodology as for the original methodology. DSACs based on the revised methodology, as we understand it, suffer from similar types of departures from cost causation as the original methodology. Indeed there is a further type of departure from cost causation in that it appears that part of the core transmission FCC that is intra-Core is now allocated to local access components as well as core transmission components, even though such costs are causally related only to the core transmission components.

11.94 In our view the underlying source of these departures from cost causation is the definition of the Core increment that BT has used since it changed the definition for the RFS in 1997/98 to include local ends in the Core increment, rather than the Access increment. As we understand it, this increment definition does not match the underlying geography of the network or the way in which costs arise. We note that Oftel stated in 2001 and Ofcom reiterated in 2005 that this increment definition was not economically justified, in particular because the cost of local access duct should be regarded as part of the incremental cost of the access network.

Whether a DSAC below FAC necessarily indicates that we should depart from the published DSACs

11.95 BT argues that DSAC being below FAC strongly suggests *"an error in the modelling"*.[264] We have concluded above that aspects of BT's original DSAC methodology (which in some cases yields a DSAC below FAC) are likely to be obviously inappropriate. However, our reason for reaching this conclusion is not because there are instances where DSAC is below FAC, but because our understanding is that the methodology does not reflect cost causation in its treatment of duct costs. Observing DSAC below FAC for a service or group of services *could* be a symptom of a concern about the methodology but in isolation it does not necessarily mean that the methodology is inappropriate. In our view it is necessary to identify the cause of the DSAC falling below FAC before concluding on whether or not the methodology is obviously inappropriate; merely observing DSAC below FAC is not, in our view, sufficient to reach a reliable conclusion.

11.96 Since it may be relevant to comparing the respective merits of BT's original and revised DSAC methodologies, for completeness, we explain below why we do not consider that the instances of service DSAC below FAC necessarily indicate inappropriate DSAC modelling.

11.97 Our understanding is that the inputs into the LRIC model for the total costs of each cost category are derived from BT's FAC model (ASPIRE). However, although there is a linkage between the LRIC and FAC models, this does not guarantee that a consistent approach is taken in the FAC model and the LRIC model to the way that the total cost in a cost category is allocated between different components (and via usage factors, between different services).

[264] BT's response to our Ethernet Disputes Provisional Conclusions, paragraph 247.

11.98 To illustrate this, we set out below a simple example of the same total cost in a cost category being used in each of the FAC model and LRIC model but different allocation methods. Consider the case of a CVR with strong economies of scale in the volume of the cost driver, such as that outlined below in Table 11.4.[265] As described below, this leads to the LRICs and DSACs set out in Table 11.5.[266]

Table 11.4: Illustrative CVR with economies of scale

Volumes	% Costs
0%	50%
20%	70%
40%	80%
60%	90%
80%	95%
90%	97.5%
100%	100%

11.99 The total cost of this cost category is assumed to be £100m. The LRIC of each component is calculated by starting from the position of 100% of the volume and 100% of the costs and then removing the percentage of the volumes that is associated with that component. Therefore in the example above the LRIC of a component with 10% of the total volumes will be 2.5% of costs, i.e. £2.5m. This is because, at 90% of the volume 97.5% of the costs are still incurred, so the LRIC derived by decrementing (or subtracting) 10% of volumes is 2.5% of costs.[267] Applying a similar procedure, a component with 80% of the total volume will have a LRIC of 30% of cost, i.e. £30m. We assume for this example that FAC is derived using cost allocation in line with volumes, so that a component with 10% of the volume has FAC of 10% of the cost, i.e. £10m, and the FAC of a component with 80% of the volume is 80% of the cost, i.e. £80m. With these assumptions, the results in the example for FAC, LRIC and DSAC data are shown in Table 11.5.

Table 11.5 – Example of FAC, LRIC and DSAC

Component	Increment	Volume	FAC	LRIC	DSAC
A	Core	80 units	£80m	£30m	£90m
B	Core	10 units	£10m	£2.5m	£7.5m
C	Access	10 units	£10m	£2.5m	
Fixed common cost (FCC)				£65m	

[265] The cost category displays economies of scale with respect to the volume of the cost driver in the CVR. This means that, if the cost category is relevant to more than one component (as in the example), it gives rise to economies of scope between those components.
[266] Note that a number of BT's CVRs have strong economies of scale and components with large volumes leading to the kinds of relationships set out in this sub-section.
[267] Or equivalently, we could start from the cost and volume without the component in question (i.e. 90% of the volume and 97.5% of the cost) and derive the LRIC as the increase in cost caused by incrementing or adding the volume of the component.

11.100 In the example there are two components in the Core increment, A and B. The DSAC of each of these components is calculated by deriving the FCC relevant to these components (£65m) and then allocating it to A and B in proportion to their respective LRICs. So the allocation of FCC to component A is £60m (= £65m x £30m ÷ (£30m + £2.5m)). Adding this allocation of the FCC to the LRIC of component A of £30m yields the DSAC of £90m. Similarly, the DSAC of component B is £7.5m, derived as the remainder of the FCC (£5m) added to the LRIC of B of £2.5m.

11.101 As can be seen from Table 11.5, whilst component A has a DSAC above FAC, the DSAC of component B is below its FAC. This is because FAC is being allocated on the basis of volumes, rather than on LRIC which is the allocation method used to allocate the FCC in the DSACs. This difference in allocation method matters in the example, because the CVR displays economies of scale. If there were no economies of scale in this cost category, the CVR would be a straight line, i.e. LRIC would be linear in volume, and the difference in allocation method would not affect the results.[268] We are not suggesting this means that FAC in this case is an invalid cost measure, but rather that if FAC embodies a different common cost allocation than DSAC it is possible for the resulting DSAC to be below FAC even though both start from the same total cost.

11.102 Therefore, instances where the typical relationship between DSAC and FAC breaks down do not necessarily imply that the DSAC figures are incorrect or inappropriate. It could reflect that DSAC and FAC are calculated on a different basis using different models. [269]

Does BT's chosen approach provide BT with appropriately bounded pricing flexibility?

11.103 Multiple product firms such as BT are characterised by large common costs that are shared across a broad range of services. These common costs arise primarily as a result of the network nature of the business. For example, BT's duct network and optical cables are key inputs to many different services.

11.104 As we explained in the Draft Determinations, these common costs need to be recovered from the services that share them for the firm to fully cover its costs. Regulators can, and indeed Oftel historically did, control the pattern of common cost recovery across individual services, for example by ensuring that charges were based on cost measures such as FAC. However, such an inflexible approach is unlikely to be economically efficient as the pattern of common cost recovery does not necessarily reflect the nature of market demand and, therefore, does not minimise the potential for economic distortions that can arise as a result of common cost recovery.

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[268] Although the CVR and the volumes here are provided by way of illustration, they are not unrealistic and indeed in 2009/10 the DSAC of the "Fixed assets: Access, Fibre" cost category element of the BES Fibre component had a DSAC to FAC ratio of around 81%. This occurs for two reasons 1) there are economies of scope and 2) there is a component (specifically WES Fibre) which accounts for a large percentage of total volumes. This leads to different components having different LRIC:FAC ratios and hence different DSAC:FAC ratios.

[269] The issue illustrated in the example can arise in the case of the duct cost categories. This is because the local access components have a much lower LRIC:FAC ratio than core transmission components reflecting the fact that the core transmission duct network is typically multiple bore whereas the local access duct network is typically single bore.

11.105 A regulated firm is typically much better placed to understand the nature of demand for its products than the regulator. As a result, it can be more economically efficient to allow the firm to decide how it should recover its common costs. By allowing it to reflect the underlying market demand elasticities in this process, the regulator can allow the firm to act in a way that minimises the impact on demand from the common cost mark-up. For example, consider a firm that sells two products which share a common cost. One product (“product A”) has perfectly inelastic (market) demand with respect to price, while the other product (“product B”) is considerably more price elastic. Under such circumstances it would normally be economically efficient for the firm to recover all the common costs from product A as the mark-up on incremental cost for product A will not have any impact on consumption patterns.

11.106 However, where firms such as BT enjoy SMP in the relevant markets, it would not be appropriate for this flexibility to be boundless. While pricing flexibility can be used to improve economic efficiency, it can also be used in an anti-competitive or otherwise unreasonable manner. For example, rather than pricing to improve the efficiency of common cost recovery, the firm could manipulate its prices to ensure that any potential market entry is suppressed through relatively low prices, while recovering its costs through services where entry is much less likely. In such markets the use of competition law alone may not be sufficient to prevent such undesirable pricing behaviour by the firm with SMP.

11.107 As noted in Section 8 (for example paragraph 8.20.2), cost orientation, and therefore the use of DSAC as a pricing ceiling (and DLRIC as a pricing floor), is designed to strike a balance between conflicting considerations. Specifically, the policy objective behind the use of DSAC as a ceiling for individual charges is to provide BT with an appropriately bounded degree of pricing flexibility over how it recovers common costs across the services that share those common costs.

11.108 The pricing flexibility provided for by the use of DSAC arises from the fact that in calculating DSAC, the SAC of a broad increment, such as Core, is distributed over the services within the increment. There are a number of potentially reasonable approaches to the detail of how DSACs are calculated that adhere to this basic principle. BT has discretion over which of the approaches it uses.

11.109 Each of these different approaches involves the distribution of the SAC of the broad increment but may well result in a different distribution to individual components (and therefore services). However, independent of the precise allocation of DSAC to individual components, by distributing the SAC of the broad increment to the components within the increment, the pricing flexibility afforded to BT across the increment as a whole is greater than that embodied by FAC (which in effect limits BT to a single price for each charge) but remains appropriately bounded.

11.110 Despite our understanding that BT’s chosen DSAC methodologies fail to reflect cost causation in their treatment of duct costs, we can still consider their characteristics in terms of providing bounded pricing flexibility for BT to vary its recovery of common costs between services to reflect any variations in demand conditions for those services.

11.111 We consider that DSACs based on BT original methodology used in the RFS during the Relevant Period are consistent with the policy objective cost orientation seeks to address, leaving aside our concerns that BT’s DSAC methodologies do not reflect cost causation in their treatment of duct costs. Since they form the floor and ceiling for cost orientated charges, the ratio of DLRIC to DSAC for individual services is more relevant to understanding the extent to which BT’s original DSAC methodology provided bounded pricing flexibility than the ratio of DSAC to FAC. In Tables 11.6 to 11.10 below, we therefore present the unit DLRICs and DSACs, along with the DSAC:DLRIC ratio (using figures before Ofcom's adjustments).[270] A DSAC to DLRIC ratio of 100% implies no flexibility. However, for completeness we also present unit FAC data and FAC:DSAC ratios.

Table 11.6: Unit DLRIC, FACs and DSACs for 2004/05 (before Ofcom's adjustments)

	DLRIC	FAC	DSAC	DSAC:DLRIC ratio	DSAC:FAC ratio
140/155 Mbit/s TISBO					
Connection	n/a	n/a	n/a	n/a	n/a
Main link	£14,746	£16,513	£23,642	160%	143%
Distribution	£344	£424	£842	245%	199%
Local end	£17,875	£30,600	£41,818	234%	137%
Trunk					
34/45 Mbit/s	£43	£55	£125	291%	226%

Source: Ofcom based on BT data.

Table 11.7: Unit DLRIC, FACs and DSACs for 2005/06 (before Ofcom's adjustments)

	DLRIC	FAC	DSAC	DSAC:DLRIC ratio	DSAC:FAC ratio
140/155 Mbit/s TISBO					
Connection	n/a	n/a	n/a	n/a	n/a
Main link	£7,796	£8,744	£12,596	162%	144%
Distribution	£992	£1,206	£2,156	217%	179%
Local end	£15,135	£22,703	£29,246	193%	129%
Trunk					
34/45 Mbit/s	£184	£231	£432	234%	187%

Source: Ofcom based on BT data.

Table 11.8: Unit DLRIC, FACs and DSACs for 2006/07 (before Ofcom's adjustments)

	DLRIC	FAC	DSAC	DSAC:DLRIC ratio	DSAC:FAC ratio
140/155 Mbit/s TISBO					
Connection	n/a	n/a	n/a	n/a	n/a
Main link	£5,686	£6,288	£8,966	158%	143%
Distribution	£700	£902	£2,184	312%	242%
Local end	£9,705	£14,338	£17,099	176%	119%
Trunk					
34/45 Mbit/s	£354	£433	£903	255%	208%

Source: Ofcom based on BT data.

[270] As set out in Section 12, a number of adjustments to BT's published FAC and DSAC data are made for the purposes of resolving these Disputes. The data presented in Tables 11.6 to 11.10 exclude our adjustments (i.e. they are based on the unadjusted base data provided by BT in response to section 191 notices). These data are based on BT's original DSAC methodology. Our adjustments alter the DSAC:FAC and DSAC:DLRIC ratios. However, as we have not had to consider the adjustments required to BT's DLRIC data in resolving these Disputes, we do not have adjusted DLRIC data to compare against adjusted DSAC and FAC data.

Table 11.9: Unit DLRIC, FACs and DSACs for 2007/08 (before Ofcom's adjustments)

	DLRIC	FAC	DSAC	DSAC:DLRIC ratio	DSAC:FAC ratio
140/155 Mbit/s TISBO					
Connection	£1,190	£1,294	£2,105	177%	163%
Main link	£12,570	£16,263	£30,633	244%	188%
Distribution	£533	£642	£1,202	226%	187%
Local end	£10,169	£14,642	£18,977	187%	130%
Trunk					
34/45 Mbit/s	£257	£306	£533	207%	174%

Source: Ofcom based on BT data.

Table 11.10: Unit DLRIC, FACs and DSACs for 2008/09 (before Ofcom's adjustments)

	DLRIC	FAC	DSAC	DSAC:DLRIC ratio	DSAC:FAC ratio
140/155 Mbit/s TISBO					
Connection	£1,347	£1,495	£2,202	164%	147%
Main link	£12,469	£14,850	£26,417	212%	178%
Distribution	£503	£560	£1,109	220%	198%
Local end	£9,191	£11,450	£15,900	173%	139%
Trunk					
34/45 Mbit/s	£239	£274	£474	198%	173%

Source: Ofcom based on BT data.

11.112 As can be seen from Tables 11.6 to 11.10, although the pricing flexibility (as measured by the DSAC to DLRIC ratio) varies between services, in all cases DSAC is significantly higher than DLRIC. For the services affected by the duct cost allocation issues discussed above (i.e. distribution, local end and trunk services), the DSAC to DLRIC ratio is at least 173%.

11.113 In conclusion, we continue to consider that the DSAC methodology BT used for the published RFS during the Relevant Period provided BT with significant pricing flexibility in terms of the DLRIC to DSAC ratio.

Summary of whether the methodology BT used in the published RFS is obviously inappropriate for the purpose of resolving these Disputes

11.114 For the reasons set out above, our understanding is that BT's original DSAC methodology used in its RFS during the Relevant Period does not follow cost causation in its treatment of duct costs. As a consequence it appears to us that the economic rationale for the treatment of duct cost in this methodology is not reasonable. Therefore, based on the evidence available to us, it is likely that this methodology is obviously inappropriate. We consider below whether this issue is such as to preclude using this methodology to resolve these Disputes.

11.115 Leaving aside these concerns, we still consider that the methodology BT used in its RFS during the Relevant Period provides bounded pricing flexibility for BT to vary its recovery of common costs between services to reflect any variations in demand conditions for those services. However, under a DSAC methodology that appropriately reflects cost causation, the degree of bounded pricing flexibility may differ from that implied by BT's published DSACs, particularly for individual services.

11.116 As explained above, it is also our understanding that the same concerns apply in relation to BT's revised methodology. We take this into account in deciding whether we should use DSACs based on this methodology for the purposes of resolving the Disputes in place of DSACs based on BT's original methodology.

With the available evidence is it reasonably practical to implement the proposed adjustment to the published data in a way that properly addresses the concerns about cost causation?

11.117 As set out above, we consider it likely that neither BT's original nor its revised DSAC methodologies follow cost causation in their treatment of duct costs. Since the source of the departure from cost causation in both of BT's methodologies is the inclusion of private circuit local ends in the Core increment, the proposed adjustment would need to properly address this issue.

11.118 It appears to be reasonably practical to implement BT's proposed changes and apply its revised methodology as it has provided us with DSAC data for 2006/07 onwards calculated using the revised methodology. While we do not have data for 2004/05 and 2005/06 based on the revised methodology, we anticipate that BT could readily implement the required adjustments consistent with the latter years. However, this adjustment would not properly address the problem caused by the inclusion of local ends in the definition of the Core increment and therefore would not address our concerns in relation to cost causation in the treatment of duct costs.

11.119 We have considered whether we could calculate DSACs on the basis of a third approach, developed by Ofcom, which would seek to reflect cost causation and address the issue of the inclusion of private circuit local ends in the Core increment. This would involve a fundamental change to the basis of the LRIC model. There appear to be a number of different approaches that could achieve this. One example is the approach that Oftel and Ofcom required BT to adopt in the context of the 2001 and 2005 network charge controls, which was to revise the increment definition to move local ends into the Access increment and re-run the LRIC model. Even assuming BT[271] had the software available to do this for all relevant years which we doubt,[272] as was noted by Ofcom in the context of the 2005 Network Charge Control (see paragraph 11.18 above) this would be a time consuming exercise to undertake for one year's financial data, and more so for five years.

11.120 Furthermore, a change in the definition of the increments is such a fundamental change to the LRIC model structure that it would raise a number of complex methodological questions (for example, the appropriate treatment of sub-increments within the revised broad Core and Access increments). These would need careful consideration before a revised methodology could be finalised. It might be possible to adopt a simplified modelling approach to revising the increment definitions that did not involve fully revising and re-running the LRIC model, but such an approach is still likely to give rise to its own set of complex methodological questions. The chosen approach could have material implications for the resulting DSAC values.

[271] The evidence available to us in this case does not extend to having copies of the entirety of BT's LRIC models for all years relevant to the Disputes. We therefore are unable to adjust and re-run the models ourselves.

[272] Based on our discussions with BT, we have considerable doubts as to whether the software is available. As we understand it, for a number of years, particularly the earlier relevant years, the LRIC model was based on a software platform that BT is no longer able to modify.

11.121 It is possible that other approaches could be adopted that, rather than directly altering the increment definition, seek indirectly to address the increment definition issue by changing the treatment of FCCs within the DSAC calculation. For example, for selected cost categories, such as duct cost, an attempt could be made to mimic the effects on the DSACs in that cost category of a change in increment definition. However, such approaches would also likely raise a number of significant and complex questions in relation to the appropriate implementation and would risk introducing significant inconsistencies in the DSAC calculations between cost categories.

11.122 We therefore do not consider that either of the options available to us in this case (BT's revised methodology or DSAC values calculated by Ofcom) represent a reasonably practical way to properly address the concerns about cost causation that we have identified with BT's original DSAC methodology which was used in the published RFS for the Relevant Period.

Are the necessary conditions for departing from the published DSACs met in this case?

11.123 As set out at paragraph 10.30, for us to make a retrospective adjustment, we consider that it is necessary (but not sufficient) for us to be satisfied that:

11.123.1 the adjustment corrects an error in BT's published RFS or corrects a methodology used in the published RFS that is obviously inappropriate for the purpose of resolving the Disputes; and

11.123.2 with the available evidence, it is reasonably practical to implement the proposed adjustment to the published data in a way that properly addresses the error or inappropriate methodology.

11.124 In other words, if the answer to either of those questions is 'no', the adjustment should not be made.

11.125 We summarise below our conclusions on whether those conditions are met.

11.126 We are not aware of any mathematical or software errors in the implementation of BT's original DSAC methodology used for its RFS during the Relevant Period. However, for the reasons we have set out above, we conclude on the evidence available to us that the methodology appears not to reflect cost causation, particularly in the treatment of duct costs, and this means that the methodology is likely to be obviously inappropriate. This concern about cost causation has the scope to materially alter the DSACs for services across both the Core and Access increments, including some PPC services relevant to these Disputes (among other services).

11.127 However, we do not consider there to be a reasonably practical way to make adjustments which properly address the concerns about cost causation that we have identified. BT's proposed revisions to the methodology for this period are based on the same increment definitions that, in our view, result in the failure of the original methodology to reflect cost causation in its treatment of duct costs. As such, our understanding is that BT's revised methodology also fails to reflect cost causation in its treatment of duct costs. While it could in principle be possible to implement our own set of fundamental revisions to the LRIC model and DSAC calculations to reflect cost causation, it would be a very substantial and complex undertaking which we do not consider to be reasonably practical in this case or a proportionate approach for the purposes of resolving these Disputes.

11.128 We do not therefore consider that it is appropriate for us to depart from the methodology used for the published DSACs in this case for the Relevant Period.

Further relevant considerations

11.129 Whilst we have concluded that we should not depart from the RFS in this case because the necessary conditions are not met, for completeness and in light of the Parties' comments, we also assess in the paragraphs below the other relevant considerations we have identified in the framework set out in Section 10:

11.129.1 Does the proposed adjustment retrospectively alter the financial data on which we relied in previous regulatory decisions including for services outside the scope of the dispute?

11.129.2 Does accepting the proposed adjustment create inappropriate incentives for BT to produce appropriate and accurate regulatory financial statements in the future?

Does the proposed adjustment retrospectively alter the financial data on which we relied in previous regulatory decisions including for services outside the scope of the dispute?

11.130 As we set out in our Draft Determinations, BT's published RFS, and the data underlying them, have formed the basis of BT's pricing decisions and numerous regulatory decisions by Ofcom and other bodies such as the CAT and CC over the Relevant Period. Calculating the DSACs for the Relevant Period on the basis of BT's revised methodology would not just affect the DSAC data for the trunk and TISBO markets. The changes would result in revisions to BT's DSACs for services in other markets, such as those relating to Ethernet services. For example:

11.130.1 BT's DSAC data were used in the 2009 Final Determinations. Therefore the decisions made by Ofcom, the CAT and the Court of Appeal in relation to the PPC Disputes were informed by data that would be affected by BT's proposed revisions to the published DSACs. BT did not raise concerns about the use of this data prior to the 2009 Final Determinations or during its PPC appeal. If we were to accept BT's proposed changes to the published DSACs, we would be resolving these Disputes on the basis of a data set that is inconsistent with that used in the 2009 Final Determinations.

11.130.2 Ofcom's decision in the 2009 LLCC Statement (which included TISBO services) as to whether starting charge changes were necessary, and what level those revised charges should be set to, used BT's DSAC data for the relevant services within the Relevant Period. The 2009 LLCC Statement was appealed and the decisions made in the appeal by the CC[273] and the CAT[274] also used BT's published DSAC data. Therefore, if we were to accept BT's proposals in this case we would be resolving these Disputes using data that is inconsistent with that used in relation to those decisions.

[273] http://www.competition-commission.org.uk/assets/competitioncommission/docs/pdf/non-inquiry/appeals/communications_act/final_determination_excised_version_for_publication.pdf
[274] http://www.catribunal.org.uk/files/1112_Cable_Wireless_Ruling_200910.pdf

11.130.3 BT's DSAC data were used in the resolution of the Ethernet Disputes which resulted in a determination that BT should be required to repay certain CPs £94.8 million for overcharging on certain Ethernet services. BT's published DSAC figures were used in calculating the extent of overcharging and the size of repayment required.

11.131 On this basis, changes in BT's published DSACs, are likely to retrospectively change the costs of numerous other services upon which previous regulatory decisions have been made.

Does accepting the proposed adjustments create inappropriate incentives for BT to produce appropriate and accurate regulatory financial statements in the future?

11.132 As set out at paragraph 10.18, BT has considerable discretion over the details of how it models DSACs in order to meet its regulatory reporting obligations. Such latitude of interpretation and implementation discretion is not limited to BT's calculation of DSACs; it is a characteristic of numerous aspects of BT's RFS.

11.133 There is, however, a considerable information asymmetry between BT and its customers in respect of the detailed information on BT's costs at their disposal. Indeed, such an asymmetry also exists between BT and Ofcom albeit to a lesser extent given our power to require BT to provide detailed information on its costs. Therefore, in exercising its discretion over the detailed implementation of cost measures, such as DSAC, BT is able to assess in detail which of the available implementation approaches best suits its specific purposes at the time. BT's CP customers are not in a position to make such assessments.

11.134 Given the discretion afforded to BT, and the information asymmetry, it is important to ensure that BT has strong incentives to produce appropriate and accurate regulatory financial statements. Decisions regarding retrospective amendments to the RFS have a particularly important role to play in preserving such incentives given their role in enabling BT to 'game' its regulatory obligations.

11.135 We accept that in this case the adoption of the revised methodology may not be in BT's favour taken in isolation. However, if we had adopted the revised methodology in the Ethernet Disputes (as proposed by BT), it would have been significantly in BT's favour.[275] Furthermore, the net effect taking the impact on Ethernet and PPCs into account would have been a net benefit to BT. We consider that, if we were to accept BT's proposed retrospective changes to the DSACs for the Relevant Period, we would therefore give BT an incentive to choose the DSAC methodology that best suits its purposes at the time of preparing its RFS, knowing that it could alter its methodology retrospectively if it were to its benefit. This would undermine incentives on BT to provide appropriate and accurate information in its RFS.

Conclusions

11.136 As set out in Section 10 we consider that the starting point for determining which DSACs to use in this case is BT's published RFS. We also set out our approach to determining whether we should depart from BT's published RFS. We now decide

[275] As set out in paragraph 12.32 of the Ethernet Determinations, the revised methodology would result in an increase in DSACs for Ethernet services of up to £417 million over the period 2006/07 to 2009/10 and a reduction in DSACs for PPC services of around £230 million.

which DSAC data we should use to resolve the Disputes, taking into account the Parties' comments and our analysis set out above.

11.137 BT used a different approach to calculating the DSACs published in its RFS during the Relevant Period as compared to the revised methodology it used in 2010/11 and after. BT argues that its approach during the Relevant Period was not correct and that we should adopt data for the Relevant Period based on the revised methodology in resolving these Disputes. We therefore consider BT's original DSAC methodology and its revised methodology separately.

11.138 We consider three possible approaches to the calculation of DSACs:

11.138.1 BT's original methodology used in the published RFS during the Relevant Period;

11.138.2 BT's revised methodology (which BT argues we should use for the purposes of resolving these Disputes and the Ethernet Disputes); and

11.138.3 another possible approach to calculating DSACs we have identified in outline, which would seek to reflect cost causation.

11.139 In assessing BT's original methodology, we have not identified any errors in implementation. However, as we understand it, the methodology assigned local access duct costs to core transmission services (and core transmission duct costs to local end services), even though these services did not contribute to these costs arising. BT's original DSAC methodology therefore does not appear to reflect cost causation in its treatment of duct costs and for that reason we consider on the evidence available to us that this methodology is likely to be obviously inappropriate.

11.140 Leaving aside these concerns, in our view the significant gap between DLRIC and DSAC across the range of services that share common costs provides BT with bounded pricing flexibility, consistent with the policy objective that cost orientation seeks to address.

11.141 BT has provided revised DSAC data for 2006/07 to 2008/09, based on its revised methodology. We have not identified any errors in implementation of BT's revised methodology for these years. However the revised methodology still uses an increment definition where local access components are contained within the Core increment and therefore our understanding is that it too appears not to reflect cost causation in its treatment of duct costs. As such, adopting BT's revised DSAC data for the Relevant Period would not properly address the problem with the original methodology.

11.142 We have considered whether we could calculate DSACs on the basis of a third approach, developed by Ofcom, which would seek to reflect cost causation. Since the source of our concerns about cost causation is the inclusion of local ends in the Core increment, the approach would need to address this increment definition. This could involve one of a number of different approaches, each of which could materially differ from one another. Implementing a third approach would be a substantial undertaking and we do not consider it would be reasonably practical or proportionate for the purposes of resolving these Disputes. We therefore do not consider that we should replace BT's published DSACs with DSACs calculated using a third approach.

11.143 For these reasons we do not consider that the necessary conditions set out in Section 10 for departing from the original methodology used in the published RFS during the Relevant Period are met in this case. We have therefore decided to use the DSAC data based on BT's original methodology for the Relevant Period. This is consistent with our conclusions in the Ethernet Determinations.

11.144 In addition, we note that a number of regulatory decisions have been based on BT's published DSAC data for the Relevant Period, including the 2009 Final Determinations and the Ethernet Determinations. Accepting BT's revised data would introduce inconsistency between those decisions and our determinations of these Disputes.

11.145 Furthermore, if we were to accept BT's revised DSACs in these Disputes, we consider that we would give BT an incentive to choose the DSAC methodology that best suits its purposes at the time, knowing that it could alter its methodology retrospectively. We would therefore risk undermining incentives on BT to provide appropriate and accurate information in the RFS.

11.146 For example, whilst we accept that, compared to its revised methodology, BT's original methodology was to its advantage in these Disputes (as overall it involves higher DSACs for the services in dispute), the revised methodology would have been substantially in BT's favour (relative to its original methodology) in the Ethernet Disputes. This is because it moves costs towards local end components and away from core transmission components, which tends to increase the DSACs of the services in dispute in the Ethernet Disputes and decrease the costs of PPC services and services not subject to cost orientation. The net effect, taking the impact on Ethernet and PPCs into account, would therefore have been a net benefit to BT.

Under- or over-statement in DSACs we are using

11.147 For the reasons set out above, we have concluded that we should base our assessment of BT's charges in dispute on the DSAC data published by BT in its RFS during the Relevant Period. However, our understanding is that BT's original methodology does not reflect cost causation in its treatment of duct costs.

11.148 As we have set out in Section 8, we do not apply the DSAC test mechanistically in assessing the appropriateness of BT's charges. For example, we consider whether there are specific circumstances that imply that a charge that has failed the DSAC test is nevertheless cost orientated. We consider it appropriate in this case to take account of the potential for BT's methodologies to have given rise to an over- or under-statement in DSACs when we assess BT's charges in Section 13, where it seems most relevant. However, in doing so we should also take account of the significant limitations of this analysis, such as uncertainty about the size of the effects.

11.149 We now consider how the DSAC data we have decided to use to assess overcharging compare against the DSACs that would be derived using a methodology in accordance with cost causation, i.e. including local ends in the Access increment instead of the Core increment (in the discussion below we refer to this as the "cost causation approach"). This involves comparing the original methodology against the cost causation approach.

11.150 We do not have specific DSAC figures derived using the cost causation approach for the reasons set out in paragraphs 11.119 to 11.120 above, but we consider whether there are any clear inferences that can be drawn about the direction of bias. We consider in turn the direction of bias in the core transmission components and local access components.

Core transmission components

11.151 Our understanding is that the original methodology departs from cost causation in allocating part of the local access duct FCC to core transmission components. Considered on its own, this suggests that the DSACs of core transmission components are likely to be over-stated in the original methodology compared to the cost causation approach.

11.152 It is also our understanding that there is another departure from cost causation which operates in the opposite direction, because some cost that should be allocated to core transmission components, i.e. some of the FCC of core transmission, is allocated instead to local access components. In the original methodology this applies to the intra-Network core transmission FCC (but not the remainder of the FCC of core transmission, which is categorised as intra-Core and allocated only to core transmission components). Considered on their own, these departures from cost causation in the treatment of duct costs suggest that the DSACs of core transmission components are likely to be under-stated in the original methodology compared to the cost causation approach.

11.153 The quantitative effect on the DSACs of core transmission components of the departures from cost causation arising from under-allocation of core transmission FCC is likely to be smaller than the effect arising from over-allocation of local access duct FCC. This is because, whilst local access duct FCC is just over 70% of total duct cost, core transmission duct FCC is much smaller at 12% of total duct cost. Overall, therefore, although robust evidence is lacking, it seems likely that the DSACs of core transmission components are over-stated in the original methodology compared to the cost causation approach, but the extent of the over-statement is not clear.

Local ends

11.154 In the original methodology our understanding is that too little duct cost is allocated to the local access components included in the Core increment, i.e. local ends. But on the other hand, part of the core transmission FCC is allocated to these local access components, whereas none would be in the cost causation approach. Applying similar reasoning to that above (for core transmission components), the first effect may be quantitatively larger than the second effect.

11.155 However, in the cost causation approach the local access components would be in the Access increment, not the Core increment. This would be a significant change to the structure of the LRIC model. The effect of such a change on the DSACs of local ends is not straightforward to estimate. First, there is likely to be more than one way in which such an approach could be implemented. Second, the effect on the DSACs of local ends of such a change in increment definition would also depend on how local access costs were allocated between local ends and other local access components such as those for LLU.

11.156 As we have set out in paragraph 11.21 above, under the DSAC methodology FCCs are allocated to components using an EPMU methodology. Therefore, if the local end components were included in the Access increment rather than Core, the change in the share of FCCs that they would attract would depend, at least in part, upon the LRICs for the other (i.e. non-local end) components in the Access increment compared to those in the Core increment. If the LRIC for the other components in the Access increment is lower than in the Core increment, the local end components would attract more FCCs under a DSAC methodology if the local end components were in the Access increment rather than Core. It appears that under a cost causation approach the local end components are likely to attract a larger proportion of the local access duct FCC in the Access increment than compared to BT's original methodology which included them in the Core increment.

11.157 As we noted above, the quantitative effect on the DSACs of the change in treatment in local access duct FCC is likely to dominate the change in treatment of the core transmission duct FCC given the relative size of the two types of FCC. However, the set of changes required to implement the cost causation approach is more complicated than the change discussed above for core transmission components. This makes it harder to predict the extent to which other potentially offsetting effects could arise. Therefore, we consider that an under-statement of local end component costs in BT's original methodology (as compared to the cost causation approach), whilst plausible, is less certain than an over-statement of core transmission component costs. Furthermore, the extent of any under-statement is not clear.

Conclusion on under- or over-statement

11.158 Based on the available evidence, we consider that, compared to the cost causation approach:

11.158.1 DSACs of core transmission components are likely to be over-stated in the original methodology, although the extent of the over-statement is not clear; and

11.158.2 it seems plausible that DSACs of local access components (i.e. local ends) are under-stated in the original methodology, although this is less certain than the over-statement of core transmission component costs, and the extent of any under-statement is not clear.

11.159 In terms of the DSACs of the services in dispute:

11.159.1 PPC terminating segment connection and main link services are unaffected as they do not relate to duct costs;

11.159.2 PPC terminating segment distribution and trunk services are likely to be over-stated in both the original and revised methodologies; and

11.159.3 for PPC terminating segment local end services it seems plausible that DSACs are under-stated in the original methodology.

11.160 We take account of these inferences when we assess BT's charges in Section 13, where it seems most relevant. However, in doing so we also take account of the significant limitations of this analysis, such as uncertainty about the size of the effects.

Section 12

The revenues and costs of the services in dispute

Introduction

12.1 In this section we describe the data we have used to carry out our assessment of BT’s charges, as follows.

12.1.1 Paragraphs 12.5 to 12.12 explain the base data that we have used as a starting point for our overcharging assessment.

12.1.2 Paragraphs 12.13 to 12.44 set out our general approach to adjusting revenue and cost data.

12.1.3 Paragraphs 12.45 to 12.193 explain the adjustments we have concluded it is appropriate to make to this base data.

12.1.4 Paragraphs 12.195 to 12.241 explain how the adjustments we have made impact on the DSAC we have used to assess overcharging.

12.1.5 Paragraphs 12.242 to 12.245 summarise the adjusted revenue and cost data we use in Section 13 to assess whether BT has overcharged for the services in dispute.

12.2 In our Draft Determinations, we proposed to make a number of adjustments to BT’s published data to correct for volume errors and ensure revenues and costs were appropriately matched.

12.3 In Section 10 we set out the framework we have used to determine whether it is necessary and appropriate for us to make adjustments to BT’s data in these Disputes. As discussed at paragraph 10.32, whether it is appropriate to make an adjustment will depend on the specific circumstances of the case and our regulatory judgment as to how to balance competing considerations.

12.4 We have made the adjustments on the basis of the information available to us. As noted in Section 3, we have sought information from the Parties as we consider appropriate for the purpose of resolving the Disputes and the Parties have had sufficient opportunity to make representations to us about the information we should use, following publication of our Draft Determinations and at other stages in the dispute resolution process. In some cases, which we identify below, Parties did not provide sufficient information to support their arguments. In those cases we have made our decision on the basis of the best information available to us.

The relevant base data for our comparisons

Our Draft Determinations

12.5 The starting point for our assessment is the data reported in BT’s RFS.

12.6 However, we explained in our Draft Determinations that in the 2009 Final Determinations we found that we could not rely on the data published in the RFS for some years because:

12.6.1 in June 2008, BT advised us that it intended to restate certain PPC cost and revenue data in the 2006/07 RFS. The reason for this was that BT had overstated the volumes of internal PPCs sold and the revenue attributable to those services. BT corrected its methodology when reporting its 2007/08 RFS and published restated data for 2006/07 in September 2008. However, the published restated data contained errors, as BT had failed to update the unit costs for the PPC services. BT subsequently corrected this and published the unit cost information in April 2009. We rely on the restated data, as corrected; and

12.6.2 the overstatement of volumes and revenues referred to above was also relevant to earlier years. BT did not publish restated financial statements for 2004/05 and 2005/06, though it confirmed that some of the PPC data contained in these statements had also been inappropriately prepared.

12.7 In addition we noted that the published data included revenues and costs associated with a service called Siteconnect, which was outside the scope of the Disputes.

12.8 Prior to the 2009 Final Determinations we therefore issued section 191 notices to obtain data which addressed these issues and enabled us to assess whether BT had overcharged for the services in dispute.[276] This section 191 data formed the base data that we used for the 2009 Final Determinations.

12.9 In the Draft Determinations we proposed to start from the same base data that we used for the 2009 Final Determinations. However, we said that BT had also resubmitted its section 191 notice responses in relation to 2007/08 and 2008/09. This resubmitted data had three differences from the base data used in the 2009 Final Determinations. We consider these differences in paragraphs 12.23 to 12.31 below.

Views of the parties

12.10 We did not receive any comments on our proposal to start from the same base data that we used for the 2009 Final Determinations.

Our analysis

12.11 We have decided to start from the same base data that was used in the 2009 Final Determinations. This is because, for the reasons given in paragraphs 12.6 and 12.7, this base data included corrections for a number of volume errors in BT's RFS and removed revenues and costs associated with the Siteconnect service (which is outside the scope of the Disputes and therefore it is not appropriate for these revenues and costs to be included in the data used for the purposes of resolving the Disputes). The base data used in the 2009 Final Determinations is shown in Table 12.1. These figures are consistent with the figures published in Table A12.2 of the 2009 Final Determinations.

[276] 2009 Final Determinations, paragraphs 6.3 to 6.7.

Table 12.1: Financial data provided by BT in response to Ofcom's section 191 notices, £m (same base data used in the 2009 Final Determinations)

PPC service	2004/05	2005/06	2006/07	2007/08	2008/09
140/155 Mbit/s link					
Total Revenue	17.8	33.8	31.1	32.4	35.2
Total FAC	28.7	27.5	18.5	48.6	46.2
Total DSAC	41.0	39.7	26.4	91.6	82.1
140/155 Mbit/s distribution					
Total Revenue	23.5	46.8	35.6	38.8	40.2
Total FAC	36.1	45.4	26.3	20.4	18.3
Total DSAC	71.8	81.3	63.7	38.1	36.2
140/155 Mbit/s local end					
Total Revenue	18.0	28.6	24.1	20.5	18.0
Total FAC	46.8	53.0	28.5	24.6	16.8
Total DSAC	64.0	68.3	34.0	31.8	23.3
140/155 Mbit/s connection					
Total Revenue	0.1	0.2	0.1	0.1	0.1
Total FAC	n/a	n/a	n/a	0.0	0.1
Total DSAC	n/a	n/a	n/a	0.1	0.1
34/45 Mbit/s trunk					
Total Revenue	14.2	37.8	43.1	41.1	41.9
Total FAC	13.1	18.1	33.8	22.8	20.8
Total DSAC	29.6	33.9	70.4	39.8	35.9

Source data compiled from the following responses:
2004/05 and 2005/06: BT email of 14 November 2008 in response to follow up questions to the 1 October 2008 section 191 notice.
2006/07 and 2007/08: BT's response of 29 June 2009 to the 23 December 2008 section 191 notice.
2008/09: BT's response to the 3 August 2009 section 191 notice.
Data for 140/155 Mbit/s PPC connection services were not published in the RFS in 2004/05, 2005/6 and 2006/07 and BT was unable to provide FAC or DSAC data relating to these services for these years in its section 191 notice responses for these years listed above.

General approach to adjusting the revenue and cost base data

12.12 Before discussing individual adjustments to the base data we first set out the types of adjustment we proposed to make in our Draft Determinations and consider the Parties' comments on these.

Our Draft Determinations

12.13 In our Draft Determinations, in order to ensure that the data we were using could be relied upon and was appropriate for determining the Disputes, we proposed to make adjustments to the base data.

12.14 Firstly we considered amendments to the base data for 2007/08 and 2008/09 proposed by BT in its resubmission of its responses to our 3 August 2009 and 5 July 2011 section 191 notices and its 20 October 2011 letter. These adjustments either corrected for volume errors or removed costs associated with services that were not in the scope of the dispute. These amendments related to:

12.14.1 the correction of an internal volume error relating to 2007/08 and 2008/09;

12.14.2 the removal of Siteconnect Sales, General and Administration costs ("SG&A costs") in 2007/08; and

12.14.3 the removal of EBD costs in 2008/09.

12.15 We proposed to reflect these amendments in a revised set of base data.

12.16 We also proposed to make a series of further adjustments to this revised base data that were intended to replicate a series of cost adjustments that were identified in the 2009 LLCC Statement[277] (and considered in the 2009 Final Determinations), to the extent that they were applicable to these historic Disputes, in order to ensure that revenues were compared against the appropriate costs. The 2009 LLCC Statement identified some areas where this mismatching of costs and revenues had occurred and recommended some adjustments to BT's RFS to enable a better comparison between revenues and costs to be made. In our Draft Determinations we sought, where appropriate, to ensure consistency with these adjustments.

12.17 The adjustments in line with the 2009 LLCC Statement were based on BT's RFS data (as restated, where relevant) or on data provided by BT in response to section 191 notices and were modified to take account of any volume corrections that had been made to BT's RFS, where relevant.

Views of the Parties

Amendments to the base data following BT's resubmission of section 191 notice responses

12.18 In relation to the internal volume error relating to 2007/08 and 2008/09, the Disputing CPs said that "*We are unclear about the status of these circuits and their subsequent identification as associated with the 'wholesale residual' market. There appear to be a number of inconsistencies with the volume of circuits quoted in the RFS and the volumes quoted in the Draft Determinations (e.g. Table 11.7), however these discrepancies may be explained by the adjustments [to the RFS]. We would welcome greater Ofcom scrutiny of this adjustment as regards its appropriateness for the purposes of determining these disputes".*[278]

12.19 We received no other comments in relation to our proposal to include within our revised base data the amendments made by BT in its resubmitted responses to our section 191 notices.

Adjustments identified in the 2009 LLCC and 2009 Final Determinations

12.20 The Disputing CPs "*agree that it is appropriate to make the costs adjustments identified in the 2009 LLCC Statement to the extent that they are applicable to these disputes".* They add that "*in relation to changes which Ofcom proposes to make in order to ensure that these Draft Determinations are consistent with the Final Determinations in the first part of the PPC case (paragraph 10.103), there is insufficient detail in the Draft Determinations for Disputing CPs to properly review and comment on these proposed adjustments*". They consider that: "*While Ofcom's non-*

[277] The adjustments are explained in detail in Section 4 (paragraphs 4.79 to 4.140) and Annex 6 of the 2009 LLCC Statement.
[278] Disputing CPs' response to our Draft Determinations, paragraph 6.31.

confidential model provides some additional insight, it is heavily redacted and this restricts the ability of the Disputing CPs to interpret the data and provide meaningful comments on Ofcom's proposals in these areas".[279]

12.21 Although BT comments in detail on individual adjustments, it does not comment on our general approach. We consider the comments received in relation to each individual adjustment in turn below.

Our analysis

12.22 We adopt the framework set out in Section 10 for considering whether to depart from the volume, revenue and FAC data published in BT's RFS in resolving these Disputes.

Amendments to the base data following BT's resubmission of section 191 notice responses

Internal volume error relating to 2007/08 and 2008/09

12.23 In its 13 September 2011 letter BT informed us that some internal circuits that had been categorised as internal 140/155 Mbit/s PPC distribution and main link circuits should actually have been categorised as internal circuits associated with the "Wholesale Residual" market. BT says "*Whilst preparing the 2010-11 [RFS], we identified an issue with how certain circuits had been categorised between markets on the Core Transmission Costing System (CTCS). Essentially, a number of circuits that had been categorised as internal "Partial and Private Circuits 140/155 Mbit/s – link" and "Partial and Private Circuits 140/155 Mbit/s – distribution" services were found on investigation to be circuits used for services within the Wholesale Residual market.....As a result of this work we have investigated the volumes underlying the unit costs for years prior to 2009-10 and confirmed that the mis-categorisation of circuits also applied to earlier years [i.e. 2007/08 and 2008/09]".*[280] In response to Disputing CPs' concerns about the status of these circuits, BT's 13 September 2011 letter explains that certain circuits were erroneously categorised as internal 140/155 Mbit/s link and distribution services when they actually related to services within the Wholesale Residual (i.e. unregulated) market[281].

12.24 While BT has corrected this error in its 2010/11 RFS (which includes a restatement of the 2009/10 RFS)[282], BT says that the error also affects the 2007/08 and 2008/09 RFS.

12.25 BT resubmitted its section 191 notice response to include a correction for this volume error in relation to 140/155 Mbit/s PPC distribution and main link services in 2007/08 and 2008/09.[283] Table 12.2 shows how the internal volume error affects the base data used in the 2009 Final Determinations. Although total FAC and DSAC falls as a

[279] Disputing CPs' response to our Draft Determinations, paragraphs 6.18 and 6.19.
[280] BT's 13 September 2011 letter.
[281] Ofcom met with BT in August 2011 before publication of the 2010/11 RFS and BT explained the issues with internal volumes that it had discovered.
[282] BT explains its correction of this error on page 17 of the 2010/11 RFS. It says "*During 2010/11 BT reviewed and improved the data used to calculate the internal volumes of PPC internal links resulting in decreased volumes of 64kbit/s and 140/155 Mbit/s internal links. As the impact on the TISBO (above 45 Mbit/s up to and including 155 Mbit/s) Market was significant, prior year comparatives have been restated to reflect this corrected data. This has reduced revenues and costs in the TISBO (above 45 Mbit/s up to and including 155 Mbit/s) Market for 2009/10 by £21m and £9m respectively".*
[283] Letter from Neena Rupani (BT) to Louise Marriage (Ofcom), 20 October 2011.

result of this error correction, external FAC and DSAC increase slightly. This is because, after this correction, external volumes represent a greater proportion of total volumes and so attract a greater share of total costs.[284]

Table 12.2: Impact of the internal volume error on the 2009 Final Determinations base data

	Unit	140/155 Mbit/s main link 2007/08	140/155 Mbit/s main link 2008/09	140/155 Mbit/s distribution 2007/08	140/155 Mbit/s distribution 2008/09
Internal volume	Links/km	(1,160)	(1,127)	(5,887)	(7,938)
Internal revenue	£m	(12.2)	(11.9)	(7.2)	(9.7)
Total FAC	£m	(17.6)	(13.2)	(3.7)	(4.3)
Total DSAC	£m	(33.1)	(23.4)	(7.0)	(8.6)
External FAC	*£m*	*0.03*	*0.11*	*0.00*	*0.00*
External DSAC	*£m*	*0.06*	*0.19*	*0.00*	*0.01*

Source: Derived from the difference between figures provided by BT in its 20 October 2011 letter and those included in its response of 29 June 2009 to the 23 December 2008 section 191 notice and its response to the 3 August 2009 section 191 notice.

12.26 We consider that it is appropriate to correct for volume errors in BT's RFS where it is reasonably practical to do so. In doing so we have relied upon the figures provided in BT's 20 October 2011 letter which BT says correct the 2007/08 and 2008/09 data for the internal volume error it refers to in the 2010/11 RFS. We have therefore included BT's amendment for the internal volume error in our revised base data.

12.27 In response to the Disputing CPs' comment that there appear to be inconsistencies between the volumes of circuits quoted in the RFS and the volumes quoted in the Draft Determinations, the difference between the base data volumes and the final volumes is explained by this internal volume error adjustment and the resilience circuit adjustment described in paragraphs 12.54 to 12.69.

<u>Siteconnect SG&A costs in 2007/08</u>

12.28 In the CC's 30 June 2010 Determination, the CC identified that in 2007/08 SG&A costs were under-allocated to Siteconnect. The effect of this understatement was an over-allocation of costs for services in the TI basket.[285] The CC determined that an adjustment of £3.2m should have been made to the TI basket in 2007/08 to reflect this error.[286] Of the services in dispute, this adjustment affects 34/45 Mbit/s trunk services in 2007/08. Compared to the base data used in the 2009 Final Determinations set out in Table 12.1, adjusting for this Siteconnect misallocation means that total FAC of 34/45 Mbit/s trunk is £[✂] lower in 2007/08 and total DSAC is £[✂] lower[287].

12.29 We consider that the additional adjustment for Siteconnect in 2007/08 is an consistent with the adjustment made in the 2009 Final Determinations to exclude costs associated with this service. We consider that it is obviously inappropriate for

[284] Since external volumes represent a greater proportion of total volumes than before this amendment, any subsequent adjustments to total costs will also have a greater impact on external costs. Therefore, while this amendment on its own appears to increase external costs, the overall effect on external costs after all other adjustments have been made is to reduce external costs.
[285] The Traditional Interface ("TI") basket relates to TI terminating and trunk segments and includes, among other services, 140/155 Mbit/s PPC terminating segment and 34/45 Mbit/s PPC trunk services.
[286] The CC's 30 June 2010 Determination, paragraph 6.52.
[287] Figures of £[✂] and £[✂] were derived by [✂]

the costs of 34/45 Mbit/s trunk to include costs associated with Siteconnect for the reasons given above and we have accepted BT's adjusted data which removes these costs.

Removal of EBD costs in 2008/09

12.30 In 2008/09 EBD rental services were not separately reported in the RFS and the revenues and costs were included within existing RFS services. Some of the costs of EBD rentals in 2008/09 were included within PPC main link services, including 140/155 Mbit/s PPC main link services. BT resubmitted its section 191 notice response to include an adjustment to remove an estimate of the costs associated with EBD rental services from 140/155 Mbit/s PPC main link services.[288] Compared to the base data used in the 2009 Final Determinations shown in Table 12.1, adjusting for EBD costs means that total FAC of 140/155 Mbit/s main link services is £[✂] lower in 2008/09 and total DSAC is £[✂] lower.

12.31 In the Ethernet Determinations we considered it was obviously inappropriate to include EBD rental costs in the cost base of Ethernet services because they were outside the scope of the Ethernet Disputes and were associated with separate EBD rental charges.[289] We consider this rationale also applies in respect of the PPC services which are the subject of these Disputes and that EBD rental costs should be removed from the cost base of 140/155 Mbit/s main link services in 2008/09. We consider that we have sufficient data to make the adjustment (i.e. the data provided by BT in its letter data 20 October 2011 in which it has removed the EBD rental costs) and it is therefore practical for us to do so.

Conclusion

12.32 We have decided to reflect these three amendments in a revised set of base data. This revised base data is set out in Table 12.3 (this is the same as Table 10.4 of the Draft Determinations).

Table 12.3: Restated and/or revised financial data provided by BT in response to Ofcom's section 191 notices, £m

PPC service	2004/05	2005/06	2006/07	2007/08	2008/09
140/155 Mbit/s link					
Total Revenue	17.8	33.8	31.1	20.1	23.3
Total FAC	28.7	27.5	18.5	31.0	32.9
Total DSAC	41.0	39.7	26.4	58.4	58.5
140/155 Mbit/s distribution					
Total Revenue	23.5	46.8	35.6	31.6	30.5
Total FAC	36.1	45.4	26.3	16.6	14.0
Total DSAC	71.8	81.3	63.7	31.1	27.7
140/155 Mbit/s local end					
Total Revenue	18.0	28.6	24.1	20.5	18.0
Total FAC	46.8	53.0	28.5	24.6	16.8
Total DSAC	64.0	68.3	34.0	31.8	23.3

[288] BT's 20 October 2011 letter.
[289] Ethernet Determinations, paragraph 13.308.

PPC service	2004/05	2005/06	2006/07	2007/08	2008/09
140/155 Mbit/s connection					
Total Revenue	0.1	0.2	0.1	0.1	0.1
Total FAC	n/a	n/a	n/a	0.0	0.1
Total DSAC	n/a	n/a	n/a	0.1	0.1
34/45 Mbit/s trunk					
Total Revenue	14.2	37.8	43.1	41.1	41.9
Total FAC	13.1	18.1	33.8	22.7	20.8
Total DSAC	29.6	33.9	70.4	39.6	35.9

Source: data compiled from the following responses:
2004/05 and 2005/06: BT email of 14 November 2008 in response to follow up questions to the 1 October 2008 section 191 notice.
2006/07: BT's response of 29 June 2009 to the 23 December 2008 section 191 notice.
2007/08: BT's response of 7 July 2011 to our 5 July 2011 section 191 notice and BT's 20 October 2011 letter.
2008/09: BT's response to our 3 August 2009 section 191 notice and BT's 20 October 2011 letter.

12.33 The revised base data includes adjustments to both FAC and DSAC. BT has translated each FAC adjustment into DSAC by applying the relevant DSAC:FAC ratio for that service, derived from Table 12.1. For example the internal volume error in 2007/08 reduces the total FAC of 140/155 Mbit/s link services by £[✂]. The DSAC:FAC ratio for 140/155 Mbit/s link in 2007/08 from Table 12.1 is 1.88 (91.6 divided by 48.6) so the DSAC adjustment is £[✂] (applying the ratio of 1.88 to the FAC adjustment of £[✂]). Translating changes in FAC into changes in DSAC is not a straightforward task and we consider that it is reasonable to adopt BT's approach of translating each FAC adjustment into a DSAC adjustment by applying the service DSAC:FAC ratio. This is for the following reasons:

12.33.1 In the Ethernet Determinations, we translated FAC adjustments associated with volume errors into DSAC by applying the service DSAC:FAC ratio[290]. We consider that the internal volume error is comparable to the EBD volume error considered in the Ethernet Determinations because it is not clear whether the impact of the volume error was confined to PPC services or whether other services would also have been affected. Since many costs are allocated to components based on volumes, correcting the internal volume error may result in component FACs in other increments in the LRIC model being affected, meaning that the effect on DSAC is difficult to predict. Given this uncertainty, and since the internal volume error in 2007/08 and 2008/09 is also a FAC adjustment associated with a volume error, we consider it is reasonable for BT to translate the FAC adjustment into DSAC using the service DSAC:FAC ratio.

12.33.2 In the Ethernet Determinations we translated the FAC adjustment associated with the removal of EBD costs into DSAC by using a "50/50 approach" (i.e. we took the average of the impact on DSAC when applying an absolute adjustment to FAC and when applying the proportional adjustment to FAC).[291] While BT has taken a different approach here and translated the FAC adjustment into DSAC by applying the service DSAC:FAC ratio, this does not impact on our conclusions because the 140/155 Mbit/s service affected by this amendment in 2008/09 would not fail the DSAC test under either approach to adjusting DSAC.

[290] Ethernet Final Determinations, paragraphs 13.402 to 13.408.
[291] Ethernet Determinations, paragraph 13.433 to 13.436.

12.33.3 The result of the DSAC test for 34/45 Mbit/s trunk in 2007/08 is not significantly affected by the choice of how to translate the Siteconnect SG&A amendment to DSAC. For example, if the Siteconnect SG&A amendment was translated to DSAC using a 50/50 approach, the result of the DSAC test for 34/45 Mbit/s trunk in 2007/08 would reduce by around £8k (less than 1%).

12.34 We have therefore decided to adopt the revised base data set out in Table 12.3 which is drawn from BT's responses to Ofcom's section 191 notices. The further adjustments described in the next section apply to this revised base data.

12.35 We have considered whether any of these amendments to the base data would significantly alter the financial data on which we relied in previous regulatory decisions and whether they would create inappropriate incentives for BT to produce appropriate and accurate regulatory financial statements in the future, either of which may indicate that the amendments should not be made.

12.36 The internal volume error affecting 2007/08 and 2008/09 was not included in the 2009 LLCC Statement (which used data from 2007/08 as its base year[292]) or the 2009 Final Determinations. Since this amendment affects volumes, revenues and costs, it is possible that this information would have had some impact on previous regulatory decisions, such as the 2009 LLCC Statement. However, as this information was not known to Ofcom at the time this decision was made, it is not possible to determine if and how it would have been taken into account in the final decision or the impact it may have had either on the price control itself or on BT's ability to recover its actual costs in subsequent years. We also note that this amendment does not affect 2 Mbit/s trunk services which were found to be overcharged in the 2009 Final Determinations. Since the internal volume error does not benefit BT in relation to these Disputes (the overall effect, taking into account other adjustments, is to decrease external costs that are relevant to assessing overcharging), we do not consider that it would create inappropriate incentives for BT to produce appropriate and accurate RFS in the future.

12.37 The additional amendment to remove SG&A costs associated with Siteconnect in 2007/08 is consistent with the CC's 30 June 2010 Determination (which Ofcom reflected in a set of revised SMP conditions relating to leased lines[293]). While this amendment was not made in the 2009 Final Determinations (which pre-dated the CC's 30 June 2010 Determination), it is consistent with the decision in the 2009 Final Determinations to remove costs associated with Siteconnect. Since the removal of this cost does not benefit BT in relation to these Disputes, we do not consider that it would create inappropriate incentives for BT to produce appropriate and accurate RFS in the future.

12.38 The removal of EBD costs in 2008/09 is consistent with the Ethernet Determinations. While this amendment was not made in the 2009 Final Determinations, it does not affect 2 Mbit/s trunk services which were found to be overcharged in those determinations. Since the removal of EBD costs does not benefit BT in relation to these Disputes, we do not consider that it would create inappropriate incentives for BT to produce appropriate and accurate RFS in the future.

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[292] Paragraph A7.14 of the 2009 LLCC Statement.

[293] "*Leased lines charge control: Adoption of Revised SMP Services Conditions following the Competition Appeal Tribunal's Directions of 20 September*" http://stakeholders.ofcom.org.uk/binaries/consultations/llcc/statement/LLCC_decision_final.pdf

Adjustments identified in the 2009 LLCC Statement and 2009 Final Determinations

12.39 No respondent disagreed with our proposals and we have decided to model these adjustments as individual standalone changes to the revised base data. Where these adjustments rely in part on volume data we have taken into account the corrected volume data.

12.40 In order to calculate the ROCE for each service in Section 13 we need to know how FAC is split between CCA costs (i.e. opex) and capital costs (i.e. MCE multiplied by the cost of capital). The RFS does not provide this split so our analysis is based on the FAC provided by BT in its responses to section 191 notices which do provide this breakdown. We also need to know whether our FAC adjustments represent adjustments to CCA costs, adjustments to capital costs or both. Where the information relied on for the adjustment does not separate FAC between these effects, we have assumed that the CCA cost impact and the capital cost impact is in proportion to the FAC split of the service before any adjustment. Where we make a FAC adjustment to a service where a volume correction has also been made, we assume that the CCA cost impact and the capital cost impact is in proportion to the CCA cost and capital cost of the service after the volume correction.

12.41 In order to assess whether BT has overcharged its external customers, the DSAC test is applied to external revenues and external DSAC only. In order to calculate external costs (FAC and DSAC) we have multiplied the total cost by the proportion of total volumes that are external volumes (after any volume corrections). This is because the unit cost in the base data is the same for both internal and external services in each year of the Disputes.

12.42 BT has not been able to provide FAC or DSAC data for 140/155 Mbit/s connection services in the period 2004/05 to 2006/07.

12.43 Some of the data we relied on in reaching our provisional views were redacted from our Draft Determinations on the basis that they were confidential to one of the Parties; in most cases BT. We acknowledge that the Disputing CPs therefore did not have visibility of all of the data that we used for making individual adjustments. However, we consider that the issues were set out in sufficient detail in our Draft Determinations for the Parties to make informed responses.

12.44 In the following paragraphs we will consider the comments received on each of our proposed adjustments in turn. We will then consider how our FAC adjustments translate into DSAC adjustments.

Adjustments to ensure that revenues are compared against appropriate costs

12.45 In the Draft Determinations we proposed making the following adjustments to the base data to enable a better comparison between revenues and costs to be made or to better reflect costs of the services in dispute:

12.45.1 **Resilience circuits volumes and revenues:** inclusion of the volumes and revenues for resilience circuit and protected path services.

12.45.2 **Local end equipment and POH related costs:** removal of third party customer local end equipment and infrastructure costs and POH costs that are recovered from separate POH rental and connection charges.[294]

12.45.3 **Local end selling costs:** removal of costs associated with third party customer local end equipment and infrastructure selling costs.

12.45.4 **Payment terms:** change to the estimate of the costs of financing working capital, related to debtors, so as to reflect the contractual payment terms for the Disputing CPs that are purchasing PPCs.

12.45.5 **Core distribution:** reallocation of certain core distribution costs between trunk and terminating segments for 2004/05 and 2005/06.

12.45.6 **21CN:** removal of direct costs of 21CN provision and certain indirect 21CN costs.

12.45.7 **Excess construction charges:** removal of costs associated with the ancillary service Excess Construction.

12.46 We proposed to make the following two adjustments to the external FAC in order to better reflect the underlying costs of providing PPC services to external customers:

12.46.1 **External POH costs:** Adjustment to external local end costs to reflect the fact that additional POH costs are recovered via an uplift to external local end prices.[295]

12.46.2 **External SG&A costs:** Adjustment to external local end costs in 2004/05 to reflect the fact that external SG&A costs are higher than internal SG&A costs and this difference was reflected in external local end prices in 2004/05.

12.47 In the following paragraphs, we set out our proposals, summarise the responses received and conclude on the adjustments to be made. We first consider the adjustments to revenue and total FAC before considering adjustments which only affect external FAC.

Resilience circuit volumes and revenues

Our Draft Determinations

12.48 The volumes and revenues for resilience circuits are identified separately in the RFS for 2006/07, 2007/08 and 2008/09[296]. However, the costs of resilience services are included within the standard PPC circuit costs. In the 2009 Final Determinations we concluded that it would be appropriate to consider resilience circuit volumes and revenues in our analysis of overcharging[297].

[294] The adjustment to remove POH costs that are recovered from separate POH rental and connection charges is referred to as the "First POH adjustment" in the Draft Determinations.
[295] This adjustment is referred to as the "Second POH adjustment" in the Draft Determinations.
[296] BT told us that in 2004/05 and 2005/06 the volumes, revenues and costs related to resilience and protected path circuits were included in the data for the PPC services that they relate to (BT's 26 July 2011 e-mail).
[297] 2009 Final Determinations, paragraphs 6.83 to 6.90

12.49 For 2007/08 and 2008/09 BT provided us with a breakdown of resilience circuit volumes[298] and revenues[299] by bandwidth for both TISBO and wholesale trunk services, which we added to the standard circuit volumes and revenues in order to assess the combined resilience and standard circuits in aggregate.[300]

12.50 For 2006/07 BT provided us with a breakdown by bandwidth of resilience circuit volumes for TISBO and wholesale trunk services but was not able to provide us with a breakdown of resilience circuit revenues[301]. As a result we estimated resilience revenues by bandwidth for 2006/07 by assuming that the resilience revenues reported in the RFS for this year were split by bandwidth and service *pro rata* to the breakdown provided by BT for 2007/08 and 2008/09. We said that if BT was able to provide a breakdown of resilience revenues by bandwidth in this year then we would take it into account in making our final determinations. Our proposed approach in 2006/07 to 2008/09 is therefore similar to that in the 2009 Final Determinations.

12.51 In its response to the 5 July 2011 section 191 notice, BT informed us that in 2007/08 and 2008/09 the resilience circuit volumes for 140/155 Mbit/s PPC local end and connection services appeared twice in the RFS – once under the reported service volumes and again within the separately reported resilience circuit volumes.[302] In the Draft Determinations we corrected for this error in the RFS by removing volumes that had been double-counted and also took into account any revenue impact.

Views of the Parties

12.52 BT makes two arguments relating to the inclusion of resilience circuit revenues:

12.52.1 first, there are two types of protected path circuits offering different levels of resilience – Variant 1 and Variant 2. The connection charge for a 140/155 Mbit/s Variant 1 circuit is the same as the standard connection charge for 140/155 Mbit/s PPC services[303] (£1,804.72 over the Relevant Period) while the connection charge for Variant 2 circuits is more expensive (£7,952.70 over the Relevant Period). BT's estimate of resilience revenue in 2007/08 and 2008/09 associated with 140/155 Mbit/s PPC connection services assumed that all of the resilience connections were of the Variant 2 variety. BT has examined the resilience circuits supplied over the Relevant Period and in fact all the 140/155 Mbit/s resilience circuit connections were of Variant 1 and not Variant 2.[304] Correcting for this error would mean that revenue for 140/155 Mbit/s connections is no longer above DSAC for 2007/08 and 2008/09; and

12.52.2 second, rather than assuming that 2006/07 resilience revenue is split by bandwidth and service *pro rata* to the equivalent splits in 2007/08 and 2008/09 Ofcom should estimate revenue by multiplying the resilience volumes by the published resilience circuit prices at the time.[305] BT says the approach used by Ofcom gives counter-intuitive results, such as

[298] BT's 26 July 2011 e-mail.
[299] BT's response of 20 November 2009 to question 1 of the 12 November 2009 section 191 notice.
[300] BT also informed us that certain resilience circuit volumes had been double counted in 2007/08 and 2008/09 (BT's 26 July 2011 e-mail). We have corrected for this error.
[301] BT's response of 20 November 2009 to question 1 of the 12 November 2009 section 191 notice.
[302] BT's 26 July 2011 e-mail.
[303] See BT Wholesale's Carrier Price List ("CPL"), Section B8, Part 8.02, Note 1.
[304] Annex 1 of BT's response to our Draft Determinations provides a breakdown of 140/155 Mbit/s connections during the Relevant Period.
[305] Taking prices from Section B8 Part 8.03 of BT's CPL.

different internal and external prices for resilience circuits, and that as a result Ofcom has over-estimated the adjustment to 140/155 Mbit/s main link and local end terminating services and 34/45 Mbit/s trunk services in 2006/07.

12.53 The Disputing CPs consider that "*BT's objections to this adjustment are tenuous, based on some weak observations*" and that "*unless BT has hard evidence to substantiate its claims over the actual cost associated with resilient circuits then its observations should be rejected*".[306]

Our analysis

12.54 Resilience circuits help to provide network integrity and circuit availability by providing an alternative routing for the PPC in the event of cable or equipment failure in the network. The provision of resilience circuits requires additional planning (for example to ensure physical diversity of the resilience circuit from the standard circuit) and equipment (for example an additional line card associated with the protected path) so the costs of resilience circuits are likely to be higher than standard circuits, and this is reflected in some of the resilience charges. However, resilience circuits are similar to the PPC circuits for which they provide resilience (albeit they may incur some additional planning costs as described above).

12.55 According to the current price list, resilience charges for 34/45 Mbit/s trunk and 140/155 Mbit/s distribution services are the same as those for the standard equivalents. Resilience charges for 140/155 Mbit/s main link and local end services are higher than the standard equivalents. Table 12.4 shows the standard and resilience prices for the services in dispute according to the current price list, in order to illustrate how charges for resilience circuits tend to differ from standard circuits. The difference between these prices shown in the table is broadly reflective of the differential in effect during the Relevant Period.

Table 12.4: Standard and resilience prices per BT's current price list, £

		Standard	Resilience	Difference
140/155 Mbit/s main link	£ per link	9,591	11,989	25%
140/155 Mbit/s distribution	£ per km	465	465	-
140/155 Mbit/s local end	£ per end	11,310	16,966	50%
140/155 Mbit/s connection	£ per connection	2,243	*2,243	-
34/45 Mbit/s trunk	£ per km	366	366	-

Source: BT's CPL, Section B8.03[307]*. Prices effective from 1 October 2012.*
*Protected *path Variant 1 connection price. The Variant 2 connection price is £9,984.*

12.56 In the Draft Determinations we proposed that it would be appropriate to consider resilience circuit volumes and revenues in our analysis of overcharging. Given that we have not been provided with evidence that there are significant differences between standard and resilience circuits, we have concluded that it would be appropriate to consider resilience PPC circuits in our analysis of overcharging.

12.57 As explained above, in 2006/07 to 2008/09 the volumes and revenues associated with resilience circuits are separately reported in the RFS but the costs are included

[306] Disputing CPs' comments on BT's response, paragraph 16(a).
[307] https://www.btwholesale.com/pages/static/Library/Pricing_and_Contractual_Information/carrier_price_list/cpl_sectionb8partialprivatecircuits.htm

within the standard circuit costs. Where resilience circuit charges are higher than for standard circuit charges it would be appropriate to try and assess the charges separately if it was practical to do so. However this would require disaggregating the costs reported in the RFS between standard and resilience circuits. We do not consider that this is practically possible with the information available to us. In the 2009 Final Determinations we decided to resolve this by including the volumes and revenues associated with resilience circuits in our analysis (i.e. we compared total revenues associated with standard and resilience circuits against total combined costs) rather than trying to disaggregate the costs associated with resilience circuits and making a separate assessment.

12.58 In order to ensure revenues are appropriately compared to the costs they relate to, we remain of the view that it is appropriate to include revenues (and volumes) associated with resilience circuits in our analysis. This ensures that our assessment includes both the revenues of resilience circuits and the costs associated with those circuits.

12.59 We recognise that, where charges for standard and resilience circuits differ, this approach risks distorting the outcome of the DSAC test because an overcharge associated with either standard or resilience circuits could be masked by considering them together. However, since we are unable to disaggregate the costs reported in the RFS we are unable to remove this possible distortion.

12.60 We have therefore decided to make an adjustment to include in our assessment the volumes and revenues associated with resilience circuits in order to ensure that we are comparing revenues with the costs they relate to. We note that the mix of internal and external volumes for resilience circuits is different from the mix for standard circuits. This has an impact on the external FAC and external DSAC that we use for assessing whether overcharging has occurred since, as explained in paragraph 12.41, we calculate external costs by multiplying total costs by the proportion of total volumes that are external volumes.

12.61 It is possible that some financial data used in previous regulatory decisions may have been different if we had adopted the approach described above to this adjustment at the time of those earlier decisions. However, we consider that the rationale for the adjustment is consistent with the approach we took in the 2009 Final Determinations where we also included the revenues associated with resilience circuits within our assessment of overcharging. We note that the 2009 LLCC Statement did not make this adjustment because resilience circuits were not within the scope of the TI basket (and so a different adjustment was made to remove an estimate of resilience costs). Since this adjustment does not benefit BT in relation to these Disputes, we do not consider that it would create inappropriate incentives for BT to produce appropriate and accurate RFS in the future.

12.62 We respond below to the points raised by BT which relate to the mechanics of the adjustment, rather than whether the adjustment should be made.

Resilience revenues associated with 140/155 Mbit/s PPC connection services in 2007/08 and 2008/09

12.63 Our proposal to include resilience revenues associated with 140/155 Mbit/s connection services was based on data supplied to Ofcom by BT in response to the 12 November 2009 section 191 notice.[308]

12.64 However, in its response to our Draft Determinations, BT has provided evidence that it was wrong to assume in its response to the 12 November 2009 section 191 notice that all the 140/155 Mbit/s resilience connections were Variant 2 rather than Variant 1.[309] We have amended our adjustment to apply the Variant 1 price to 140/155 Mbit/s resilience connections volumes in line with the evidence provided by BT, since this indicates that all connections made prior to 2009/10 were Variant 1. As a result, the revenues of 140/155 Mbit/s connection services no longer exceed DSAC in 2007/08 and 2008/09.

Estimate of resilience revenues in 2006/07 to 2008/09

12.65 We agree with BT that the method we used to estimate resilience circuit revenues in 2006/07 results in implied prices that are significantly different from the Carrier Price List ("CPL"), and also that the implied internal and external prices are not the same. We agree that a better method is to multiply the resilience circuit volumes by the resilience circuit prices from the CPL. For example, as BT pointed out, the method we proposed in the Draft Determinations implies that the external resilience circuit price for 140/155 Mbit/s main link was £40k per circuit in 2006/07 and the internal price £15k. The CPL, however, shows that prices were around £14k for 140/155 Mbit/s main link resilience circuits in 2006/07.

12.66 In order to ensure a consistent approach, we have therefore decided to adopt BT's suggested methodology because it is consistent with the prices published in the CPL[310] and the resilience volumes provided to Ofcom.

12.67 We have considered whether BT's suggested methodology in relation to 2006/07 should also apply in 2007/08 and 2008/09. As set out in paragraph 12.49, in the Draft Determinations we based our adjustment in these years on data submitted by BT. In 2007/08, the resilience circuit revenue data supplied by BT for 140/155 Mbit/s local end and 34/45 Mbit/s trunk services imply prices that are significantly different to the CPL. In particular, the implied price for 140/155 Mbit/s local end resilience circuits was £7,485 compared to £23,105 in the CPL and the implied price for 34/45 Mbit/s resilience trunk was £352 compared to £552 in the CPL. The revenue data supplied by BT for other disputed services in 2007/08 and all disputed services in 2008/09 was consistent with the CPL.

12.68 We have decided to amend the adjustment in 2007/08 in relation to 140/155 Mbit/s local end and 34/45 Mbit/s trunk services to ensure the resilience circuit prices are the same as those published in the CPL.

12.69 The impact of these changes on the estimated resilience circuit revenues for 140/155 Mbit/s TISBO and 34/45 Mbit/s trunk services is illustrated in Table 12.4 below.

[308] BT's response to question 1 of the 12 November 2009 section 191 notice.
[309] BT's response to our Draft Determinations, Annex 1. This shows an inventory of 140/155 Mbit/s connections indicating that all connections made prior to 2009/10 were Variant 1.
[310] Section B8 part 8.03 section 1.03 of BT's CPL issued 03 July 2006 ("Accn728a").

Table 12.5: Estimates of Resilience circuits external revenue, £k

Service	External resilience revenue as per draft determination, £k	Revised external resilience revenue, £k	Difference, £k
2006/07			
140/155 Mbit/s main link	[✂]	[✂]	[✂]
140/155 Mbit/s distribution	[✂]	[✂]	[✂]
140/155 Mbit/s local end	[✂]	[✂]	[✂]
140/155 Mbit/s connection	[✂]	[✂]	[✂]
34/45 Mbit/s trunk	[✂]	[✂]	[✂]
2007/08			
140/155 Mbit/s main link	[✂]	[✂]	[✂]
140/155 Mbit/s distribution	[✂]	[✂]	[✂]
140/155 Mbit/s local end	[✂]	[✂]	[✂]
140/155 Mbit/s connection*	[✂]	[✂]	[✂]
34/45 Mbit/s trunk	[✂]	[✂]	[✂]
2008/09			
140/155 Mbit/s main link	[✂]	[✂]	[✂]
140/155 Mbit/s distribution	[✂]	[✂]	[✂]
140/155 Mbit/s local end	[✂]	[✂]	[✂]
140/155 Mbit/s connection*	[✂]	[✂]	[✂]
34/45 Mbit/s trunk	[✂]	[✂]	[✂]

Source: Draft Determinations model, sheet "ResilientCircuitsAdj" and Ofcom, based on data provided by BT in its 26 July 2011 e-mail.
**As set out in paragraph 12.64, 140/155 Mbit/s resilience connection revenues have been reduced because they were all Variant 1 rather than Variant 2 resilience circuits in this period.*

Local End Equipment and POH related costs

Introduction

12.70 In the Draft Determinations we made two adjustments to remove costs from 140/155 Mbit/s local end rentals. The first was intended to remove costs associated with third party customer local end equipment and infrastructure while the second was intended to remove costs associated with certain POH rental and connection charges. BT argues that these two adjustments were largely duplicative because they eliminated the same costs from 140/155 Mbit/s local end rentals. In order to take account of BT's comments we have therefore considered these two adjustments together (rather than separately as we did in the Draft Determinations).

Our proposed approach

<u>Local end equipment and infrastructure</u>

12.71 BT's costs for PPC local end rental services include the costs associated with the equipment, fibre and copper used to provide the physical link between the LSE and the third party customer premises. However, some of these costs are recovered through BT's PPC equipment and infrastructure connection charges. We said that this adjustment was required to avoid potential over-recovery of the costs through PPC local end rental charges.

12.72 As part of the 2009 LLCC Statement, BT provided an estimate of the proportion of local end costs that were associated with equipment and infrastructure connection charges.[311] Using these proportions we estimated the costs associated with

[311] 2009 LLCC Statement, Table A6.2, Adjustment 1.

equipment and infrastructure charges and proposed to remove them from 140/155 Mbit/s PPC local end rental costs in each year of the Relevant Period.

Removal of POH costs recovered via POH rental and connection charges

12.73 In the 2009 LLCC Statement we identified that "*the reported costs for local end rental services also include most of the costs for point of handover links. Point of handover links relate to the technical area market rather than third party local end rentals*"[312]. We said that since these costs are recovered via POH charges we should remove these costs from the local end cost base.

12.74 BT told us that there were certain capital and depreciation costs relating to POH included in the local end cost base that were recovered via POH rental and connection charges.[313] BT provided an estimate of these costs for the period 2004/05 to 2008/09 that were included within the cost base of the 140/155 Mbit/s PPC local end services, which we proposed to remove from the local end cost base.

12.75 The aim of this adjustment was therefore to remove costs included in the local end cost base that were associated with POH charges, while the aim of the third party customer local end equipment and infrastructure costs adjustment was to remove costs associated with equipment and infrastructure connection charges.

Views of the Parties

12.76 BT argued that the two adjustments described above were duplicative so that in effect we were proposing to remove the same costs twice from local end rentals. BT said that the information it had provided to Ofcom in relation to the adjustment to remove POH rental and connection costs included details of the capital employed, depreciation and maintenance costs of all third party customer equipment based at customer premises, not just POH equipment. BT said that this data was therefore suitable for use in the local end equipment and infrastructure adjustment.[314]

12.77 In relation to costs associated with equipment maintenance, BT said that the maintenance costs of equipment at customer premises should be included in the local end cost base but that the costs of maintenance related to POH equipment are recovered through POH rental charges (and these costs should therefore be removed from the local end cost base).[315]

12.78 The Disputing CPs did not specifically comment on these two proposed adjustments.

Our analysis

12.79 No respondent disagreed that an adjustment was required to remove costs associated with charges for local end equipment and infrastructure, POH rental and POH connection. We have decided that it is appropriate to make an adjustment because these costs are recovered from local end equipment and infrastructure, POH rental and POH connection charges which are outside the scope of the Disputes.

[312] 2009 LLCC Statement, Table A6.2, Adjustment 2.
[313] BT's response of 21 July 2011 to question 5 of the 5 July 2011 section 191 notice.
[314] BT's response to our Draft Determinations, paragraph 137.
[315] BT's response to our Draft Determinations, footnote 44.

12.80 In order to assess whether these adjustments were duplicative, we have considered the types of cost excluded under each adjustment and the grounds for excluding them. For each cost type we consider whether the two adjustments were removing the same costs (and were therefore duplicative) and conclude on what adjustment is appropriate to ensure that costs associated with each of these charges are excluded.

Table 12.6: Proportions of cost removed in the Draft Determinations to make the local end equipment and infrastructure and POH rental/connection adjustments

Cost type	2004/05	2005/06	2006/07	2007/08	2008/09
Fibre MCE					
Local end equipment adjustment	47%	47%	47%	47%	47%
POH rental/connection adjustment	[✂]	[✂]	[✂]	[✂]	[✂]
Total	[✂]	[✂]	[✂]	[✂]	[✂]
Access depreciation					
Local end equipment adjustment	47%	47%	47%	47%	47%
POH rental/connection adjustment	[✂]	[✂]	[✂]	[✂]	[✂]
Total	[✂]	[✂]	[✂]	[✂]	[✂]
Transmission MCE					
Local end equipment adjustment	25%	25%	25%	25%	25%
POH rental/connection adjustment	[✂]	[✂]	[✂]	[✂]	[✂]
Total	[✂]	[✂]	[✂]	[✂]	[✂]
Transmission Depreciation					
Local end equipment adjustment	34%	34%	34%	34%	34%
POH rental/connection adjustment	[✂]	[✂]	[✂]	[✂]	[✂]
Total	[✂]	[✂]	[✂]	[✂]	[✂]
Maintenance					
Local end equipment adjustment	n/a	n/a	n/a	n/a	n/a
POH rental/connection adjustment	[✂]	[✂]	[✂]	[✂]	[✂]

Source: Local end equipment adjustment proportions: 2009 LLCC Statement, Table A6.2#1. POH rental/connection adjustment: BT's response of 21 July 2011 to question 5 of our 5 July 2011 section 191 notice.

Fibre MCE

12.81 BT recovers the cost of blown fibre[316] from its POH connection charges.[317] Therefore, any costs associated with blown fibre included within the cost base of local end rentals need to be removed. The figures included in Table 12.6 under the Fibre MCE heading for the local end equipment adjustment and POH rental/connection adjustment relate to the amount of blown fibre as a proportion of total fibre and BT has calculated this figure in exactly the same way for both adjustments.[318] This means the adjustments are [✂]. We have therefore amended our adjustments so that [✂]% of local end fibre MCE is excluded only once.

Access depreciation

12.82 Access depreciation includes depreciation associated with fibre and duct. The local end equipment adjustment removes 47% of local end Access depreciation each year, which is based on the same workings used to derive the [✂]% used to estimate the

[316] Blown fibre is a means of installing optical fibre in existing ducts where suitable empty tubes have been installed. A flow of compressed air, along the empty tube, carries the optical fibre with it.
[317] See for example Table A5.1 in the 2009 LLCC Statement Annexes.
[318] The 47% figure for the Local end equipment adjustment comes from an analysis BT provided for the 2009 LLCC (see 2009 LLCC Statement, Table A6.2, adjustment #1). For the POH rental/connection adjustment it comes from BT response dated 21 July 2011 to question 5 of the 5 July 2011 section 191 notice.

adjustment for fibre MCE. The percentages used to make the POH rental/connection adjustment come from BT's response dated 21 July 2011[319]. In that response, BT based its estimate of the amount of Access depreciation to use on the figure of 47%, but amended it to take account of the fact that Access depreciation relates to duct as well as fibre. The proportion of Access depreciation that is removed under the First POH adjustment is therefore less than 47% since depreciation related to duct is unaffected. As we are only interested in removing the proportion of Access depreciation that relates to blown fibre, and BT's estimate provided in its response dated 21 July 2011 takes account of the fact that Access depreciation includes duct as well as fibre, we have decided to remove only the proportion of Access depreciation identified under the POH rental/connection adjustment in Table 12.6.

Transmission MCE and depreciation

12.83 BT's estimates of the proportion of local end transmission equipment that relates to third party and POH equipment have been made in the same way (i.e. it has carried out an analysis of the proportion of assets associated with the customer end rather than exchange end) except that in the 2009 LLCC Statement BT's estimates were based on the "DTTM"[320] asset class (these estimates appear under the local end equipment adjustment in Table 12.6) and for the POH rental/connection adjustment its estimates were based on the SDH class of work.[321] BT notes: "*As the 140/155 Mbit/s Local End service is delivered over SDH technology, an analysis of the SDH class of work is used to identify the proportion of transmission cost associated with the equipment at the third party customer end.*"[322]

12.84 As 140/155 Mbit/s local end services are delivered over SDH technology we consider that BT's estimates provided in its response dated 21 July 2011 are more relevant to the 140/155 Mbit/s PPC local end services in dispute and we have amended our adjustments so that the proportion of Transmission MCE and depreciation removed is consistent with the proportions relating to the POH rental/connection adjustment in Table 12.6.

Maintenance

12.85 Maintenance costs of customer sited POH equipment are recovered through POH rental charges[323], but the costs are included in the local end cost base and therefore need to be removed for the purposes of assessing overcharging. The maintenance figures provided by BT[324] related to maintenance of equipment at customer premises as well as maintenance of POH equipment. The proportion of maintenance costs we proposed to exclude in the Draft Determinations was therefore too high. However, BT did not give any indication of the split between maintenance of equipment at customer premises and maintenance of POH equipment, and BT stated that "*the element relating to POH could not be readily identified*".[325]

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319 BT's response of 21 July 2011 to question 5 of the 5 July 2011 section 191 notice.
320 According to BT's Detailed Attribution Methodology, DTTM relates to "Construction of Customer Wideband services".
321 A transmission technology standing for Synchronous Digital Hierarchy. In BT's allocation system a "class of work" describes a grouping of similar engineering related costs that are associated with a particular activity or asset type.
322 BT's response of 21 July 2011 to question 5 of the 5 July 2011 section 191 notice.
323 See for example Table A5.1 in the 2009 LLCC Statement Annexes.
324 BT's response of 21 July 2011 to question 5 of the 5 July 2011 section 191 notice.
325 BT's response to our Draft Determinations, paragraph 136.

12.86 We have considered what information is available to us to estimate the maintenance costs of POH equipment that have been included within the cost base of 140/155 Mbit/s PPC local end services. As part of its *LLCC PPC Points of Handover Pricing Review* ("POH Pricing Review")[326] Ofcom published a bottom-up cost model which estimated a number of costs associated with providing POH.[327] One of the costs the model considered was maintenance costs associated with POH equipment. The POH Pricing Review consultation identified three types of POH equipment that could be used to handover 140/155 Mbit/s services: SMA-1, SMA-4 and SMA-16.[328] SMA-1 could support a single 140/155 Mbit/s service, SMA-4 could support four 140/155 Mbit/s services and SMA-16 could support 16 140/155 Mbit/s services. However, each SMA multiplexor can support a number of bandwidths, so for example an SMA-1 can support 63 2 Mbit/s services or a single 140/155 Mbit/s service.

12.87 The bottom-up model identifies the 2010/11 annual maintenance cost of an SMA-1 as around £[✂], SMA-4 at around £[✂] and an SMA-16 at around £ [✂] .[329] Since each SMA can support a different number of 140/155 Mbit/s services, the estimated maintenance cost per 140/155 Mbit/s service will depend on which SMA is used. The choice of SMA equipment depends on how many circuits and of which bandwidth a CP needs to handover at a particular location now and in the future. Since we do not have information on which types of SMA equipment 140/155 Mbit/s services are typically handed over, we have assumed an average SMA maintenance cost of £[✂] per 140/155 Mbit/s circuit based on a weighted average of the costs associated with each SMA in 2010/11[330]. We consider that this is a reasonable estimate of the unit maintenance cost for each year of the Relevant Period. Therefore our estimate of the maintenance costs of POH equipment that has been included within the cost base of 140/155 Mbit/s PPC local end services each year is equal to £[✂] multiplied by the circuit volume of 140/155 Mbit/s rental services, as set out in Table 12.7.

Table 12.7: Estimate of the maintenance cost of POH equipment that has been included within the cost base of 140/155 Mbit/s PPC local end services, 2004/05 to 2008/09

Year	Volume (local ends)	Volume (circuits)	Estimated POH maintenance cost £k
2004/05	14	7	1.2
2005/06	24	12	2.0
2006/07	51	26	4.3
2007/08	82	41	7.0
2008/09	103	52	8.7

Source: Ofcom, based on POH bottom up model for the POH Pricing Review.

<u>Conclusion</u>

12.88 In light of BT's clarification, we agree with BT that the adjustment to remove POH rental and connection costs largely duplicates the local end equipment and

[326] Following the Cable & Wireless appeal to the CAT of the 2 July 2009 LLCC Statement remedies and the subsequent remittal back to Ofcom, the recovery of additional POH costs was the subject of Ofcom's *LLCC PPC Points of Handover Pricing Review Consultation* dated 26 January 2011. http://stakeholders.ofcom.org.uk/binaries/consultations/points-handover-pricing/summary/main.pdf

[327] Available at: http://stakeholders.ofcom.org.uk/consultations/revision-points-handover-pricing/?a=0

[328] POH Pricing Review consultation, Table 2: http://stakeholders.ofcom.org.uk/binaries/consultations/points-handover-pricing/summary/main.pdf

[329] Sheet "Maintenance Costs" in the bottom up model, row 84.

[330] Total maintenance cost for each type of SMA equipment = £580+£770+£2200 = £3550. Total 140/155 Mbit/s services supported = 1+4+16=21. £3550/21 = £169.

infrastructure adjustment and we have amended our adjustments accordingly as set out above. In essence, each proposed adjustment would have removed costs associated with equipment and infrastructure connection charges as well as costs associated with POH rental and connection charges. Only one of these adjustments is therefore necessary.

12.89 Given that the mechanics of this adjustment differ slightly from the 2009 Final Determinations and 2009 LLCC Statement, it is possible that the financial data used in those decisions may have been different if we had adopted the approach described above at the time of those decisions. However the rationale for the adjustment is consistent with the 2009 Final Determinations and 2009 LLCC Statement, where we also removed costs associated with equipment and infrastructure connection charges and POH rental and connection charges. Since this adjustment does not benefit BT in relation to these Disputes, we do not consider that it would create inappropriate incentives for BT to produce appropriate and accurate RFS in the future.

Third party customer local end equipment and infrastructure selling costs

Our proposals

12.90 BT incurs selling costs associated with third party customer local end equipment and infrastructure which we assume are reflected in the local end rental cost base, as per other costs associated with this service. In the Draft Determinations we removed an estimate of these selling costs from the local end rental cost base and moved them to be matched against the revenue from PPC equipment and infrastructure connection charges.

Views of the Parties

12.91 BT argues that some of the assumptions underlying Ofcom's proposed approach were "*inconsistent with the value of SG&A costs attributed to the 140/155 Mbit selling costs*".[331] BT says that this was for two reasons:

12.91.1 Ofcom assumed that selling costs amounted to 13% of total revenue. BT says that the 13% figure was based on 2007/08 SG&A costs expressed as a mark up on revenue excluding SG&A and suggested that a more appropriate ratio to use was the ratio between SG&A costs and total revenue for the TI markets;[332] and

12.91.2 Ofcom has used the proportion of 140/155 Mbit/s PPC local end cost to total local end cost in order to estimate the proportion of equipment cost applicable to the 140/155 Mbit/s PPC local end service. However, an analysis of equipment sales in 2008/09 shows there was just over £[✂] of equipment sales relating to 140/155 Mbit/s services and around £[✂] in 2007/08. BT said that this suggested that [✂]% to [✂]% of total equipment sales related to 140/155 Mbit/s services.[333]

[331] BT's response to our Draft Determinations, paragraph 187.
[332] BT's response to our Draft Determinations, paragraphs 188-189.
[333] BT's response to our Draft Determinations, paragraphs 190-192.

12.92 The Disputing CPs consider that Ofcom's proposals should stand "*unless BT is forthcoming with relevant cost information rather than cost allocation proposals in its favour*"[334].

Our analysis

<u>The 13% assumption</u>

12.93 The 13% figure Ofcom used as an estimate of the SG&A costs associated with third party local end equipment and infrastructure came from an analysis BT provided for the 2009 LLCC Statement[335] and represented the ratio of total PPC SG&A costs to total PPC revenue in 2006/07 (not, as BT suggests, a mark up on revenue excluding SG&A), calculated as follows:

Table 12.8: Derivation of the 13% figure provided by BT as part of the 2009 LLCC

	2006/07
PPC internal revenue	£577m
PPC external revenue	£303m
Total revenue	£881m
Total SG&A	£113m
SG&A as % of revenue	13%

Source: BT email dated 25 July 2008 from Ed Piggott (BT) to Gary Carey (Ofcom), spreadsheet entitled "Third party equipment_July08_update_v7_Ofcom", sheet "Direct Overheads" ("BT's 25 July 2008 e-mail"). In this spreadsheet the revenue figures are taken from the 2006/07 RFS (before restatements).

12.94 The estimate of 13% therefore appears to be derived using the ratio that BT suggests, i.e. SG&A costs divided by total revenue.

12.95 However, there are a number of differences between the analysis BT provided as part of the 2009 LLCC and BT's analysis in its response to the Draft Determinations. This is shown in Table 12.9 below for 2006/07.

Table 12.9: PPC SG&A costs as a percentage of total PPC revenues, 2006/07

	Analysis for 2009 LLCC	Analysis in draft determination response
PPC internal revenue	£577m	£479m
PPC external revenue	£303m	£321m
Wholesale trunk		£265m
Total revenue	£881m	£1,065m
Total SG&A	£113m	£86.8m
SG&A as % of revenue	13%	8.1%

Source: Table 12.8 and BT's response to our Draft Determinations, Table 16.
Note that internal and external revenue in column 2 has been taken from the restated 2006/07 data contained in the document "Additional information in relation to BT's Current Cost Financial Statements for 2008". Total revenue in column 2 remains the same as in BT's Table 16.

12.96 The PPC internal and external revenue included in BT's response to our Draft Determinations is correct because the 2006/07 RFS were restated in 2007/08 (in the

[334] Disputing CPs' comments on BT's response, paragraph 16e.
[335] See paragraph A6.56, bullet 4 of the 2009 LLCC Statement Annexes.

document entitled "Additional information in relation to BT's Current Cost Financial Statements for 2008") and BT has used the restated revenues.

12.97 BT's response to our Draft Determinations includes revenue for wholesale trunk, while this was excluded from the analysis provided for the 2009 LLCC. On the basis that SG&A costs are allocated to the wholesale trunk market[336], including wholesale trunk revenue in the analysis appears appropriate.

12.98 The remaining difference is the size of the SG&A cost. The figure of £86.8m in BT's response to our Draft Determinations comes from the RFS[337]. We do not know why the SG&A figures are different, although one possibility is that the analysis for the 2009 LLCC was based on different SG&A components. In the 2006/07 RFS there are three SG&A components listed against TISBO markets: SG&A private circuits, SG&A partial private circuits and SG&A wholesale.[338] The SG&A wholesale component is not relevant to our analysis because none of the PPC services in dispute attract this cost component. The total cost listed for these components in 2006/07 is shown in Table 12.10 below.

Table 12.10: 2006/07 SG&A cost components

Cost component	Total cost in 2006/07 RFS
SG&A private circuits	£46m
SG&A partial private circuits	£40m
SG&A wholesale	£66m

Source: 2006/07 *RFS, page 77.*

12.99 The total cost for SG&A private circuits and SG&A partial private circuits as reported in the 2006/07 RFS for the TISBO market is £86m, which is the amount that BT has included in Table 16 of its response to our Draft Determinations. The total cost of SG&A private circuits and SG&A wholesale is £112m, which is very close to the £113m that BT used in its analysis for the 2009 LLCC[339]. We consider that an analysis of SG&A costs using £86m as the total for SG&A costs is the right approach since it reconciles with the total SG&A costs published in the 2006/07 RFS that are relevant to the PPC services in dispute. Therefore we have adopted BT's estimates of PPC SG&A costs as a proportion of PPC revenue for each year 2004/05 to 2008/09 as provided in Table 16 of its response to our Draft Determinations.

Applying the adjustment to 140/155 Mbit/s local end services

12.100 In the Draft Determinations we calculated the ratio of SG&A costs associated with third party equipment and infrastructure as a percentage of total PPC local end costs. We then reduced the costs of 140/155 Mbit/s local end services by this amount. This assumes that equipment sales were averaged over all bandwidths.

12.101 BT presented evidence in its response to our Draft Determinations that in fact the amount of equipment sales relating to 140/155 Mbit/s services in 2007/08 and 2008/09 was relatively low (BT did not provide any evidence relating to the period 2004/05 to 2006/07).

[336] See for example page 80 of the 2006/07 RFS.
[337] See for example page 80 of the 2006/07 RFS – the sum of SG&A private circuits (£46m) and SG&A partial private circuits (£40m) is £86m. Note that values in the RFS are rounded to the nearest £m. We also note that total SG&A costs in 2006/07 were not restated in subsequent documents.
[338] 2006/07 RFS, page 77.
[339] This came from ASPIRE (BT's 25 July 2008 e-mail).

12.102 We accept BT's evidence that the amount of equipment sales relating to 140/155 Mbit/s services was low, however we disagree with its calculation that 140/155 Mbit/s equipment sales represented between [✂]% and [✂]% of total equipment sales in 2007/08 and 2008/09. We think the correct percentages are [✂]% to [✂]%. This is because BT's percentages are estimated by dividing external 140/155 Mbit/s equipment sales by total internal and external sales, rather than dividing by total external sales only.[340] BT's percentages effectively assume that no internal sales of equipment related to 140/155 Mbit/s services which we consider is not correct.

12.103 We have adopted BT's suggestion and allocated SG&A costs associated with third party equipment and infrastructure to 140/155 Mbit/s local end services on the basis of the proportion of equipment sales represented by 140/155 Mbit/s services. However, we have amended this proportion so that it ranges from [✂]% to [✂]% rather than [✂]% to [✂]% in 2007/08 and 2008/09 in order to account for the fact that there were also internal sales of equipment relating to 140/155 Mbit/s services. For the years 2004/05 to 2006/07, for which BT did not provide any data, we have used the average of the proportions for 2007/08 and 2008/09.[341]

12.104 Given that the mechanics of this adjustment differ slightly from the 2009 Final Determinations and 2009 LLCC Statement, it is possible that the financial data used in those decisions may have been different if we had adopted the approach described above at the time of those decisions. However the rationale for the adjustment is consistent with the 2009 Final Determinations and 2009 LLCC Statement, where we also removed selling costs associated with equipment and infrastructure connection charges. Since this adjustment does not benefit BT in relation to these Disputes, we do not consider that it would create inappropriate incentives for BT to produce appropriate and accurate RFS in the future.

Payment terms

Our proposed approach

12.105 In its RFS BT estimates its working capital related to debtors for all its services based on a number of days (being the time period between when the costs are incurred and the receipt of the revenue). Prior to 2007/08 this was 59 days whereas in 2007/08 and 2008/09 BT used 43 days in its reporting.

12.106 In the 2009 Final Determinations we decided to replace the estimates based on 59 days and 43 days with estimates that reflected the contractual payment terms offered to customers and BT's billing cycle, namely 46 days for the disputed connection services and 16 days for rental services.[342] In the Draft Determinations we proposed to adopt the same approach for these Disputes.

Views of the Parties

12.107 BT disagrees with Ofcom's proposed approach. BT considers that *"the right and fair approach would be to base the assessment on the days' credit actually taken"*[343]. BT

[340] For example, in Table 17 of its response to our Draft Determinations BT calculates that in 2008/09 140/155 Mbit/s services represented [✂]% of all equipment sales in 2008/09. This is calculated by dividing 140/155 Mbit/s external sales (£[✂]) by total revenue (£[✂]). We consider the calculation should be external sales (£[✂]) divided by external revenue (£[✂]), which equals [✂]%.
[341] This is the same approach that BT took in Table 17 of its response to our Draft Determinations.
[342] 2009 Final Determinations, paragraphs 6.76 to 6.82.
[343] BT's response to our Draft Determinations, paragraph 179.

submits that "*[e]ven if contractual payment terms are utilised, some allowance should be included within the notional debtor to reflect the actual experience we have with external customers*"[344]. BT argues Ofcom's proposed approach results in CPs being "*rewarded twice*": "*firstly by paying their bills late and then by the assessment of cost orientation being based on when they should have settled their bills and not when they actually did settle them*"[345].

12.108 The Disputing CPs support Ofcom's proposed approach. They argue that "*BT ignores that CPs are penalised under the contract for debtor days incurring daily interest for late payment. Ofcom has made this adjustment consistent with the same adjustment made for the PPC Final Determinations and the LLCC 2009. This is therefore a decision which cannot or should not be remade*"[346].

Our analysis

12.109 The costs of PPC services include the cost to BT of financing the payment terms it offers. We said in the 2009 LLCC Statement that the notional debtors that BT includes in the RFS is the same across all services and does not reflect the terms actually offered on individual services.[347] Therefore, the reason for making the payment terms adjustment is to better match BT's working capital requirements for PPC services with the credit terms contractually offered to PPC customers, which would otherwise be obviously inappropriate.

12.110 In response to BT's argument that we should take account of the actual number of days' credit taken by CPs rather than the contractual terms, we accept that, if a CP pays its bills late, BT is likely to incur some form of additional financing costs that are not covered by the main service charges. However, the PPC contracts allow BT to levy interest on late payments to recover the additional financing costs incurred. We therefore disagree with BT's argument that basing our assessment of overcharging on contractual payment terms means that CPs are being rewarded twice, since if CPs pay their bills late there is a contractual mechanism available to BT to recover any additional financing costs incurred.

12.111 We remain of the view that it is appropriate to make the payment terms adjustment, consistent with the 2009 Final Determinations and 2009 LLCC Statement, reflecting the contractual payment terms in the cost base of PPC services.

12.112 We consider that it is practical for us to make this adjustment. We have applied this adjustment by taking the difference between the debtors days assumed by BT in its RFS each year and the debtors days implied by the contractual arrangements for PPC services and multiplying the result by the corrected revenue figures from Table 12.22 divided by 365 days (366 days in 2007/08). This approach means that changes to costs resulting from volume errors are automatically factored into the calculation since it applies the debtor days assumptions to the corrected revenue. No adjustment has been made to 140/155 Mbit/s connection services because no MCE data is available for this service in the Relevant Period.

12.113 Given that the mechanics of this adjustment differ slightly from the 2009 Final Determinations and 2009 LLCC Statement, it is possible that the financial data used in those decisions may have been different if we had adopted the approach

[344] BT's response to our Draft Determinations, paragraph 178.
[345] BT's response to our Draft Determinations, paragraph 179.
[346] Disputing CPs' comments on BT's response, paragraph 16c.
[347] Table A6.2, adjustment 6.

described above at the time of those decisions. However the rationale for the adjustment is consistent with the 2009 Final Determinations and 2009 LLCC Statement, where we also made an adjustment to debtor days and the mechanics of the adjustment are consistent with the Ethernet Determinations. Since this adjustment does not benefit BT in relation to these Disputes, we do not consider that it would create inappropriate incentives for BT to produce appropriate and accurate RFS in the future.

Core distribution costs

Our proposed approach

12.114 During an investigation into BT's prices for PPC trunk services in 2005, we identified concerns relating to the way that core distribution costs were split between PPC wholesale trunk segments and PPC terminating segments.[348] BT subsequently revised its cost allocation methodology to address these concerns and reflected this new methodology in the 2006/07 and 2007/08 RFS. However, BT did not restate the data for years prior to 2006/07, despite these years also being affected by the accounting problems identified.

12.115 We said that given that the 2004/05 and 2005/06 data is based on an approach that both Ofcom and BT appear to have agreed was inappropriate, we considered it was appropriate to make an adjustment to the data for those two years.

12.116 In making the adjustment in the 2009 Final Determinations, we based our reallocation of costs on the 2007/08 data, applying the ratio of TISBO to trunk costs in 2007/08 to the two earlier years 2004/05 and 2005/06. We proposed to follow the same approach in the Draft Determinations.

Views of the Parties

12.117 The Disputing CPs supported our approach in relation to this adjustment, which they said was consistent with how we had previously dealt with it and proportionate in view of the limited options Ofcom has to address this issue and other matters Ofcom has to deal with in these Disputes.[349] BT did not specifically comment on this adjustment.

Our analysis

12.118 As identified by Ofcom in its 2005 investigation into BT's PPC trunk services, we consider that the methodology used to allocate core distribution costs to PPC wholesale trunk segments and PPC terminating segments in 2004/05 and 2005/06 was obviously inappropriate. No respondents disagreed with the proposed adjustment and we have decided to make the adjustment in line with the Draft Determinations.

12.119 We do not consider that this adjustment would significantly alter the financial data on which we relied in previous regulatory decisions since it is consistent with the 2009 Final Determinations where we also reallocated core distribution costs between distribution and trunk services for the same reasons. This adjustment could affect BT's incentives as it benefits BT in relation to these Disputes (since it increases the

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[348] *Own initiative investigation against BT Wholesale about PPC Trunk Services*: http://stakeholders.ofcom.org.uk/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw_841/

[349] Paragraph 6.27 of the CPs' response to our Draft Determinations.

costs of 34/45 Mbit/s trunk services which, prior to the adjustment, displayed revenues in excess of DSAC). However we consider it appropriate to make the adjustment, taking into account in particular the rationale for the adjustment, including Ofcom's findings in the 2005 investigation, and the fact that this is consistent with our approach in the 2009 Final Determinations.

21CN costs

Our Draft Determinations

12.120 The capital and operating costs incurred by BT in relation to its next generation ("21CN") network between 2005/06 and 2008/09 were attributed to legacy services, including PPCs. BT did not, however, use its 21CN network to provide PPCs during the Relevant Period. We therefore proposed to make two adjustments in relation to 21CN costs:

12.120.1 an adjustment to remove costs directly attributable to 21CN; and

12.120.2 a further adjustment to remove certain indirect 21CN costs.

12.121 The proposed adjustments reflected the approach we had taken in relation to 21CN costs in the 2009 LLCC Statement. In the context of the 2008 LLCC Consultation, BT had argued that the indirect costs would have been incurred even in the absence of 21CN, and that services such as PPCs should therefore make a contribution to their recovery.[350] Ofcom accepted this argument in developing its LLCC proposals and we asked BT to provide us with an analysis for 2007/08 of its 21CN costs which identified which costs were truly specific to 21CN (e.g. equipment and software). On the basis of this, in the 2009 LLCC Statement we only eliminated 22% of P&L costs and 93% of MCE costs to reflect our objective of only removing avoidable 21CN costs. We decided to follow the same approach in the 2009 Final Determinations.[351]

12.122 In the CC's 30 June 2010 Determination, the CC found in respect of the 21CN adjustment made in the 2009 LLCC Statement that "*a reduction in MCE as a result of the 21CN adjustment should have been followed by an adjustment to the overheads that were allocated on the basis of MCE".*[352] The CC determined that the adjustment for 21CN to take account of this should have been £3.5m for the TI basket in 2007/08.[353]

12.123 In the Draft Determinations we proposed to follow the same approach as in the 2009 LLCC Statement, taking account of the CC's 30 June 2010 Determination. Our proposed 21CN adjustments therefore removed the direct costs of 21CN that had been included in the cost base of PPC services, and the element of indirect 21CN costs that had been allocated on the basis of those direct costs. BT provided us with estimates for 2005/06 to 2008/09 of the corporate overheads which were allocated to the TI basket on the basis of MCE.[354]

[350] 2008 LLCC Consultation.
[351] 2009 Final Determinations, paragraphs 6.97 to 6.106.
[352] The CC's 30 June 2010 Determination, paragraph 4.130.
[353] The CC's 30 June 2010 Determination, paragraph 6.52.
[354] BT's 21 July 2011 response to the 5 July 2011 section 191 notice.

Views of the Parties

12.124 The Disputing CPs said that they were "*concerned*" about Ofcom's proposed treatment of 21CN costs and argued that we should remove all indirect 21CN costs, in addition to direct 21CN costs:

> *"In our view it is not clear that these [indirect 21CN] costs would have been incurred even in the absence of 21CN, or even if they had been incurred, that they should be recovered from PPC services. The 'indirect costs' referred to presumably include allocations of common costs. However, common costs are not necessarily 'fixed' and it would seem reasonable to assume that at least some common costs are variable with the number of services provided by BT.*
>
> *"For example, the introduction of 21CN is likely to have led to an increase in the costs of network management, planning, engineering and design. Secondly, Ofcom's allocation of 21CN indirect overhead costs in effect allocates at least some of these costs to PPC services twice, once in an allocation to PPC components and once through 21CN components, not used to deliver the services."* [355]

12.125 The Disputing CPs also noted that "*21CN indirect costs appear to fluctuate year to year*" and considered that, this being the case, "*[t]here is a strong argument to remove them in their entirety, or at the very least only include a proportional element of them within the PPC cost stack*."[356]

12.126 BT makes two arguments against our proposed adjustments to remove direct 21CN costs and certain indirect 21CN costs: (i) it argues that our adjustment was inconsistent with the 2009 LLCC Statement; and (ii) it argues that it was reasonable for some of the costs of 21CN to be allocated to legacy products which were expected to migrate to 21CN.

<u>Consistency with 2009 LLCC Statement</u>

12.127 BT argues that in the 2009 LLCC Statement:

> "*Ofcom sought to estimate the costs of a network in which investment levels were sufficient to maintain the level of capital needed to sustain the network over the long term.*
>
> *"In order to do this Ofcom first modelled the costs of a 'hypothetical' ongoing network based on the existing PDH/SDH network, adjusting both the depreciation and MCE of the legacy assets to a sustainable level. As the model assumed levels of capital expenditure sufficient to support an ongoing network which would otherwise take place if BT did not invest in 21CN, it was then appropriate to exclude incremental costs relating to 21CN*".[357]

12.128 BT argues that Ofcom's proposed approach involves only the second of these steps:

[355] Disputing CPs' response to our Draft Determinations, paragraphs 6.33 to 6.34; we note that these arguments are similar to those set out at paragraphs 6.99 to 6.101 of the 2009 Final Determinations.
[356] Disputing CPs' response to our Draft Determinations, paragraph 6.35.
[357] BT's response to our Draft Determinations, paragraphs 165 to 167.

> "*Ofcom have excluded 21CN costs, on the basis that BT did not use its 21CN network to provide PPCs during the relevant period, but Ofcom has failed to recognise that those 21CN costs are a replacement for investment in the legacy platforms which would have been incurred 'but for' 21CN*."[358]

12.129 BT argues that a forward looking approach to assessing overcharging would either:

> *"adjust BT's MCE and depreciation costs upwards to reflect the fact that these assets are approaching the end of their economic life, the approach Ofcom took in the 2009 Leased Lines Charge Control which the Competition Commission supported, or*
>
> *"include an allowance for the cost of investment in the replacement technology".*[359]

<u>Allocation of 21CN costs</u>

12.130 BT argues that while its 21CN network was not used to provide PPCs during the Relevant Period it was reasonable for some of the costs of 21CN to be allocated to legacy products, such as PPCs, which were expected to migrate to 21CN.[360] BT argues that:

> "*The rationale was that early adopters should not be penalised by picking up the costs of the initial spare capacity shared across all services (including PPCs) which were expected to benefit from the new network as this investment would be required to ensure the continued supply of the services*".[361]

12.131 In response to the Disputing CPs' comments regarding indirect 21CN costs, BT reiterated that it was reasonable for some of the costs of 21CN to be recovered from the legacy products which were expected to migrate such as PPCs and that this "*equally applies to direct and indirect 21CN costs*".[362]

Our analysis

12.132 During the Relevant Period, costs associated with 21CN were allocated in the RFS to PPC services that were not delivered using BT's 21CN network. These costs comprised incremental costs directly associated with 21CN and a share of overheads (or indirect costs).

12.133 We consider that it was obviously inappropriate for BT to allocate costs directly associated with 21CN to PPC services that are not delivered using the 21CN network.

12.134 In the same period a share of overheads (or indirect costs) was allocated to 21CN. We have considered the Disputing CPs' argument that all 21CN indirect costs should be removed from the cost base of PPC services. If overheads were allocated to 21CN on a basis that took account of the level of direct costs then we consider that it was obviously inappropriate for BT to allocate these overheads to PPC services that are not delivered using 21CN for the same reason that it was inappropriate to

[358] BT's response to our Draft Determinations, paragraph 167.
[359] BT's response to our Draft Determinations, paragraph 169.
[360] BT's response to our Draft Determinations, paragraphs 171 to 174.
[361] BT's response to our Draft Determinations, paragraph 173.
[362] BT's comments on the Disputing CPs' response, page 1.

allocate direct 21CN costs to such services (i.e. if we remove the direct costs associated with 21CN then any overheads that have been allocated to 21CN on the basis of the level of direct costs should also be removed).

12.135 For the remaining overheads, we do not consider that it was obviously inappropriate to allocate these costs to PPC services during the Relevant Period. This is because during the Relevant Period there were no PPC services available that were delivered using BT's 21CN. Given this, we do not consider it was obviously inappropriate that overheads whose allocation basis did not take into account the level of direct 21CN costs were allocated to existing PPC services, since if they were not allocated to existing services it is not obvious where they should instead have been allocated.

Consistency with the 2009 LLCC Statement

12.136 We have considered the rationale for making the 21CN adjustment in these Disputes and the 2009 LLCC Statement.

12.137 The rationale for making a 21CN adjustment in these Disputes is that 21CN costs have been allocated to PPC services which are not provided using BT's 21CN network. We consider that the inclusion of such costs is obviously inappropriate for the purposes of resolving the Disputes.

12.138 The rationale for making a 21CN adjustment in the 2009 LLCC Statement was that it was consistent with the "*technology neutral*" approach to that charge control[363]. This technology neutral approach meant modelling the costs of legacy and new (21CN) services based on the legacy platform, even if the services were going to be carried on the new platform. This provides BT with an incentive to invest in the new platform where it is efficient to do so as BT gets to keep the cost savings associated with the new platform, at least until the start of the next charge control period. As the costs in the model were based on the old platform, the incremental 21CN costs that BT incurs were excluded (since 21CN services were modelled as if they were legacy services). As well as excluding 21CN costs we checked that the hypothetical ongoing network was not heavily depreciated during the charge control period[364]. If it had been, we would have made an allowance for additional capital expenditure that BT would have incurred "but for" the 21CN investment. However, we concluded that we did not need to make a "but for" adjustment to capex because there was no evidence that the assets used to deliver PPC services were highly depreciated.

12.139 The rationale for making the 21CN adjustment in these Disputes is therefore different from that in the 2009 LLCC Statement, although the mechanics of the adjustment are similar. This means that the 21CN adjustment we are making here does not necessarily need to be the same as that made in the 2009 LLCC Statement.

12.140 BT suggests that we could make an allowance for the additional investment BT would have made had it not invested in the 21CN platform, as per the approach we adopted in the 2009 LLCC Statement. However, the objective of the 21CN adjustment in resolving these Disputes is not to reflect a scenario where BT's 21CN does not exist, but to adjust for what we consider an inappropriate allocation of costs.

[363] 2009 LLCC Statement, paragraphs 3.64 to 3.112 explain the 'technology neutral' approach that we took in that charge control. In more recent charge controls, such as the WBA charge control, we have referred to an "anchor pricing" approach, see: http://stakeholders.ofcom.org.uk/binaries/consultations/823069/statement/statement.pdf

[364] If it were then the accounting costs might understate the underlying economic costs.

12.141 That said, it is possible that, due to the 21CN investment, the accounting costs of providing PPC services are distorted because we are looking at the costs when PPC volumes are low and/or the legacy network is highly depreciated. If this were the case, accounting costs would not truly reflect the underlying economic costs and we could take this into account in our non-mechanistic assessment of BT's charges. However, as set out at paragraph 12.138, when this was considered in the 2009 LLCC Statement we concluded that there was no evidence that the assets used to deliver PPC services were highly depreciated (although volumes of PPC services did fall during the Relevant Period). Therefore even if we considered that our adjustment should be the same as the approach in the 2009 LLCC Statement, this would not lead us to make an adjustment for the additional investment BT would have made had it not invested in the 21CN platform, as such an adjustment was not made in the 2009 LLCC Statement.

12.142 In summary, although the mechanics of the 21CN adjustment are similar to those used in the 2009 LLCC Statement, the rationale for the adjustment is different. For the purposes of these Disputes we are removing direct 21CN costs from the cost base of the PPC services in dispute because these services were not delivered using BT's 21CN network. The 2009 LLCC Statement removed direct 21CN costs because it was modelling future costs on a 'technology neutral' basis using the costs of legacy services to model the costs of both legacy and 21CN services. The direct costs of 21CN services were therefore not relevant.

Allocation of 21CN costs

12.143 We disagree with BT that it is reasonable to allocate 21CN costs to legacy products. Investment in 21CN is designed to deliver new services and such investment should be self-financing, i.e. BT should be able to recover the costs of such investment from the services that will use the new network, and should not recover costs from legacy services, even when the 21CN network is designed to replace those services.

12.144 Early investment in 21CN is likely to occur before any new services using 21CN are launched. As a result, in the early years the network may not be fully utilised and services delivered using the network may make accounting losses. Such losses would be expected to be recouped in later years when volumes increase. In the early life cycle of products, accounting costs may not therefore reflect underlying economic costs. Early 21CN costs could be "timed out" and not considered as part of a cost orientation assessment which considers DSACs for individual years. However, if such an accounting distortion exists, and the use of DSAC data in the very early years of a product life cycle is not appropriate, we could take this into account when assessing the cost orientation of services that are delivered using 21CN.

12.145 The 21CN investment is not relevant to the costs of providing PPC services, which is why we have made an adjustment to eliminate the direct costs of 21CN from our assessment (and any overheads that have been allocated to 21CN on a basis that took account of the level of direct costs).

Conclusion

12.146 We have decided to make an adjustment in line with our Draft Determinations to remove from the services in dispute any costs that are directly associated with 21CN. We have also removed any overheads associated with 21CN that were allocated on the basis of the incremental 21CN costs. We consider that these adjustments are reasonably practical to make because BT was able to provide the information needed to make the adjustments.

12.147 Table 12.11 shows the proportion of total 21CN costs that we have removed as being directly related to 21CN in each year 2005/06 to 2008/09. Note that there were no costs associated with 21CN in 2004/05.

Table 12.11: Estimate of the proportion of total 21CN costs that are direct 21CN costs in the period 2005/06 to 2008/09

	2005/06	2006/07	2007/08	2008/09
P&L	22%	22%	22%	[✂]
MCE	93%	93%	93%	[✂]

Source: 2006/07 to 2008/09: BT email dated 12 July 2011 in response to follow up question 21b to the 22 October 2010 section 191 notice. The 2005/06 proportions are assumed to be the same as 2006/07.

12.148 We do not consider that this adjustment would significantly alter the financial data on which we relied in previous regulatory decisions since it is consistent with the 2009 Final Determinations and Ethernet Determinations. While the adjustment is also similar to that made in the 2009 LLCC Statement, the rationale for the adjustment is different for the reasons set out above. Since this adjustment does not benefit BT in relation to these Disputes, we do not consider that it would create inappropriate incentives for BT to produce appropriate and accurate RFS in the future.

Excess construction charges (ancillary services)

Our proposed approach

12.149 BT's RFS report the revenues associated with excess construction charges (ECCs) separately. However, the costs associated with ECCs are included within the base data for local end services. Since ECCs are not within the scope of the Disputes, in the Draft Determinations we removed an estimate of the costs associated with ECCs from the costs of local end services.

12.150 In the 2009 Final Determinations we estimated the costs associated with ECCs by assuming that they were equal to ECC revenues[365]. The 2009/10 RFS however included an estimate of the costs associated with ECCs for the first time which enabled us to make a margin calculation. Therefore, in estimating the costs associated with ECCs for the Draft Determinations, we assumed that BT made the same margin in prior years rather than assuming costs equal to revenues.

Views of the Parties

12.151 BT noted that Ofcom had made the adjustment by calculating the total underlying cost of the ECCs across all bandwidths and allocating this in proportion to total local end costs.[366] BT said that since ECCs were driven by new connections, and the number of 140/155 Mbit/s connections in the period was low, few ECC costs would have related to 140/155 Mbit/s services.[367] BT said that its circuit records showed that only £19k of ECCs related to 140/155 Mbit/s services in the Relevant Period.[368]

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[365] This was a similar approach to the 2009 LLCC Statement (see Table A6.2#7).
[366] BT's response to our Draft Determinations, paragraph 159.
[367] BT's response to our Draft Determinations, paragraph 160.
[368] BT's response to our Draft Determinations, paragraph 160.

12.152 The Disputing CPs, however, argued that it would be logical for higher bandwidth services to drive significantly higher ECCs per connection due to the need to lay the necessary infrastructure for high capacity circuits.[369]

Our analysis

12.153 We remain of the view that the inclusion of ECC costs in the cost base of local end services would be obviously inappropriate. In addition, we have the information required to make an adjustment and it is therefore practical for us to do so.

12.154 Responses to the Draft Determinations focused on the mechanics of the ECC adjustment. In the Draft Determinations we assumed that [✂]% of 140/155 Mbit/s local end CCA costs related to ECCs. Table 12.12 shows how this figure was derived.

Table 12.12: Estimate of proportion of local end costs associated with ECCs

	2007/08	2008/09	2009/10
ECC revenue from RFS	£21m	£17m	£8m
ECC 'matched costs' from RFS			£5.1m
Ratio of costs to revenue in 09/10			64%
Apply ratio to 07/08 and 08/09 to derive estimate of ECC costs	£13m	£11m	
Total local end CCA costs (all bandwidths)	[✂]	[✂]	
Ratio of ECC costs to total local end CCA costs	[✂]	[✂]	
Average	4.8%		

Source: ECC revenue and matched costs from RFS. Total local end costs are compiled from the following responses:
2004/05 and 2005/06: BT email of 14 November 2008 in response to follow up questions to the 1 October 2008 section 191 notice.
2006/07 and 2007/08: BT's response of 29 June 2009 to the 23 December 2008 section 191 notice.
2008/09: BT's response to the 3 August 2009 section 191 notice.
Data for 140/155 Mbit/s PPC connection services were not published in the RFS in 2004/05, 2005/6 and 2006/07 and BT was unable to provide FAC or DSAC data relating to these services for these years in its section 191 notice responses for these years listed above.

12.155 We have reconsidered the mechanics of this adjustment having considered the responses to our Draft Determinations.

12.156 ECC costs that have been included within the cost base of local end rentals would have been allocated to different bandwidths along with other costs that were also allocated to local end rentals. Many costs are allocated to local end rental services in part on the basis of rental volumes.[370] We have changed the mechanics of our adjustment so that in 2007/08 and 2008/09 our estimate of total ECC costs associated with PPC services is allocated to different local end bandwidths based on rental volumes. We consider that this more closely matches how ECC costs are likely to have been allocated in the RFS and it is also consistent with the approach taken in the Ethernet Determinations.[371] This methodology results in an average ECC cost per local end of £40 in 2007/08 and £30 in 2008/09. For the years 2004/05 to 2006/07 we

[369] Disputing CPs' comments on BT's response, paragraph 16b.
[370] Many plant groups associated with PPC local end rentals are allocated to components based on data derived from BT's Core Transmission Circuit costing System (CTCS) database. Among a number of inputs, this database includes a snapshot of the number of PPC circuits at the mid-point of the year.
[371] Paragraph 13.198 of the Ethernet Determinations says that "*Our adjustment takes BT's estimates of the total amount of ECC cost to be removed from rental services and allocates this to individual rental services on the basis of corrected volumes".*

have assumed, in the absence of further information, an average ECC cost per local end of £35 (being the average of the figures for 2007/08 and 2008/09).[372]

12.157 The resulting cost estimates, shown in Table 12.13 below, are removed from local end services as in the Draft Determinations. The size of the adjustment is considerably smaller than we proposed in the Draft Determinations as a result of the change described above.

Table 12.13: Estimate of ECC costs included within 140/155 Mbit/s PPC local end rentals

	2004/05	2005/06	2006/07	2007/08	2008/09
Estimate of total ECC costs £m				13	11
Total rental volume				336,081	359,617
ECC cost per connection £	35	35	35	40	30
140/155 Mbit/s rentals	1,530	2,334	2,264	1,946	1,752
Estimate of ECC costs included within 140Mbit local end rentals £k	53.5	81.7	79.2	77.5	52.8

Source: Ofcom, based on Table 12.12 and BT's responses to the following section 191 notices:
2004/05 and 2005/06: BT email of 14 November 2008 in response to follow up questions to the 1 October 2008 section 191 notice.
2006/07: BT's response of 29 June 2009 to the 23 December 2008 section 191 notice.
2007/08: BT's response of 7 July 2011 to our 5 July 2011 section 191 notice and BT's 20 October 2011 letter.
2008/09: BT's response to our 3 August 2009 section 191 notice and BT's 20 October 2011 letter.

12.158 While we agree with BT that the costs associated with ECCs are in practice likely to be driven by new connections (since they occur when new circuits are provided), in making this adjustment we are concerned with how the costs associated with ECCs were captured and allocated in the RFS, not how they arise in practice. BT has not provided any evidence that the costs associated with ECCs were allocated to local end rental services on the basis of connection volumes in the RFS. We consider it more likely that ECC costs were allocated to local end rentals on the same basis as other costs allocated to local end rentals, which means that they are likely to be driven, at least in part, by the volume of rentals. This approach is consistent with that proposed by BT in the context of the Ethernet Determinations, where BT spread its estimate of the total annual cost of ECCs across Ethernet services on the basis of rental volumes.[373] We note however that the impact on our assessment of allocating ECC costs to local end rentals on the basis of connection volumes rather than rental volumes would not be material – the total difference between external revenue and external DSAC would decrease by less than £4k.

12.159 The Disputing CPs argue that if a 140/155 Mbit/s service requires excess construction to be carried out, the cost of this excess construction is likely to be higher than for lower bandwidth services. To the extent that higher bandwidth services generate more revenue than lower bandwidth services we can see merit in the Disputing CPs' argument that a CP may be more willing to "dig further" and incur greater ECCs for higher bandwidth services than for lower bandwidth services. However, as explained in the previous paragraph, there may be differences between how ECC costs arise and how they are treated in the RFS. In order to make this adjustment we need to remove any ECC costs that have been included in the cost base of 140/155 Mbit/s local end rentals and this requires a consideration of how ECC costs were likely to have been treated in the RFS. As explained above we consider it more likely that ECC costs were allocated to local end rentals on the same

[372] Given the small size of this adjustment, the impact of this assumption is immaterial to the DSAC test for 140/155 Mbit/s local end.
[373] Footnote 828 of the Ethernet Determinations.

basis as other costs allocated to local end rentals, which means that they are likely to be driven, at least in part, by the volume of rentals.

12.160 Given that the mechanics of this adjustment differ slightly from the 2009 Final Determinations and 2009 LLCC Statement, it is possible that the financial data used in those decisions may have been different if we had adopted the approach described above to this adjustment at the time of those decisions. However the rationale for the adjustment is consistent with the 2009 Final Determinations and 2009 LLCC Statement, where we also made an adjustment to remove costs associated with ECCs, and the mechanics of the adjustment is consistent with the Ethernet Determinations. Since this adjustment does not benefit BT in relation to these Disputes, we do not consider that it would create inappropriate incentives for BT to produce appropriate and accurate RFS in the future.

Adjustments to external costs

External POH costs

Our proposed approach

12.161 CPs interconnect to BT's network at places called POH. Additional equipment is necessary at the POH for which BT is entitled to recover costs.[374] BT recovers some of the PPC POH costs via specific POH connection and POH rental charges. During the Relevant Period, BT also levied an additional charge on all external local ends in order to recover costs not recovered through the other two charges (the "additional POH costs"). Since BT does not need to interconnect with itself, this equipment and the related costs is only needed for external sales.

12.162 BT argued[375] that in order for the comparison between external local end price and DSAC to be like for like, the DSAC must allow for the external local end price uplift which aims to recover additional POH costs, i.e. external unit DSAC should be increased to reflect the fact that POH costs relate to external and not internal customers.

12.163 In the 2009 Final Determinations we agreed in principle with the need to adjust for the different treatment of POH between internal and external prices and costs[376] and we proposed to make the adjustment to 140/155 Mbit/s local end services in the Draft Determinations.

12.164 In order to make this adjustment we required an estimate of the additional POH costs that are recovered via the uplift to external local end prices. We rejected the approach suggested by BT because its estimate of POH costs was driven by the price uplift and was therefore circular in nature. Instead we used data from the bottom up model published by Ofcom on 22 June 2011 as part of the second consultation prior to the POH Pricing Review (see paragraphs 12.86 to 12.87 above)[377]. This consultation specifically considered the additional POH charges which were previously recovered via an uplift to the external local end service charges.

[374] If BT installs the equipment, BT is entitled to recover costs, including those for maintenance.
[375] In its 27 May 2011 letter.
[376] 2009 Final Determinations, paragraph 6.126 (ii).
[377] Model and consultation available here: http://stakeholders.ofcom.org.uk/consultations/revision-points-handover-pricing/?a=0

12.165 Using cost data from this model we estimated that the FAC relating to additional POH costs in 2009/10 was approximately £3m. BT's RFS for 2009/10 showed that total revenue from additional POH charges was £13.3m[378], implying that, in 2009/10, additional POH costs were approximately 23% of the revenues intended to recover them.

12.166 In order to estimate additional POH costs in 2004/05 to 2008/09 for the 140/155 Mbit/s PPC local end service, we multiplied the POH revenue generated by the external price uplift in each year by 23%. Table 12.14 shows our estimates of these POH costs as set out in Table 10.5 of the Draft Determinations.

Table 12.14: Estimate of additional POH costs recovered via the uplift on external local end prices for 140/155 Mbit/s, £m

	2004/05	2005/06	2006/07	2007/08	2008/09
POH revenue from the local end uplift	0.05	0.09	0.16	0.30	0.37
Estimate of costs (23% of revenues)	0.01	0.02	0.04	0.07	0.08

Source: Ofcom, based on BT's RFS and Ofcom bottom up model dated 22 June 2011 for the POH Pricing Review.

12.167 The impact of this adjustment is to de-average the overall (average of internal and external) local end unit FAC cost, so that external unit FAC is greater than internal unit FAC. This reflects the fact that some POH costs are recovered from external customers but none from internal customers.

Views of the Parties

12.168 BT argues that our estimated FAC cost of £3m for the POH costs recovered via the uplift to external local end prices was flawed.[379] This is because the bottom up model produced an estimate of cost on a LRIC basis whereas the costs to be estimated here should be on a FAC basis. It argues that in the POH Pricing Review Ofcom identified a total cost of providing POH of £2.9m on a LRIC basis.[380] It argues that Ofcom also identified that it used a LRIC:FAC ratio of 70%[381] in order to derive the LRIC cost. This means that the FAC estimate of POH costs would equal £2.9m/70% = £4.14m. Therefore Ofcom should use a FAC estimate of £4.14m rather than £3m.

12.169 The Disputing CPs argue that "*From our understanding of the adjustments proposed, we support Ofcom's approach to the treatment of POH costs. Ofcom's approach appears entirely consistent with past decisions on POH. Ofcom is right to reject BT's failure to produce POH costs that were recovered via an uplift on 140/155 Mbit/s and its subsequent preference for a circular costing approach and instead propose a more robust data set based on Ofcom's own bottom up model*".[382]

[378] This is calculated as the revenue generated from the local end uplifts from the 64Kbit/s, 2 Mbit/s, 34/45 Mbit/s and 140/155 Mbit/s PPC TISBO markets plus the revenue shown for these services under the Technical Areas (point of handover) market.
[379] BT's response to our Draft Determinations, paragraphs 193 to 195.
[380] Paragraph 1.10, POH Pricing Review.
[381] Paragraph 4.103, POH Pricing Review.
[382] The Disputing CPs' response to our Draft Determinations, paragraph 6.36.

Our analysis

12.170 No Parties disagreed with the rationale for this adjustment. We remain of the view that it would be obviously inappropriate to compare external prices to average unit costs where these include POH costs specifically related to external customers.

12.171 We disagree with BT that our £3m FAC estimate is not correctly derived from the bottom up POH model.

12.172 To derive the LRIC estimate of £2.9m that BT refers to, the bottom up model did not multiply all cost inputs by 70% - this can be seen in the model itself on the "inputs" sheet.

12.173 To derive our FAC estimate of £3m we did the following:

12.173.1 Where a LRIC adjustment of 70% had been made on the "inputs" sheet we replaced this with 100%. This meant that the figures were now on a FAC basis.

12.173.2 We set the RPI assumption to 0%[383]. This is because the inflation assumption was used to derive cost estimates as at 1 October 2011. Removing the inflation assumption gives cost estimates as at 31 March 2011.

12.173.3 The resulting FAC estimate of POH costs in the year to 31 March 2011 is £3m[384].

12.173.4 We assumed that this FAC cost of £3m had not changed significantly between 2009/10 and 2010/11 given that local end volumes are comparable in these years.

12.174 We consider that £3m is a reasonable estimate of the total POH FAC costs associated with the external local end price uplift in 2009/10. As set out in paragraph 12.165, when compared with total revenue associated with additional POH charges in 2009/10, additional POH costs were approximately 23% of the revenues intended to recover them.

12.175 In order to estimate additional POH costs in 2004/05 to 2008/09 for the 140/155 Mbit/s PPC local end service, we have multiplied the POH revenue generated by the external price uplift in each year by 23%. Table 12.15 shows our estimates of these POH costs that we have used to de-average the overall (average of internal and external) local end unit FAC cost, so that external unit FAC is greater than internal unit FAC. Our estimates of POH revenue from the local end uplift in 2006/07 to 2008/09 differ slightly from those shown in Table 12.13 because we have taken into account the fact that resilience charges for 140/155 Mbit/s local end services are higher than standard charges. Our estimates in the Draft Determinations did not reflect this.

[383] Cell C6 of the "inputs" sheet.
[384] Cell C27 of the "outputs" sheet is equal to £3,007,108.

Table 12.15: Estimate of additional POH costs recovered via the uplift on external local end prices for 140/155 Mbit/s, £m

	2004/05	2005/06	2006/07	2007/08	2008/09
POH revenue from the local end uplift	0.05	0.09	0.19	0.32	0.40
Estimate of costs (23% of revenues)	0.01	0.02	0.04	0.07	0.09

Source: Ofcom, based on BT's RFS and Ofcom bottom up model dated 22 June 2011 for the POH Pricing Review.

12.176 We do not consider that this adjustment would significantly alter the financial data on which we relied in previous regulatory decisions. While the adjustment was not made in the 2009 Final Determinations, this was only because it would not have made a difference to our conclusions on overcharging[385]. This adjustment could affect BT's incentives as it benefits BT in relation to these Disputes (since it increases external costs relevant to our overcharging assessment). However, considered in the round, we conclude that it is appropriate to make the POH adjustment, taking into account the rationale for the adjustment, the views of the Parties and that this is consistent with the reasoning in the 2009 Final Determinations.

External SG&A costs

Our proposed approach

12.177 In the Draft Determinations we said that PPC costs were significantly different (lower) for internal customers in 2004/05 than for external customers, as a result of lower SG&A costs, and that this difference in costs was expressly recognised by the regulation applicable at the time[386]. We therefore proposed to make an adjustment, consistent with the 2009 Final Determinations, to increase the external unit DSAC in 2004/05 to reflect higher external SG&A costs.

Views of the Parties

12.178 BT argues that there is a considerable difference between internal and external SG&A costs for local ends in each year 2004/05 to 2008/09 and this should be reflected in the external local end unit FACs and DSACs. It proposes that Ofcom should include the external SG&A component within the external unit FACs and DSACs and the internal SG&A component within the internal unit FACs and DSACs. Internal and external SG&A components are identified in the RFS each year and in Table 14 of its response to our Draft Determinations BT provided a breakdown of internal and external SG&A costs that had been allocated to 140/155 Mbit/s local end services each year.[387]

12.179 BT considers that Ofcom appeared to accept that this approach should be adopted for 2004/05, but that the same adjustment should apply to the other years in the Relevant Period as well, i.e. 2005/06 to 2008/09.[388]

12.180 The Disputing CPs did not specifically comment on this adjustment.

[385] See 2009 Final Determinations, paragraph 6.126ii.
[386] See paragraph 12.184 below.
[387] BT's response to our Draft Determinations, paragraphs 180 to 184. Breakdown of SG&A costs provided in Table 14.
[388] BT's response to our Draft Determinations, paragraph 183.

Our analysis

12.181 No Parties disagreed with the rationale for making this adjustment in 2004/05. We remain of the view that it would be obviously inappropriate to compare external prices to average unit costs in 2004/05 where SG&A costs differ between internal and external customers and Oftel recognised that this difference could be reflected in prices.

12.182 BT's responses focused on the external SG&A adjustment as it applied to 140/155 Mbit/s local end services. We have considered BT's comments below and we consider that our conclusion applies to each of the services affected by this adjustment, i.e. 140/155 Mbit/s main link, distribution and local end services and 34/45 Mbit/s trunk services.

Whether the adjustment should apply in 2005/06 to 2008/09

12.183 The cost orientation obligation requires each and every charge to be cost orientated. In the years from 2005/06 onwards BT charged a single price to all customers for PPC services (except local end – discussed below). Therefore, regardless of the identity of the customer (BT or another CP) the charge was the same. While some customers may cost more than average to service, and others less than average, the obligation requires each charge to be cost orientated, not each charge to each customer.

12.184 In 2004/05 there were, however, two separate charges for PPC services, one for internal customers and one for external customers. Part of this difference was due to SG&A costs. In the PPC Phase 2 Direction[389], Oftel acknowledged that internal and external SG&A costs were different and that it may be appropriate for BT to reflect this in its charges.[390] Given Oftel's view as expressed in the PPC Phase 2 Direction, we consider it would be inappropriate if in 2004/05 we were to assess BT's higher external charges (which we consider should be assessed separately from the internal charges) against the average costs for both internal and external customers.

12.185 While local end charges differ between internal and external customers throughout the Relevant Period, from 2005/06 onwards this difference is entirely explained by an uplift in external prices to account for certain costs associated with POH, and is not associated with differences in SG&A costs. In each year from 2005/06 to 2008/09 external local end prices have been 30% higher than internal local end prices, a difference which reflects the uplift for POH originally permitted in Oftel's PPC Phase 2 Direction.[391] Excluding the POH uplift, the charges for internal and external customers are the same from 2005/06 onwards. Therefore, once the POH uplift is taken into account, it seems appropriate to treat local ends in the same way as all the other services (i.e. as having one charge across both internal and external customers that is assessed on the basis of the costs of serving all the customers together). As set out at paragraphs 12.170 to 12.176 we have decided to make an adjustment to external unit costs to take account of the POH costs recovered via the local end price uplift.

[389] *Direction under Regulation 6(6) of the Telecommunications Interconnection Regulations 1997 ("the Regulations") relating to a dispute between BT plc and GTS, Fibernet, Global Crossing, Neoscorp, THUS, Worldcom, Energis and COLT concerning the provision of Partial Private Circuits (the "PPC Phase 2 Direction")*, 23 December 2002: http://www.ofcom.org.uk/static/archive/oftel/publications/broadband/leased_lines/ppc1202/ppcs1202.pdf.
[390] PPC Phase 2 Direction, paragraph 3.76.
[391] PPC Phase 2 Direction, paragraph 3.47.

12.186 Since, after taking into account the POH uplift, the charges for internal and external local ends were the same in 2005/06 to 2008/09, we disagree with BT that it is appropriate to make an adjustment to external local end costs to reflect higher external SG&A costs over this period. This is because, given that internal and external charges are the same, it is appropriate to consider the costs of providing services to all customers facing those charges in aggregate.

Use of BT's internal and external SG&A costs to make the 2004/05 adjustment to 140/155 Mbit/s local end services

12.187 In Table 14 of its response to our Draft Determinations, BT provided a breakdown of the internal and external SG&A costs that were allocated to 140/155 Mbit/s local end services in 2004/05 (BT did not provide a breakdown for any of the other services in dispute). This information was not available to us when we made the adjustment in the 2009 Final Determinations and the Draft Determinations. However, our estimate of the adjustment to external 140/155 Mbit/s local end FAC was £30k compared to the £[✂] implied by BT's figures. External revenue will be below external DSAC for 140/155 Mbit/s local end services whether we make an adjustment in 2004/05 using our estimate of £30k or BT's figure of £[✂]. Since our conclusion on whether overcharging occurred for 140/155 Mbit/s local end services in 2004/05 would not be affected, we have not made an amendment to our adjustment to 140/155 Mbit/s local end services.

Conclusion

12.188 We have decided to make the external SG&A adjustment in 2004/05 and uplift external unit costs for each of the services in dispute. We do not consider that this adjustment would significantly alter the financial data on which we relied in previous regulatory decisions and making the adjustment is consistent with the 2009 Final Determinations.

12.189 The adjustment could affect BT's incentives as it benefits BT in relation to these Disputes (since it increases external costs relevant to our overcharging assessment). However, considered in the round, we conclude that it is appropriate to make the POH adjustment, taking into account the rationale for the adjustment, that the adjustment only relates to 2004/05, and that our approach is consistent with the 2009 Final Determinations.

Results and impact of the adjustments made to the revised base data

12.190 The impact on total revenues of including revenues related to resilience circuit and protected path circuits in our assessment is shown in Table 12.16.

Table 12.16: Impact of resilience circuit adjustment on total revenue (percentage increase on unadjusted total revenue)

PPC Service	2004/05	2005/06	2006/07	2007/08	2008/09
140/155 Mbit/s main link	-	-	7%	11%	9%
140/155 Mbit/s distribution	-	-	9%	12%	12%
140/155 Mbit/s local end	-	-	20%	24%	29%
140/155 Mbit/s connection	-	-	12%	-	-
34/45 Mbit/s trunk	-	-	10%	10%	8%

Source: Ofcom, based on information provided by BT

12.191 The total impact of the individual cost adjustments, as a percentage change relative to FAC, is set out in Table 12.17. The equivalent changes in FAC in £m for 140/155 Mbit/s and 34/45 Mbit/s PPC services are set out in Table 12.18. Negative percentages indicate a decrease in FAC as a result of the adjustment.

Table 12.17: Percentage change in total FAC following adjustments

PPC service	2004/05	2005/06	2006/07	2007/08	2008/09
140/155 Mbit/s main link	(1%)	(3%)	(7%)	(33%)	(49%)
140/155 Mbit/s distribution	(23%)	(31%)	(6%)	(2%)	(2%)
140/155 Mbit/s local end	(24%)	(19%)	(22%)	(24%)	(24%)
140/155 Mbit/s connection	n/a	n/a	n/a	-	-
34/45 Mbit/s trunk	104%	125%	(6%)	(2%)	(2%)

Source: Ofcom, based on based on information provided by BT

Table 12.18: Absolute change in total FAC following adjustments, £m

PPC service	2004/05	2005/06	2006/07	2007/08	2008/09	Total
140/155 Mbit/s main link	(0.3)	(0.8)	(1.4)	(10.2)	(16.1)	(28.7)
140/155 Mbit/s distribution	(8.3)	(13.9)	(1.6)	(0.3)	(0.3)	(24.4)
140/155 Mbit/s local end	(11.1)	(10.3)	(6.3)	(6.0)	(4.0)	(37.6)
140/155 Mbit/s connection	-	-	-	-	-	-
34/45 Mbit/s trunk	13.7	22.6	(2.1)	(0.4)	(0.4)	33.4
Total	(5.9)	(2.4)	(11.3)	(16.8)	(20.8)	(57.3)

Source: Ofcom, based on information provided by BT

12.192 The total reduction in FAC for the services and years in dispute in Table 12.18 is £57.3m. Table 12.19 shows how this figure is accounted for by each adjustment.

Table 12.19: Impact of the adjustments on total FAC, analysed by adjustment, £m

PPC service	Local end equipment and POH related costs	Local end equipment selling costs	Core distribution	21CN	ECCs	Payment terms	Total
140/155 Mbit/s main link	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	(28.7)
140/155 Mbit/s distribution	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	(24.4)
140/155 Mbit/s local end	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	(37.6)
140/155 Mbit/s connection	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	-
34/45 Mbit/s trunk	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	33.4
Total	(34.7)	(1.1)	16.6	(30.3)	(0.3)	(7.4)	(57.3)

Source: Ofcom, based on information provided by BT

12.193 Tables 12.17 to 12.19 do not include the impact of the POH or SG&A adjustments. This is because these adjustments only affect external FAC and not total FAC. Tables 12.20 and 12.21 show the impact of these adjustments on external FAC.

Table 12.20: Impact of POH and SG&A adjustments on external FAC, total by year, £m

PPC service	2004/05	2005/06	2006/07	2007/08	2008/09	Total
140/155 Mbit/s link	0.02					0.02
140/155 Mbit/s distribution	0.04					0.04
140/155 Mbit/s local end	0.04	0.02	0.04	0.07	0.08	0.26
140/155 Mbit/s connection						-
34/45 Mbit/s trunk	0.30					0.30
Total	0.39	0.02	0.04	0.07	0.08	0.61

Source: Ofcom, based on information provided by BT

Table 12.21: Impact of the adjustments specific to external FAC, analysed by the two types of adjustments, £m

PPC service	External POH adjustment	External SG&A adjustment	Total
140/155 Mbit/s main link	[✂]	[✂]	0.02
140/155 Mbit/s distribution	[✂]	[✂]	0.04
140/155 Mbit/s local end	[✂]	[✂]	0.26
140/155 Mbit/s connection	[✂]	[✂]	
34/45 Mbit/s trunk	[✂]	[✂]	0.30
Total	0.23	0.38	0.61

Source: Ofcom, based on information provided by BT

12.194 The adjusted total revenue and FAC data for each service in the Relevant Period is shown in Table 12.22.

Table 12.22: Adjusted total revenue and FAC data, £m

PPC service	2004/05	2005/06	2006/07	2007/08	2008/09
140/155 Mbit/s main link					
Total Revenue	17.8	33.8	33.2	22.4	25.4
Total FAC	28.4	26.8	17.2	20.9	16.8
140/155 Mbit/s distribution					
Total Revenue	23.5	46.8	38.7	35.3	34.1
Total FAC	27.8	31.5	24.7	16.3	13.7
140/155 Mbit/s local end					
Total Revenue	18.0	28.6	29.0	25.3	23.2
Total FAC	35.7	42.7	22.3	18.6	12.8
140/155 Mbit/s connection					
Total Revenue	0.1	0.2	0.1	0.1	0.1
Total FAC	n/a	n/a	n/a	0.0	0.1
34/45 Mbit/s trunk					
Total Revenue	14.2	37.8	47.2	45.0	45.1
Total FAC	26.8	40.6	31.7	22.3	20.4

Source: Ofcom, based on information provided by BT

Translating FAC adjustments into DSAC adjustments

Our proposed approach

12.195 Before assessing whether BT has overcharged the Disputing CPs for the services in dispute we need to identify how the adjustments we have made to BT's total FAC data (as set out in Table 12.12) and external FAC data (as set out in Table 12.14) translate into adjustments to BT's DSAC data. In our Draft Determinations we explained that the process for doing this was discussed in detail in the 2009 Final Determinations.[392]

12.196 In the 2009 Final Determinations we concluded that it was appropriate to adjust DSAC in line with the absolute adjustment made to FAC for the following key reasons:[393]

12.196.1 Trying to assess the impact that an adjustment to FAC will have on the DSAC is extremely complex, but it would not be proportionate to require BT to re-run its LRIC model.

12.196.2 Our approach fell well within the bounds of the reasonable range of adjustments that we had identified.

12.196.3 The Disputing CPs had not provided compelling evidence to cause us to change the approach we had set out in the 2009 Draft Determinations.

12.197 In the Draft Determinations we proposed to adopt the same approach in resolving the Disputes for 140/155 Mbit/s terminating segment and 34/45 Mbit/s trunk segment

[392] 2009 Final Determinations, paragraphs 6.131 to 6.179.
[393] 2009 Final Determinations, paragraph 6.173.

PPC services. We adjusted the DSACs provided by BT as set out in Table 12.1 by the absolute adjustment made to FAC (as per Table 10.8 in the Draft Determinations). We then adjusted the resulting external DSACs[394] by the absolute adjustments to external FAC.

Views of the Parties

12.198 The Disputing CPs argue that:

12.198.1 "*The only way to make the adjustments to DSAC correctly, and the approach which best approximates the optimal approach, is to re-run BT's LRIC model. This would not, contrary to Ofcom's provisional view, be disproportionate or too time consuming in view of the amounts at stake, the time already taken in resolving these Disputes and the need for accuracy as far as is reasonably achievable*".[395]

12.198.2 "*The use of absolute adjustments is a simple proxy, but it is questionable whether it leads to a reliable outcome".*[396]

12.198.3 If the adjustment to DSAC was made on a proportional basis the amount of overcharge would increase by £600,000 which they argue is a significant sum in the circumstances.[397]

12.198.4 The evidence they gave previously (in favour of making a proportional adjustment to DSAC) was sufficiently compelling and should be reconsidered by Ofcom.[398]

12.199 Verizon also disagrees with Ofcom's proposal to adjust DSAC in line with the absolute adjustment to FAC for similar reasons and argues that "*[g]iven the scale of overcharging, Verizon considers that it is essential that any adjustments are as accurate as possible, based on sound modelling and calculations".*[399]

12.200 BT comments that Ofcom had already considered whether to adjust DSACs by an amount equal to the absolute or proportionate change to FAC in the 2009 Final Determination and it was not a matter raised by the Disputing CPs during the subsequent PPC appeal. BT argues there is no justification for Ofcom to change this approach for the purposes of these Disputes.[400]

Our analysis

Re-running LRIC model

12.201 The Disputing CPs argue that it would be proportionate to ask BT to re-run its LRIC model taking into account Ofcom's FAC adjustments. In the 2009 Final Determinations we concluded that while the ideal solution would be to require BT to

[394] External DSAC is calculated by multiplying the total DSAC by the proportion of total volumes that are external volumes.
[395] Disputing CPs' response to our Draft Determinations, paragraph 6.21.
[396] Disputing CPs' response to our Draft Determinations, paragraph 6.22.
[397] Disputing CPs' response to our Draft Determinations, paragraph 6.24.
[398] Disputing CPs' response to our Draft Determinations, paragraph 6.25. The arguments referred to are from Section 5 of the RGL report dated 2 June 2009. These arguments were set out in the 2009 Final Determinations, paragraphs 6.149 to 6.152.
[399] Verizon's response to our Draft Determinations, page 3.
[400] BT's comments on the Disputing CPs' response, page 1.

re-run its LRIC model, this would not be proportionate or practical.[401] We remain of the view that requiring BT to re-run the LRIC model is not practical or proportionate. This is for the following reasons:

12.201.1 The LRIC model would need to be run for the whole of BT and not just for the PPC services in dispute. This reflects the fact that the LRIC model uses cost components rather than services as the basis for modelling and uses the concept of increments to calculate DSAC data.

12.201.2 Ofcom's FAC adjustments have been applied to PPC services only, but in order to re-run the LRIC model accurately the cost adjustments would need to be translated into cost component and cost category adjustments before considering the ripple through effects (e.g. if the FAC cost of component X decreases, does the FAC cost of component Y increase correspondingly?). This would involve a significant amount of work on the FAC of components and services that are outside the scope of these Disputes.

12.201.3 The LRIC model would need to be re-run for each year of the Disputes and BT may no longer have the data or the parameter information needed to re-estimate DSACs over the entire period.[402]

12.201.4 In order to ask BT to re-run the LRIC model, we would need to set out the changes we require. It would not have been possible to ask BT to re-run the LRIC model at the start of the dispute resolution process, before we had had the opportunity to explore the underlying problems with the LRIC model and assess what (if any) adjustments were necessary.

12.202 In conclusion, for the reasons set out above we do not consider it practical or proportionate to require BT to re-run its LRIC model for each year of the Relevant Period.[403]

Applying FAC adjustments to DSAC

12.203 In the 2009 Final Determinations we considered the merits of an absolute adjustment to DSAC compared to a proportional adjustment to DSAC. An absolute adjustment means applying the same absolute change in FAC to DSAC (e.g. FAC falls by £100 so DSAC falls by £100). A proportional adjustment means applying the same proportional change in FAC to DSAC (e.g. FAC falls by 10% so DSAC falls by 10%).

12.204 Given the way BT's LRIC model works, the exact impact on DSAC of an adjustment to FAC will depend on a number of factors. For example, if the service level FAC changes then the change in DSAC for that service will depend on[404]:

12.204.1 the cost categories and cost components to which the FAC adjustment relates;

[401] 2009 Final Determinations, paragraphs 6.158 and 6.173a.
[402] We note that in paragraph 6.137 of the 2009 Final Determinations we say that "*we discussed making adjustments to DSAC with BT and BT confirmed the difficulty in re-running its LRIC model to reflect the effect of the adjustments to FAC".*
[403] We note that in the 2009 Final Determinations we said that "*we discussed making adjustments to DSAC with BT and BT confirmed the difficulty in re-running its LRIC model to reflect the effect of the adjustments to FAC*" (paragraph 6.137).
[404] The 2009 Final Determinations also discussed some of these points in paragraphs 6.159 to 6.164.

12.204.2 the slope of the CVRs associated with the affected cost categories which will determine the change in LRIC;

12.204.3 the fact that changes in LRIC will change the amount of FCC that are allocated to each component to derive DSACs in each increment; and

12.204.4 the fact that the change in DSAC will depend on how the LRIC of the cost component has changed in relation to the LRICs of other cost components (which may have also been affected by the same FAC adjustment).

12.205 The combination of these factors will differ for each adjustment which means that the impact on DSAC of a change in FAC can vary widely. For example, in theory the impact on DSAC from a reduction in FAC could range from a more than proportional decrease in DSAC at one end to an *increase* in DSAC at the other[405]. These extremes may only exist if specific conditions are met (and which are not met in these Disputes), but they demonstrate that the range of possible impacts on DSAC is wide. Deciding what assumption to make does not necessarily involve a straightforward choice between an absolute and proportional impact on DSAC.

12.206 In the Ethernet Determinations we considered further the nature of the LRIC model and the characteristics of the FAC adjustments we made[406] and in the course of resolving these Disputes our understanding of the LRIC model has developed. We considered that our FAC adjustments in those disputes fell into one of three categories.

12.206.1 Category 1: FAC adjustments where specific cost categories/cost component combinations can be identified.

12.206.2 Category 2: FAC adjustments where specific cost categories/cost component combinations cannot be identified but the adjustment involves a reallocation of FAC between services in the same increment.

12.206.3 Category 3: FAC adjustments where the available information is not sufficient to be able to predict the impact on DSAC.

12.207 For Category 1 FAC adjustments we considered it would be appropriate to use the DSAC:FAC ratio for the cost categories affected (or a weighted average of the DSAC:FAC ratio where more than one cost category is identified). This is because where costs associated with the same cost categories are being moved between cost components in the same increment, there is no impact on common costs and so the DSAC:FAC ratio for the cost category would be unchanged.

12.208 For Category 2 FAC adjustments we considered that the impact on DSAC will be larger than the absolute impact on FAC but it is difficult to say how much larger it will be without information on the cost categories affected. For such adjustments we took the average of the impact on DSAC when applying the absolute adjustment to FAC and when applying the proportional adjustment to FAC (a "50/50 approach").

12.209 For Category 3 FAC adjustments we considered there was not enough information available to predict the impact on DSAC. This is often the case for adjustments which may affect multiple increments in the LRIC model. For FAC adjustments in this

[405] An increase in DSAC could occur if costs were being shifted between cost components in different increments and CVRs had shallow slopes. See also the 2009 Final Determinations, paragraph 6.163.
[406] Ethernet Determinations, paragraphs 13.395 to 13.399.

category we considered what information we had available and the submissions we had received.

12.210 In light of the comments received in response to our Draft Determinations and the way in which our understanding of BT's LRIC model has developed since the 2009 Final Determinations were made, we consider that it would be appropriate to adopt the same approach for the purposes of resolving these Disputes as in the Ethernet Determinations. In the following paragraphs we take each FAC adjustment in turn, say which category we think it falls into and conclude on how we will translate that FAC adjustment into a DSAC adjustment. Where we are making FAC adjustments that are the same as those made in the Ethernet Determinations (for example adjustments relating to 21CN, ECCs and payment terms) we have adjusted DSACs on a basis consistent with the approach taken in the Ethernet Determinations. Any proportional change is calculated with reference to the revised base data FAC as set out in Table 12.3.

12.211 Table 12.23 compares the total adjustment, in £m, to DSAC using Ofcom's approach (as explained in the following paragraphs) to a simple absolute, proportional and 50/50 approach (i.e. if each FAC adjustment is translated to DSAC using this method). Table 12.23 also shows the percentage impact on the total DSAC for the services in dispute compared to using an absolute approach (as proposed in the Draft Determinations).

Table 12.23: Comparison of impact on DSAC using different approaches, £m

Total FAC adjustment	**(57.3)**	
	Total DSAC adjustment	Impact on total DSAC relative to absolute approach
- Ofcom's approach as set out in Table 12.28	(78.8)	0.5%
- Absolute approach	(57.3)	-
- 50/50 approach	(68.2)	3.1%
- proportional approach	(79.2)	3.2%

Source: Table 12.18, Table 12.28 and Ofcom

12.212 We now consider each FAC adjustment, say which category we consider it falls into and conclude on how we will translate the FAC adjustment into a DSAC adjustment.

Local end equipment and POH related costs

12.213 This adjustment removes costs from one set of PPC services (local end) and notionally allocates them to other PPC services (third party customer infrastructure and POH rental and connections). In terms of the LRIC model, all of the cost components associated with these services are within the same 'Core' increment.

12.214 This adjustment removes FAC associated with transmission equipment, access related costs (duct and fibre) and maintenance. We consider that this adjustment falls into Category 1 because specific cost category/cost component combinations can be identified for most of the elements of the adjustment.

12.215 The largest element of the adjustment is the removal of costs associated with transmission equipment (in 2006/07 to 2008/09 it represents around 90% of the total adjustment). Since this is the largest element, we consider that an estimate of the DSAC impact of removing transmission equipment costs would give a good estimate of the DSAC impact of the adjustment overall. Transmission equipment cost categories relevant to 140/150 Mbit/s local end rental services use the CVR "CV022".

This is a straight line CVR which intercepts close to the origin[407], which indicates there are very few common costs associated with transmission equipment and an adjustment to DSAC would be similar to an absolute adjustment (since an absolute adjustment is equivalent to assuming that no common costs are present).

12.216 From the outputs of BT's LRIC model we can identify the DSAC:FAC ratio for the transmission equipment cost category associated with 140/155 Mbit/s local end rental services. These DSAC FAC ratios are as follows:

Table 12.24: DSAC:FAC ratio for the transmission equipment cost category associated with 140/155 Mbit/s local end rentals

	2004/05	2005/06	2006/07	2007/08	2008/09
DSAC:FAC ratio	n/a	1.07	1.07	1.07	1.05

Source: Derived from data provided in BT's 7 August 2009 letter (2005/06) and the 23 June 2011 spreadsheets (2006/07 to 2008/09). No data is available for 2004/05. Transmission cost category used is the one with code PLOPNPDPZZDAJ9ZZ.

12.217 We have decided to translate our FAC adjustment into a DSAC adjustment using these ratios. We do not have any component DSAC data from BT's LRIC model for 2004/05 which would enable us to calculate a DSAC:FAC ratio so we have used a DSAC:FAC ratio of 1.07 as an appropriate estimate (the same as in 2005/06).

Local end equipment selling costs

12.218 This adjustment removes costs from one set of PPC services (local end) and notionally allocates them to other PPC services (third party customer infrastructure). In terms of the LRIC model, all of the cost components associated with these services are within the same 'Core' increment.

12.219 The FAC adjustment has been made with reference to the SG&A cost components "SG&A private circuits" and "SG&A partial private circuits". In terms of the LRIC model the adjustment effectively removes some costs from these components and puts them into a new notional 'local end equipment selling costs" component. We have assumed that the costs we have removed from these components have been taken in proportion to the cost categories making up these components. We therefore consider that this adjustment falls into Category 1 because specific cost category/cost component combinations can be identified.

12.220 We can estimate the impact of our FAC adjustment on DSAC by taking a weighted average of the total DSAC:FAC ratios for the two SG&A components affected. The relevant ratios are in Table 12.25.

Table 12.25: DSAC:FAC ratios calculated by taking a weighted average of the DSAC:FAC ratios associated with the two SG&A cost components

	2004/05	2005/06	2006/07	2007/08	2008/09
DSAC:FAC ratio	n/a	1.97	1.43	1.60	1.81

Source: Derived from data provided in BT's 7 August 2009 letter (2005/06) and the 23 June 2011 spreadsheets (2006/07 to 2008/09). No data is available for 2004/05.

12.221 We have decided to translate our FAC adjustment into a DSAC adjustment using these ratios. We do not have component DSAC data from BT's LRIC model for 2004/05 which would enable us to calculate a DSAC:FAC ratio so we have used a

[407] It intercepts at 14%. See, for example, BT's 2009 LRIC R&P, page 80.

DSAC:FAC ratio of 1.70 as an appropriate estimate (equal to the average ratio for 2005/06 to 2008/09).

Payment terms

12.222 We consider that the payment terms adjustment falls into Category 1. This is because, while we are unable to match our FAC adjustment to the exact "debtors" cost categories in BT's LRIC model, each of the "debtors" cost categories is associated with a straight line CVR passing through the origin[408]. Cost categories that have a straight line CVR passing through the origin are associated with DSAC:FAC ratios equal to 1 (which means that an adjustment to FAC will have the same absolute impact on DSAC). This means that whichever "debtors" cost category our FAC adjustment is associated with, the impact on DSAC would equal the absolute change in FAC.

12.223 We note that BT agreed with this view in relation to the Ethernet Disputes, saying that the payment terms adjustment "*only affects one specific LRIC cost category for which the CVR has a straight line through the origin. Given this any change in FAC will result in an equal change in the DSAC"*.[409]

12.224 For the payment terms adjustment we have therefore decided to adjust DSAC in line with the absolute change in FAC.

Core distribution adjustment

12.225 This adjustment reallocates costs between distribution and trunk services. These services are made up of cost components from the same 'Core' increment but we are unable to map the costs onto specific cost category/cost component combinations. We therefore consider that the adjustment falls into Category 2 because we do not know which cost categories the adjustment relates to.

12.226 For Category 2 adjustments we consider it is reasonable to take a 50/50 approach to adjusting the DSAC.

21CN adjustment

12.227 BT's treatment of 21CN costs within its regulatory financial system has changed over time. In 2005/06 and 2006/07 21CN costs were captured within a specific 21CN plant group and allocated to a range of cost components spanning several increments, including the Core and Access increments[410]. From 2007/08 onwards, 21CN costs were allocated from 21CN plant groups to specific 21CN cost components and then allocated from 21CN cost components to services.

12.228 We have considered the period from 2007/08 onwards first, where separate 21CN components were recognised in BT's accounting system, before considering 2005/06 and 2006/07.

[408] Specifically CVRs CV216 and CV241.

[409] Ethernet Determinations, paragraph 13.431, referring to BT's 3 September 2012 submission, page 12.

[410] The 2006/07 DAM shows that the 21CN plant group called "PG851A" was allocated to a range of components. See pages 1036 and 1037 of the 2006/07 DAM: http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2007/DAM2007.pdf.

2007/08 onwards

12.229 Our adjustment to remove direct 21CN costs is based on an analysis by BT of the cost sectors that it considers reflect the direct costs of 21CN[411]. These cost sectors can be mapped onto cost categories in the LRIC model and in turn the CVRs associated with those cost categories. Therefore we consider that this 21CN adjustment from 2007/08 onwards falls into Category 1.

12.230 In its 3 September 2012 submission in relation to the Ethernet Disputes, BT provided estimates of the DSAC:FAC ratios which it considered should be applied to the 21CN FAC adjustment made in resolving those disputes. We said in the Ethernet Determinations that BT's DSAC:FAC ratio estimates for the Ethernet services in dispute were very similar to the DSAC:FAC ratios for the 21CN components used by those services.[412] As a result we consider that using the DSAC:FAC ratios for the 21CN components used by the PPC services in dispute would represent a reasonable proxy for the impact on DSAC of our 21CN FAC adjustment, since they are likely to be similar to the ratios that would be obtained by mapping the 21CN costs we remove onto specific cost categories.

12.231 In 2007/08 and 2008/09 the 21CN FAC adjustment only affects 140/155 Mbit/s main link services. We have translated this to a DSAC adjustment using the weighted average DSAC:FAC ratio of the 21CN components used by 140/155 Mbit/s main link services in these years. These ratios are set out in Table 12.26.

Table 12.26: DSAC:FAC ratios used for the 21CN adjustment in 2007/08 and 2008/09

	Unit FACs		DSAC:FAC ratio	
	2007/08	2008/09	2007/08	2008/09
MSAN connectivity (dense)	10,912.50	4,457.69	2.04	1.82
MSAN-Metro connectivity (non-dense)	12.41	49.06	2.04	3.50
Core/Metro connectivity		4,118.40		1.86
Edge Ethernet ports		591.52		1.86
Total 21CN unit FAC/weighted DSAC FAC ratio	10,924.91	9,216.67	2.04	1.85

Source: Unit FACs from 2008/09 RFS pages 111 and 116. DSAC:FAC ratios derived from 23 June 2011 spreadsheets.

2005/06 and 2006/07

12.232 Because 21CN costs were allocated from plant group to cost components in several increments in 2005/06 and 2006/07, estimating the impact on DSAC of the 21CN adjustment in this year is not as straightforward as in 2007/08 onwards since it is difficult to identify the cost categories in the LRIC model that have been affected. We therefore consider that in 2006/07 the 21CN adjustment falls into Category 3.

12.233 In the Ethernet Determinations we applied the 2007/08 DSAC:FAC ratio to 2006/07, an approach that BT suggested was appropriate in the context of the Ethernet Disputes.[413] Since the way 21CN costs were captured in 2005/06 and 2006/07 makes it difficult to estimate the impact on DSAC, we consider that this remains a reasonable approach, taking account of the evidence available to us. We have therefore applied the 2007/08 DSAC:FAC ratio set out in Table 12.23 to 2005/06 and 2006/07.

[411] BT's response of 12 July 2011 to follow up question 21 to the 22 October 2010 section 191 notice
[412] Ethernet Determinations, paragraph 13.417.
[413] Ethernet Determinations, paragraphs 13.423 to 13.424.

ECC adjustment

12.234 The ECC adjustment reallocates costs between PPC services. In terms of the LRIC model, the adjustment effectively removes costs associated with ECCs from 140/155 Mbit/s local end cost components and puts these costs into a new notional "ECCs cost component" within the same 'Core' increment. The ECC adjustment uses estimates of costs derived from aggregate figures published in the RFS. As a result the estimates do not map onto any specific cost categories. We therefore consider that the ECC adjustment falls into Category 2 because we do not know which cost categories the FAC adjustment relates to, but we know the adjustment only affects components in the Core increment.

12.235 For Category 2 adjustments we think it is reasonable to take a 50/50 approach to adjusting the DSAC. We note that this is same approach that we took in the Ethernet Determinations.[414]

External POH adjustment

12.236 The external POH adjustment de-averages the unit FAC of 140/155 Mbit/s local end services so that the external unit FAC is higher than the internal unit FAC by an amount equivalent to the costs of POH that are recoverable from an uplift on the external local end price. Since this adjustment only moves costs between internal and external services, the total FAC and DSAC costs will not change. The external POH adjustment uses estimates of cost derived from the bottom up model that Ofcom published as part of the POH Pricing Review. As a result the estimates do not map onto any specific cost categories. We therefore consider that the external POH adjustment falls into Category 2 because we do not know which cost categories the FAC adjustment relates to, but we know the adjustment only affects components in the Core increment (in fact it only affects the costs of 140/155 Mbit/s local end services)

12.237 We have therefore adopted a 50/50 approach to adjusting DSACs consistent with a Category 2 adjustment.

External SG&A adjustment (2004/05)

12.238 The external SG&A adjustment de-averages the unit FAC of each disputed service in 2004/05 so that the external unit FAC is higher than the internal unit FAC by an amount equivalent to the difference between internal SG&A costs and external SG&A costs. Since this adjustment only moves costs between internal and external services, the total FAC and DSAC costs will not change. However, the estimates used to make the FAC adjustment do not map onto any specific cost categories. We therefore consider that the external SG&A adjustment falls into Category 2 because we do not know which cost categories the FAC adjustment relates to, but we know the adjustment only affects components in the Core increment (in fact it only affects the costs of the services in dispute).

12.239 We have therefore adopted a 50/50 approach to adjusting DSACs consistent with a Category 2 adjustment. We note that the results of our assessment are not sensitive to this assumption since revenues do not exceed DSAC for any of the services in dispute in 2004/05.

[414] Ethernet Determinations, paragraph 13.429.

Summary

12.240 Table 12.27 summarises how we have translated each FAC adjustment into a DSAC adjustment.

Table 12.27: How FAC adjustments have been translated into DSAC

FAC adjustment	Method of adjusting DSAC
Local end equipment and POH related costs	DSAC:FAC ratio of 1.05 - 1.07
Local end equipment selling costs	DSAC:FAC ratio of 1.43 - 1.97
Payment terms	Absolute (DSAC:FAC ratio = 1)
Trunk/distribution	50/50 approach
21CN	DSAC: FAC ratio of 2.04 (05/06 – 07/08) and 1.85 (08/09)
ECC	50/50 approach
External POH adjustment	50/50 approach
External SG&A adjustment	50/50 approach

Source: Ofcom

12.241 Table 12.28 shows the impact on total DSAC after translating each FAC adjustment using the approach summarised in Table 12.27. Table 12.29 shows the impact on external DSAC after translating the two external-only FAC adjustments.

Table 12.28: Impact on total DSAC of adjustments made, 2004/05 to 2008/09, £m

PPC service	Local end equipment and POH related costs	Local end equipment selling costs	Core distribution	21CN	ECCs	Payment terms	Total
140/155 Mbit/s main link	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	(53.8)
140/155 Mbit/s distribution	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	(35.0)
140/155 Mbit/s local end	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	(40.8)
140/155 Mbit/s connection	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	
34/45 Mbit/s trunk	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	50.7
Total	(37.0)	(1.9)	26.6	(58.7)	(0.4)	(7.4)	(78.8)

Source: Ofcom

Table 12.29: Impact on external DSAC of the external-only FAC adjustments, 2004/05 – 2008/09, £m

PPC service	External POH adjustment	External SG&A adjustment	Total
140/155 Mbit/s main link	[✂]	[✂]	0.02
140/155 Mbit/s distribution	[✂]	[✂]	0.06
140/155 Mbit/s local end	[✂]	[✂]	0.31
140/155 Mbit/s connection	[✂]	[✂]	
34/45 Mbit/s trunk	[✂]	[✂]	0.44
Total	0.27	0.55	0.82

Source: Ofcom

Summary of revenue and cost data

12.242 We now set out a summary of the revenue and cost data we will use to assess whether BT has overcharged for the services in dispute.

12.243 Table 12.30 sets out the adjusted external revenue, external FAC and external DSAC for the disputed services for the period 2004/05 to 2008/09 on a £m basis. The table shows the difference between external revenues and external DSAC. A positive number indicates that external revenues were greater than DSAC.

12.244 The data for 2008/09 represents a full year while the Disputing CPs are only disputing charges for part of that year i.e. from 1 April 2008 to 30 September 2008. We will take this into account in when we assess whether BT has overcharged the Disputing CPs for PPCs in Section 13.

Table 12.30: Adjusted external revenue, FAC and DSAC data for each disputed service in the period 2004/05 to 2008/09, £m

PPC service	2004/05	2005/06	2006/07	2007/08	2008/09
140/155 Mbit/s main link					
External revenue	0.1	0.3	0.6	1.0	1.2
External FAC	0.2	0.2	0.3	0.9	0.8
External DSAC	0.3	0.3	0.4	1.7	1.4
External revenue less external DSAC	(0.1)	(0.0)	0.2	(0.7)	(0.2)
140/155 Mbit/s distribution					
External revenue	0.3	0.6	0.8	1.4	1.6
External FAC	0.4	0.4	0.5	0.6	0.6
External DSAC	0.9	0.7	1.2	1.2	1.3
External revenue less external DSAC	(0.7)	(0.2)	(0.4)	0.2	0.3
140/155 Mbit/s local end					
External revenue	0.2	0.4	0.8	1.4	1.7
External FAC	0.4	0.5	0.5	0.9	0.8
External DSAC	0.5	0.6	0.7	1.1	1.2
External revenue less external DSAC	(0.3)	(0.2)	0.2	0.2	0.5
140/155 Mbit/s connection					
External revenue	0.0	0.0	0.1	0.1	0.1
External FAC	n/a	n/a	n/a	0.04	0.05
External DSAC	n/a	n/a	n/a	0.06	0.07
External revenue less external DSAC	n/a	n/a	n/a	(0.01)	(0.01)
34/45 Mbit/s trunk					
External revenue	1.5	5.6	7.2	10.2	10.5
External FAC	4.0	6.4	4.8	5.1	4.7
External DSAC	7.6	10.5	10.1	8.9	8.3
External revenue less external DSAC	(6.1)	(4.9)	(3.0)	1.3	2.2

Source: Ofcom

12.245 Table 12.31 shows the adjusted external revenue, external FAC and external DSAC for the disputed services for the period 2004/05 to 2008/09 on a per unit basis. The table shows the difference between external revenues and external DSAC. A positive number indicates that external revenues were greater than DSAC.

Table 12.31: Adjusted external revenue, FAC and DSAC data for each disputed service in the period 2004/05 to 2008/09, £ per unit

PPC service	Unit	2004/05	2005/06	2006/07	2007/08	2008/09
140/155 Mbit/s main link						
External revenue	£/Link	11,305	10,737	10,827	10,918	10,889
External FAC	£/Link	17,889	8,494	5,512	10,010	7,091
External DSAC	£/Link	25,353	12,244	7,737	18,190	12,223
Unit Charge less unit DSAC	£/Link	(14,049)	(1,507)	3,091	(7,273)	(1,334)
140/155 Mbit/s distribution						
External revenue	£/km	201	1,243	1,229	1,228	1,227
External FAC	£/km	357	836	783	567	492
External DSAC	£/km	747	1,638	1,932	1,071	985
Unit Charge less unit DSAC	£/km	(546)	(396)	(703)	157	242
140/155 Mbit/s local end						
External revenue	£/end	16,746	15,905	16,436	16,898	16,783
External FAC	£/end	26,336	19,118	10,658	10,394	8,113
External DSAC	£/end	37,682	25,423	12,951	13,980	11,865
Unit Charge less unit DSAC	£/end	(20,935)	(9,517)	3,485	2,918	4,917
140/155 Mbit/s connection						
External revenue	£/cct	1,935	1,838	1,805	1,805	1,805
External FAC	£/cct	n/a	n/a	n/a	1,294	1,495
External DSAC	£/cct	n/a	n/a	n/a	2,105	2,202
Unit Charge less unit DSAC	£/cct	n/a	n/a	n/a	(300)	(398)
34/45 Mbit/s trunk						
External revenue	£/km	45	454	552	552	552
External FAC	£/km	122	519	371	274	250
External DSAC	£/km	234	848	782	482	435
Unit Charge less unit DSAC	£/km	(189)	(394)	(229)	71	117

Source: Ofcom

Section 13

Ofcom's assessment of whether BT's charges were cost orientated

Introduction

13.1 In this Section we consider whether BT's charges for the services in dispute were cost orientated, and therefore whether BT has overcharged its customers during the Relevant Period.

13.2 In Section 9 we conclude that, with the exception of 140/155 Mbit/s PPC terminating segment connection services in 2007/08 and 2008/09, BT has not demonstrated to our satisfaction that each and every charge in dispute is cost orientated. We now go on to carry out the next two steps of our assessment in relation to each charge (with the exception of 144/155 Mbit/s connection services in 2007/08 and 2008/09), in accordance with the methodology we set out in Section 8:

13.2.1 **Step 2:** compare the relevant charges with their respective DSACs to see whether we have concerns about their compliance with Conditions GG3.1 and H3.1 (i.e. we carry out the DSAC test referred to at paragraph 8.7.1)[415]; and

13.2.2 **Step 3:** before drawing our conclusions on overcharging, we consider:

- the magnitude and duration by which charges exceeded DSAC;
- whether, and the extent to which charges exceeded FAC; and
- the rate of return on capital employed.

13.3 Where we consider that these assessments indicate that BT's charges were not cost orientated, and that BT has therefore overcharged its external customers, we go on to calculate the level of overcharge.

The DSAC test

Our provisional conclusions

13.4 In the Draft Determinations, we carried out the DSAC test, i.e. we compared BT's 34/45 Mbit/s PPC trunk and 140/155 Mbit/s PPC terminating segment services external revenues with the external DSACs for those services. We provisionally found that for a number of service and year combinations, revenues exceeded our estimate of external DSAC. This is shown in Table 13.1 below. The measures of revenue and DSAC used in this comparison were based on BT's restated and

[415] As explained in Section 12, there are some differences between the adjustments we have made to the regulatory financial information provided by BT in these Determinations and the adjustments we made in the 2009 Final Determinations. These differences largely reflect new information not available at the time of the 2009 Final Determinations, new adjustments arising out of the CC's 30 June 2010 Determination and amendments we have made to previous adjustments following further information received from BT. Consequently, the percentages in tables in this section may differ from those presented in the 2009 Final Determinations.

revised data as adjusted by Ofcom. The revenues are presented as a percentage of their DSAC, with 100% reflecting a charge that is set at its DSAC. Any figure above 100% indicates that the revenues are above DSAC. Shaded cells represent those where the revenues exceed DSAC (i.e. the ratio is greater than 100%).

Table 13.1: Comparison of BT's external PPC revenues with our estimate of the external DSACs from the Draft Determinations

PPC service	2004/05	2005/06	2006/07	2007/08	2008/09
140/155 Mbit/s TISBO					
Connection	n/a*	n/a*	n/a*	138%	108%
Main link	46%	88%	174%	43%	52%
Distribution	26%	70%	71%	115%	125%
Local end	57%	75%	186%	127%	173%
Trunk					
34/45 Mbit/s	23%	63%	73%	110%	127%

**140/155 Mbit/s PPC connection services were not published in the RFS in 2004/05, 2005/6 and 2006/07 and BT was unable to provide DSAC data relating to these years.*
Source: Ofcom – based on data supplied by BT.

13.5 As can be seen from Table 13.1, we provisionally found that external revenues exceeded external DSAC in respect of:

13.5.1 140/155 Mbit/s PPC main link services in 2006/07;

13.5.2 140/155 Mbit/s PPC connection and distribution services in 2007/08 and 2008/09;

13.5.3 140/155 Mbit/s PPC local end services in 2006/07, 2007/08 and 2008/09; and

13.5.4 34/45 Mbit/s PPC trunk services in 2007/08 and 2008/09.

Views of the Parties

13.6 The Parties made a number of submissions about the data we use to carry out the DSAC test. These arguments are considered in Sections 11 and 12. We also received a number of comments from Parties in relation to the non-mechanistic application of the DSAC test for individual services. We consider these comments in relation to each individual service below.

Final conclusions on the DSAC test

13.7 As we explain in Section 12, following responses to the Draft Determinations, we have made changes to the adjustments we make to BT's RFS data in this case. We have therefore carried out the DSAC test again, based on the final restated and revised revenue and DSAC data as adjusted by Ofcom. Table 13.2 sets out the results of the DSAC test.

Table 13.2: Comparison of BT's external revenues with our estimate of the external DSACs

PPC service	2004/05	2005/06	2006/07	2007/08	2008/09
140/155 Mbit/s TISBO					
Connection	n/a*	n/a*	n/a*	86%	82%
Main link	45%	88%	140%	60%	89%
Distribution	27%	76%	64%	115%	125%
Local end	44%	63%	127%	121%	141%
Trunk					
34/45 Mbit/s	19%	54%	71%	115%	127%

**140/155 Mbit/s PPC connection services were not published in the RFS in 2004/05, 2005/6 and 2006/07 and BT was unable to provide DSAC data relating to these years.*
Source: Ofcom – based on data supplied by BT.

13.8 As can be seen from Table 13.2, external revenues exceeded external DSAC for the following services during the Relevant Period:

13.8.1 140/155 Mbit/s PPC main link services in 2006/07;

13.8.2 140/155 Mbit/s PPC distribution services in the last two financial years (i.e. 2007/08 and 2008/09);

13.8.3 140/155 Mbit/s PPC local end services in 2006/07, 2007/08 and 2008/09; and

13.8.4 34/45 Mbit/s PPC trunk services in the last two financial years (i.e. 2007/08 and 2008/09).

13.9 We recognise there may be circumstances in which charges below DSAC are not compliant with the cost orientation obligations (see paragraph 8.81). However, the Parties have not put forward specific arguments which cause us to consider that BT's charges below DSAC for any of the service and year combinations in dispute may not be cost orientated. Therefore, we conclude that BT did not overcharge the Disputing CPs for those service and year combinations where revenues were below DSAC.

13.10 These findings differ from those in the Draft Determinations as follows:

13.10.1 the amount by which revenues exceeded DSAC is lower for 140/155 Mbit/s main link and local ends services in each year in which revenues exceeded DSAC for those services;

13.10.2 the amount by which revenues exceeded DSAC is higher for 34/45 Mbit/s trunk in 2007/08;

13.10.3 we no longer consider that revenues for 140/155 Mbit/s connection services exceeded their DSACs in 2007/08 and 2008/09. As we explain in Section 9, because the Parties have not put forward specific arguments which cause us to consider that these charges below DSAC may not be cost orientated, we conclude that BT has demonstrated to our satisfaction that BT's charges for 140/155 Mbit/s terminating segment connection services in these two financial years were cost orientated. We set out below our conclusions in relation to BT's charges for 140/155 Mbit/s connection services in the first three financial years of the Relevant Period.

Ensuring the DSAC test is not implemented in a mechanistic way

13.11 As we set out in Section 8, we consider that it is not appropriate to apply the DSAC test in a mechanistic manner. Therefore, for the services and years in which we find revenues exceeded DSAC, we go on to consider what other factors could indicate that these charges were nonetheless cost orientated, and then conclude as to whether overcharging has occurred.

Our provisional conclusions

13.12 In the Draft Determinations we provisionally concluded that the additional factors which we considered relevant to ensuring that the DSAC test is not implemented in a mechanistic way in this case were:

13.12.1 comparison of revenues with FAC;

13.12.2 analysis of BT's rates of return on capital employed; and

13.12.3 consideration of the magnitude and duration by which charges exceeded DSAC.

BT's external revenues compared to FAC

13.13 In the Draft Determinations, we compared BT's external revenues to external FAC for the service and year combinations in dispute. We provisionally concluded that external revenues exceeded FAC for every service and year combination except for all services in the first financial year (i.e. 2004/05), 34/45 Mbit/s trunk services in 2005/06 and 140/155 Mbit/s main link services in 2007/08. We also provisionally concluded that in each case where revenues exceeded DSAC they also exceeded FAC by a considerable margin, supporting a finding of overcharging.

BT's ROCE

13.14 We also considered BT's ROCE on each of the service and year combinations in dispute.[416] We found that the ROCEs were at least 52%, rising to as high as 142%. We compared this to BT's average WACC across the period of around 12%, and considered that the rates of return were very significantly in excess of BT's relevant WACC. We provisionally concluded that this also supported a finding of overcharging.

Magnitude and duration by which charges exceeded DSAC

13.15 We proposed that where charges were above DSAC for fewer than three financial years, consideration of the specific circumstances surrounding the charge is warranted. We explained that, in order for us to conclude that the circumstances surrounding a pricing decision mean that there is not overcharging (despite a charge exceeding DSAC), we need a specific and evidence-based explanation of those circumstances. We invited BT to provide us with such evidence and explanation.

13.16 With regard to 34/45 Mbit/s trunk and 140/155 Mbit/s PPC terminating segment distribution services, we noted that BT had provided additional representations[417] as

[416] BT was unable to provide MCE data for connection services for the period covered by the Disputes. We were therefore unable to report rates of return for these services.
[417] In BT's 27 May 2011 letter.

to why, in the circumstances, its charges were cost orientated despite failing the DSAC test for the final two financial years relevant to the Disputes. However, in our view BT had not provided us with sufficient evidence to support its arguments. For the period 1 April 2007 to 30 September 2008, we proposed to conclude that BT had overcharged in respect of these two services.

13.17 With regard to 140/155 Mbit/s PPC terminating segment main link, local end and connection services, BT had not provided us with any representations justifying the appropriateness of its charges other than those that were considered to be either insufficiently relevant or reliable in both the 2009 Final Determinations and the PPC Judgment.

Views of the Parties

13.18 We set out here the Parties' general views on our provisional conclusions. We consider comments made by the Parties in relation to specific services in our assessment of the charges for each service below.

Disputing CPs' general comments

13.19 The Disputing CPs agree with Ofcom's overall assessment of overcharging, and Verizon adds that overall it supports Ofcom's analysis and approach to assessing whether BT's charges were cost orientated.[418]

13.20 Although the Disputing CPs "*appreciate that Ofcom must, in the interests of procedural fairness, allow BT yet another opportunity to explain its PPC pricing*", they argue that "*any explanation which BT presents at this very late stage will be a last ditch attempt to avoid a finding of overcharging and must be viewed in that light*".[419] They set out that they "*would expect Ofcom to set a high threshold for such evidence*"[420].

13.21 The Disputing CPs consider that BT has already had "*ample opportunity*" to demonstrate that its charges in dispute were in compliance with its cost orientation obligations.[421] They argue that any "*truly compelling and likely explanation would have been given a long time ago had it existed*".[422] In their view "*the truth of the matter is that the PPC Product Management team within BT took an incredibly blasé attitude to PPC pricing*".[423] They argue that BT admits that it did not look at the RFS when setting prices for PPCs and that its approach was "*completely inadequate*"[424] for ensuring that its charges were in compliance with the cost orientation obligations. They claim that this indicates that "*in fact BT had no real idea or concern whether or not its charges were compliant*".[425]

Magnitude and duration by which charges exceeded DSAC

13.22 BT made submissions about difficulties in forecasting unit DSACs. These submissions consisted of representations on both the general difficulties it faced in

[418] Disputing CPs' response to our Draft Determinations, paragraph 7.2, Verizon's response to our Draft Determinations, page 4.
[419] Disputing CPs' response to our Draft Determinations, paragraph 7.9.
[420] Disputing CPs' response to our Draft Determinations, paragraph 7.6.
[421] Disputing CPs' response to our Draft Determinations, paragraph 7.7.
[422] Disputing CPs' response to our Draft Determinations, paragraph 7.9.
[423] Disputing CPs' response to our Draft Determinations, paragraph 7.8.
[424] Disputing CPs' response to our Draft Determinations, paragraph 7.8.
[425] Disputing CPs' response to our Draft Determinations, paragraph 7.8.

forecasting unit costs and difficulties in relation to specific charges. We summarise here its general submissions and the Disputing CPs' views. We set out and consider its specific arguments in our assessment of BT's charges for specific services below.

13.23 The context to BT's submissions is its acknowledgement that it did not consider its DSACs for the services relevant to these Disputes when setting its charges. It sets out in its response to our Draft Determinations that:

> *Prior to the handing down of the PPC Judgment, BT accepts, for the purposes of this section of these Disputes, that its approach may not have been all that it should have been. BT assumed – for good reasons – that provided: (i) it did not increase its charges (ii) the actual unit costs of providing the service were unlikely to significantly decrease; (iii) the ROCE for BT's PPC portfolio was reasonable, that BT would comply with the basis of charges condition. At this time BT assumed (wrongly) that the basis of charges condition applied to PPCs on an end to end basis, as opposed to individual charges for specific services – for example 2Mbit/s trunk services.*
>
> *Had BT known then what it knows now, BT would have approached the task of reviewing and setting its charges for Trunk and TISBO services in a different way*."[426]

13.24 BT does not elaborate in its response on what the "*good reasons*" for making the assumptions were.

13.25 BT argues that "*even a company with a good understanding of its costs, would be unable to predict DSACs for the year ahead at a sufficient level of granularity and accuracy for the purposes of pricing. Neither internal modelling nor statistical analysis of past trends can overcome the inherent uncertainties when attempting to predict the result of combining a large number of very small slices of common costs*"[427]. It argues that it is difficult to forecast the individual product and unit costs of a multiproduct firm, particularly where there is a high proportion of FCC spread across many different services.[428]

13.26 BT goes on to comment on the difficulties involved in forecasting unit FAC and the ratio of FAC to DSAC, as an approach to forecasting unit DSACs. Specifically, BT suggests that this approach to anticipating costs is based on two assumptions:[429]

13.26.1 that the relationship between DSACs and FAC is relatively consistent; and

13.26.2 it is possible to accurately predict FACs at a service level at the beginning of the year (or when a charge is set).

Forecasting FAC for individual services

13.27 BT makes a number of arguments as to why it is difficult to predict the FAC of individual services, contrary to the second assumption.

13.28 BT argues that it is difficult to predict the FAC of individual services due to the fact that FCCs are shared across multiple services. As a consequence, BT argues that the costs of individual services are highly dependent upon the extent to which FCCs

[426] BT's response to our Draft Determinations, paragraphs 25 to 27.
[427] BT's response to our Draft Determinations, paragraph 122.
[428] BT's response to our Draft Determinations, paragraph 30.
[429] BT's response to our Draft Determinations, paragraph 43.

are allocated to other services. Therefore, *"[a] prediction of an individual cost contribution requires both an accurate estimate of likely change to the cost pool and a forecast of the amount of the cost which will be attributed to the services in question."*[430] This means that *"[i]t is not possible to know the effect of a predicted cost change on a service without knowing the associated changes to the apportionment bases and intermediate cost centres. This can only be determined if all apportionment bases are built and ASPIRE is run."*[431]

13.29 It notes that there are over 180 offline models used to calculate the apportionment bases, and the data needed for many of the bases (e.g. number of new connections, equipment purchase prices) will not be known or predictable until later in the year in question. It also notes that the process of building all the bases and running ASPIRE takes a considerable amount of time, which is reflected in the amount of time taken to produce the RFS after the end of the financial year.[432]

13.30 BT argues that it is important to take into account when changes to costs would have been known. It claims there are events in most years which have a major effect on costs. Although such events do not generally occur without warning, the complex interrelationships of BT's cost apportionment system means that the effect of these changes on individual products and services will not be known until ASPIRE is run, in most cases after the year end.[433] BT highlights five events in particular which affected the costs of the services in dispute.

13.30.1 **CCA adjustments** – BT argues that *"CCA valuations rely upon information that is only available during the year, such as latest purchase prices, survey results etc. It is therefore only possible to carry out CCA calculations at the end of the financial year."*[434] It presents data on what it considers to be the level of CCA adjustments which would have been reasonably foreseeable, which diverges significantly from actual outturn CCA adjustments.[435]

13.30.2 **Formation of Openreach** – BT argues that the formation of Openreach resulted in considerable disruption to the cost allocations in place at the time, as well as large uncertain implementation costs. While the creation of Openreach was known, the ramifications at the individual service level could not have been foreseen with any precision. It claims that while the main effects occurred in 2006 to 2008, the impact continues today.[436]

13.30.3 **Further restructuring after functional separation** – BT argues that in July 2007 BT undertook a further reorganisation of the rest of its operations to accommodate structural separation and the evolution of 21CN. It notes that the fact of the reorganisation and the aggregate impact across BT would have been known, but the detailed effect on the costs of specific services would only be known after the event at the year-end accounting.[437]

13.30.4 **Changes to 21CN accounting** – BT explains that it originally did not identify 21CN costs separately but apportioned them to existing cost pools. In 2008 it decided to reflect the allocation of 21CN costs more accurately by

[430] BT's response to our Draft Determinations, paragraph 54.
[431] BT's response to our Draft Determinations, paragraph 55.
[432] BT's response to our Draft Determinations, paragraph 55.
[433] BT's response to our Draft Determinations, paragraph 56.
[434] BT's response to our Draft Determinations, paragraph 62.
[435] BT's response to our Draft Determinations, paragraphs 58 to 72.
[436] BT's response to our Draft Determinations, paragraphs 73 to 75.
[437] BT's response to our Draft Determinations, paragraph 76.

introducing new 21CN specific components for the 2007/08 year. It argues that the greater precision of cost apportionment would have resulted in some service cost increases while others reduced, and this could not have been predicted with any precision until the new model was run with the new cost components included.[438]

13.30.5 **Cumulo rates** – in late 2008/09 BT received rebates of around £[✄] relating to its non-domestic rating liabilities on its rateable network assets. BT claims that the result of apportioning these rebates within the regulatory financial accounts led to disruptive changes to the costs of many services, including PPCs. These rate changes could not be forecast at BT level during 2007/08, and therefore it would have been impossible to anticipate what the impact would have been at the more granular service level.[439]

13.31 BT also submits a report prepared by Deloitte LLP (the second Deloitte Report) which BT argues shows that using a statistical analysis of previous years' costs does not provide a good indicator of costs for the coming year.

13.32 Deloitte's analysis considers to what level of accuracy BT could be expected to predict the costs of a PPC product in any one year, based on information on costs and volumes in preceding years. It considers how accurately volumes and costs can be predicted separately, and then focuses on the predictability of unit costs. It then considers whether forecast accuracy can be improved by increasing product aggregation.[440] Using data on 20 PPC products across four designated markets[441] covering a period of nine years, the report examines the predictability of costs using four techniques:[442]

13.32.1 Simple moving averages of past volumes and costs as predictors of current volumes and costs;

13.32.2 Linear extrapolation of the past two years of costs and volume as a predictor of current costs and volumes;

13.32.3 Time series econometric analysis of volumes with past values of volumes as variables explaining the current values of volumes; and

13.32.4 Time series econometric analysis of costs with past values of cost and current value of volumes as variables explaining the current values of costs (this is designed to address the question of how accurately costs could be predicted if future volumes were known exactly).

13.33 The second Deloitte Report draws the following conclusions from this analysis:[443]

13.33.1 PPC product volumes are volatile through time and difficult to predict with a reasonable degree of accuracy at the level of granularity that BT's products are distinguished between for regulatory reporting purposes.

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438 BT's response to our Draft Determinations, paragraphs 77 to 79.
439 BT's response to our Draft Determinations, paragraphs 80 to 85.
440 The second Deloitte Report, page 8.
441 TISBO (up to and including 8Mbit/s), TISBO (above 8Mbit/s up to & including 45 Mbit/s), TISBO (above 45 Mbit/s up to & including 155 Mbit/s) and Wholesale trunk segments (including Kingston).
442 The second Deloitte Report, page 10.
443 The second Deloitte Report, page 41.

13.33.2 Costs are even more volatile and harder to predict than volumes at the product level. Further, product volumes do not help to explain costs at the product level. This is consistent with the theoretical rationale that costs of a particular product are substantially influenced by other product volumes and other cost drivers due to attribution from common cost pools. This means that it is not possible to obtain reliable product cost forecasts even if future volumes of that product were known with certainty. The unpredictability of both volume and cost movements increase the difficulty in predicting costs.

13.33.3 Accurate forecasting of particular unit cost might require forecasting of each product in BT's portfolio, applied in the cost allocation and LRIC models. The volume forecasts themselves are likely to be subject to substantial uncertainty.

13.33.4 This implies that the information available to BT when setting prices for the year ahead does not provide a reliable basis for forecasting costs of individual PPC products: if prices were set on the basis of the forecasting methodologies included in the report, they are likely to over- and under-shoot the actual (attributed) costs of the products in any one year, usually by a substantial margin, and using costs in the previous two years to forecast the costs in 2008/09 would have led to up to 76% forecast error for high bandwidth PPC products, and to an average error of 37% across all the PPC products.

13.33.5 The volatility of costs falls when examined at the level of the four relevant designated markets, so that the forecast errors are smaller (though still substantial) and volume is found to be a significant driver of costs at the market level. Forecast accuracy improves further at higher levels of aggregation into high level product groups, and when considering BT Access and Network costs as a whole.

Forecasting FAC to DSAC ratios

13.34 BT also considers that the first assumption (as set out at paragraph 13.26.1) does not hold. It claims that, even if FAC was predictable, the relationship between DSAC and FAC *"was not stable or consistent either for the relevant period of the dispute or between the services in question"*. It therefore would not have been able to predict DSAC even if it had known FAC. It presents charts showing that the DSAC:FAC ratio for each service in dispute was volatile over the Relevant Period.[444]

13.35 The Disputing CPs comment that BT's contention that there is no fixed ratio between FAC and DSAC appears to be *"directly contradictory"* to BT's position in its response to the Ethernet Disputes:

> "*BT contends that there is no fixed ratio between FAC and DSAC, and as such knowing the FAC of any service would not necessarily determine the DSAC to be estimated. This appears to be directly contradictory to the position in their response to the Ethernet disputes*"[445].

13.36 They note that in its response to the Draft Determinations BT argued that:

[444] BT's response to our Draft Determinations, paragraph 44 and Figures 1 to 4.
[445] Disputing CPs' comments on BT's response, paragraph 12.

> *"Although DSACs are built from the same CCA cost pools as used in BT's Regulatory accounting system (ASPIRE), there is* no *direct relationship between the DSACs and the FAC for a given service. As a result the ratio may well vary each year."*[446]

13.37 They then note that in its response to the Ethernet Disputes, BT states that:

> *"DSAC and FAC are not calculated on a 'wholly different basis' using two 'largely separate models'. LRIC is actually derived from the FAC model by the application of cost volume relationships ('CVRs') to FAC…. So one must expect the FAC and DSAC estimates to align in a way consistent with the underlying theory regarding the allocation of FCC".*[447]

Timeline for setting prices for PPCs

13.38 BT argues that, given the above arguments demonstrate that it is not possible to reliably forecast DSACs at a sufficiently granular level for the purposes of setting prices, it is necessary to consider the implications of the timeline faced by BT when implementing price changes. BT argues that *"there is a significant time lag between the date that BT has to decide on the prices it will set for PPCs and when information becomes available to allow a comparison with the DSAC values."* [448]

13.39 BT says that it "*is subject to a 90 day notification obligation for price changes and it usually takes around a month for internal governance and approval of any price changes. This means that for prices to be implemented at the start of the financial year, the pricing proposal must be prepared in early December the previous year*."[449]

13.40 BT argues that information about the current year's DSACs is not available when prices are set and for much of the year the DSAC information for the preceding financial year is not available either (given the four month time-lag between deciding on the price to be set and when this price is implemented). There is only a three month period during any financial year (the January to March quarter) when prices can be expected to take account of the level of DSAC in the preceding financial year.[450] BT considers that *"Ofcom has failed to take account of the point at which information is available to set prices, yet this is critical to its findings of a lack of cost orientation."*[451]

13.41 In relation to the lack of information available to BT to ensure compliance, the Disputing CPs submit that "*BT must maintain some view of price and cost for its own business on a more frequent basis than it publishes its RFS."*[452] They argue that while the RFS *"are only published once a year (and are more often than not late), the publication timetable in no way prevents BT using earlier (quarterly, bi-annual)*

[446] Disputing CPs' comments on BT's response, paragraph 12.
[447] Disputing CPs' comments on BT's response, paragraph 12, quoting BT's Ethernet Response, paragraph 251.
[448] BT's response to our Draft Determinations, paragraph 115.
[449] BT's response to our Draft Determinations, paragraph 116.
[450] BT's response to our Draft Determinations, paragraphs 115 to 120.
[451] BT's response to our Draft Determinations, paragraph 2.
[452] Disputing CPs' response to our Draft Determinations, paragraph 5.3. Verizon makes a similar point (see page 2 of its response to our Draft Determinations).

unpublished cuts of the data", and nor does it prevent BT from using monthly management reporting information.[453]

13.42 The Disputing CPs also note that, while PPC products typically have a 90 day notice period as regards price changes, this is *"both widely known and a relatively straightforward obligation to comply with"* and in any event if BT did need to reduce prices quickly in order to comply with the cost orientation obligation, then a waiver could have been sought and would doubtless have been granted. They argue that *"similar arguments over the apparent time lag required for BT to assess compliance were run by BT at the CAT during its appeal and gained no traction"*.[454]

Our analysis

Magnitude and duration by which charges exceeded DSAC

13.43 As we note in paragraph 8.53, in the PPC Judgment the CAT found that BT's cost orientation obligations require us to treat charges above DSAC as "*intrinsically excessive*". As we explained in Section 8, we also consider it appropriate to take into account the magnitude and duration that charges exceeded DSAC as part of our assessment of overcharging.

13.44 In particular, where charges are not persistently above DSAC for the majority of the Relevant Period (i.e. for at least three out of the five financial years to which the Disputes relate), consideration of the specific circumstances surrounding BT's charges is warranted before concluding on whether overcharging has occurred.

13.45 We consider these circumstances because, as the CAT accepted in the PPC Judgment, *"even a firm doing its level best to comply with Condition H3.1 (by, for example, seeking to apply DSAC) might find that, even so, the DSAC ceiling was on occasion breached."* The CAT considered that *"in such circumstances, such a firm might well be in compliance with Condition H3.1, in that its mark up for the recovery of common costs would have been 'appropriate'."*[455]

13.46 With this in mind, we set out in the Draft Determinations that if BT was able to provide us with specific and evidence-based explanations of any circumstances that it considers explains why its charges above DSAC were nevertheless cost orientated, we would take it into account in reaching our final conclusions.

13.47 In the PPC Judgment, the CAT noted in relation to 2 Mbit/s trunk services that "*BT had orientated its prices by reference to the wrong test*" and that therefore it was not "*a case where a firm subject to Condition H3.1 had attempted to apply the condition, but for reasons of the sort considered in paragraphs 303 and 304*[456] *above, had failed to do so*".[457] BT's own description of its approach to reviewing and setting charges for trunk and TISBO services during the Relevant Period is set out in paragraph 13.23. On this basis, it does not appear that BT made its pricing decisions for the services in dispute using service-level DSAC information. We therefore do not

[453] Disputing CPs' comments on BT's response, paragraph 7.
[454] Disputing CPs' comments on BT's response, paragraph 8.
[455] PPC Judgment, paragraph 303.
[456] We refer to paragraph 303 of the PPC Judgment at paragraphs 8.45 and 13.45 above. In paragraph 304 of the PPC Judgment, the CAT states that "*it would not be right for Ofcom to apply DSAC …in a mechanistic way*" because that would *"overlook the fact that that it is hard in practice for the regulated firm to comply absolutely with whatever test is being used to determine the appropriate allocation of common costs*".
[457] PPC Judgment, paragraph 307(2)(ii).

consider that this is a case in which a firm was "*doing its level best to comply*" with its cost orientation obligations. However, BT presents a number of arguments as to why, even if it had sought to set its charges by reference to the DSACs for individual services, it would have faced significant difficulty in complying with its obligations, which we consider below.

13.48 We first consider BT's general arguments, and then consider its arguments in respect of specific services as part of our assessment of the charges in dispute. We note that the charges for 140/155 Mbit/s PPC terminating segment local end exceeded DSAC in each of the last three years relevant to these Disputes. However, for the other services in dispute, charges exceeded DSAC for fewer than three financial years.

13.49 As set out in paragraph 13.34 above, BT advances two main arguments as to why it is difficult to forecast unit DSACs:

13.49.1 First, it is difficult to forecast the FAC of individual services; and

13.49.2 Second, the DSAC:FAC ratio for different services is not stable.

13.50 BT then argues that, given its view that it is not possible to forecast DSACs at a sufficiently granular level for the purposes of setting prices, it is necessary to consider the implications of the timeline it faces when implementing price changes.

Forecasting FAC for individual services

13.51 We accept that the need to allocate common costs across services makes it more complicated to predict the unit cost of individual services. However, as we set out below, we have a number of observations in relation to this point.

13.52 We note that BT makes its arguments based on its ASPIRE model. This is the model which produces its FAC calculations, not its DSACs. The LRIC model (from which DSACs are derived) aggregates together a number of cost items from ASPIRE into around 400 cost categories. Therefore, while there is still a relatively large number of cost categories used in producing DSAC numbers, there are fewer than used to produce FAC numbers.

13.53 In addition, in many cases a significant proportion of the DSAC is accounted for by only a relatively small number of cost categories. For example, over the period 2005/06 to 2008/09, around 55% to 65% of the DSAC of the main component which makes up the 34/45 Mbit/s PPC trunk service is accounted for by just four cost categories which relate to SDH and duct.[458] These four cost categories also accounted for around 50% to 70% of the DSAC of the main component which makes up the 140/155 Mbit/s distribution service over the same period.[459] Between 35% and 50% of the DSAC of the main component which makes up the 140/155 Mbit/s main link service is accounted for by the SDH and core transmission categories in the

[458] The main component which makes up the 34/45 Mbit/s PPC trunk service is PC Rental 34Mbit Link Per Km Trunk, which accounts for around 90% of the total FAC of this service over the Relevant Period. The service also consists of two SG&A components. The four cost categories referred to are "Fixed assets, Duct, Calls", "Opex, Non pay, Depreciation, Core Transmission: Cable & Other, SDH", "Opex, Non pay, Depreciation, Duct, Calls" and "Fixed assets, Core Transmission: Cable & Other, SDH"

[459] The main component which makes up the 140/155 Mbit/s distribution service is PC Rental 140Mbit Link Per Km Distribution, which accounts for over 90% of the total FAC of this service over the Relevant Period. The service also consists of two SG&A components and, from 2006/07, the "Sales product management" component.

years 2005/06 and 2006/07,[460] while SDH and fibre categories accounted for 30% to 50% of the main component which makes up the 140/155 Mbit/s local end service over the period 2005/06 to 2008/09.[461]

13.54 We also note that for some of these cost categories, while only a small fraction of the total cost in the cost category is allocated to any single PPC service, a much larger proportion is allocated to PPC services as a whole. For example, our analysis of BT's detailed LRIC model outputs suggests that, on a LRIC basis, around 40% to 60% of the SDH cost categories were allocated to components that make up PPC services during the Relevant Period. Such cost categories will be less sensitive to changes in the volumes of other (i.e. non-PPC) services, compared to cost categories where a smaller proportion is allocated to PPC services as a whole (although there will still be an effect). In addition, as BT is likely to manage its PPC services together, we would expect it to have information on likely changes in volumes across the portfolio of its PPC services, which it can use to inform its view of likely changes in these cost categories.

13.55 At the same time, we recognise that there are other cost categories where only a relatively small proportion is allocated to PPC services as a whole. For example, our analysis suggests that around 12% to 15% of duct cost categories are allocated to PPC services as a whole over the Relevant Period.

13.56 We therefore accept that common costs are an important element of BT's costs and that the allocation of these costs to individual services can sometimes vary materially between years. As a result, there could be a degree of difficulty in predicting the final level of costs of individual services. Therefore, where BT can demonstrate that, in the context of a specific charge, there was a particular cost item that had moved unexpectedly due to a change in common cost allocation, we can take this into account in our assessment. However, such an argument needs to be specific to the charge and evidence-based.

13.57 With regard to the impact of the major events highlighted by BT (see paragraph 13.30), we accept that it may be difficult to predict precisely what the effect on costs of individual services will be before the event (although we do not consider that it is necessarily impossible to come to some view as to the likely effect). Where BT can provide a specific and evidence-based explanation that an event caused it genuine difficulties in complying with its obligations (i.e. it gave rise to one-off cost movements that could not reasonably be forecast), we are able to take that into account in our assessment. We have therefore considered the arguments BT has raised in relation to these events in the context of specific charges. However, two of the events BT refers to – regarding CCA adjustments and cumulo rates – raise particular issues which we consider below.

13.58 With regard to CCA adjustments, we do not consider that all CCA adjustments are unforeseeable before the end of a financial year. BT argues that CCA valuations rely on information which is only available towards the end of a financial year.[462] Whether

[460] In 2005/06 and 2006/07, the main component which makes up the 140/155 Mbit/s main link service is PC Rental 140Mb Link Per Link. This accounts for over 90% of the total FAC of this service. From 2007/08, new cost components were introduced (see paragraph 13.30.4), meaning that the PC Rental 140Mbit Link Per Link component no longer accounted for the majority of the total FAC for the 140/155 Mbit/s main link service.

[461] The main component which makes up the 140/155 Mbit/s local end service is PC Rental 140Mb Link Local End, which accounts for over 80% of the total FAC of this service over the Relevant Period.

[462] See for example paragraph 62, Table 4 and Table 10 of BT's response to our Draft Determinations.

a CCA adjustment is foreseeable will depend on the underlying cause of the adjustment. For example, large changes in the market price of an asset may be largely unforeseeable (particularly where that market price is volatile, such as some of those related to international commodity markets). But changes to asset lives are largely within the control of a firm (and may have relatively long lag times associated with corporate governance or regulatory processes) and so it is foreseeable relatively far in advance of setting prices that they will affect depreciation and asset valuation. While the firm may not know the exact effect on CCA costs, it should be aware, if there is likely to be a significant effect, which assets it will affect, which services use those assets, and the time period over which the effect will occur. Therefore, we do not consider that all CCA adjustments are completely unpredictable, but we do accept that some CCA adjustments may be difficult to accurately anticipate both in terms of magnitude and direction (i.e. whether a holding gain or loss).

13.59 We note that a number of the large holding gains and losses relevant to these Disputes are related to changes in asset life assumptions. These asset life changes are not necessarily only decided during the financial year to which the relevant RFS relates. For example, the change to the valuation of duct (discussed in paragraph 13.108 below) followed an Ofcom statement in 2005[463] and was therefore known about for a considerable period before it was reflected in the RFS.

13.60 With regard to cumulo rates, according to BT's 2008/09 RFS, BT's CCA operating costs relating to all markets and activities was roughly £24bn in 2007/08, and £26bn in 2008/09. Seen in this context, a rebate of less than £100m does not appear to be highly significant or likely to be determinative, on its own, of whether BT's charges exceeded DSAC or not. However, where BT can demonstrate that such rebates did give rise to difficulties in relation to specific services, we can take them into account in our non-mechanistic application of the DSAC test.

13.61 We consider that the second Deloitte Report supports the view we set out at paragraph 13.56 above that there could be a degree of difficulty in predicting the final level of costs of individual services, but is otherwise of limited relevance to these Disputes. The analysis undertaken by Deloitte involves projecting costs in different ways based only on trends in historical cost data. We do not consider that a firm undertaking reasonable attempts to monitor and forecast its costs would rely only on such an analysis, as it does not take account of additional forward looking information of which a business would be expected to keep abreast. For example, as discussed above, certain CCA holding gains and losses can be forecast on the basis of planned changes in the accounting treatment of the economic life of assets, and the introduction of new products or services which share assets with existing products and services may have impacts on the unit costs of the existing products and services which can be reasonably forecast.

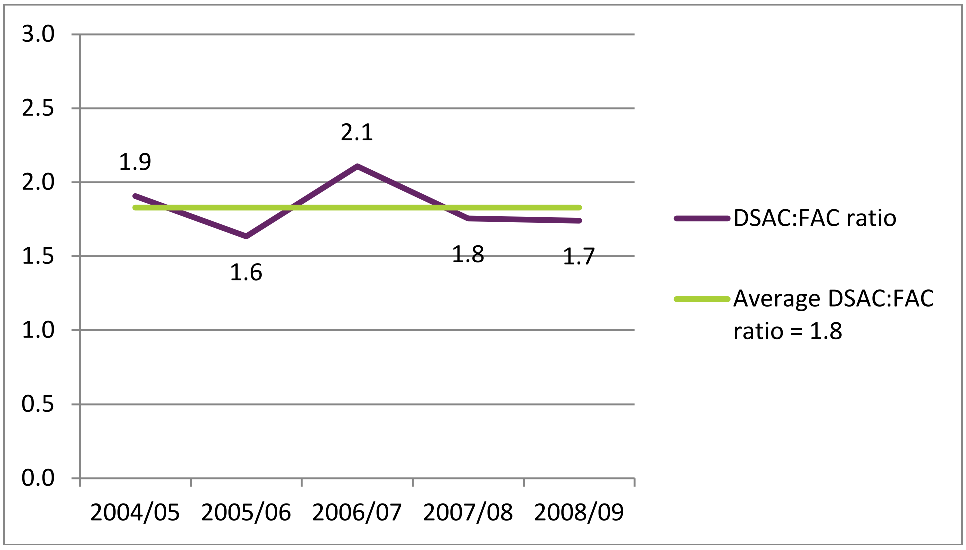
13.62 The existence of common costs shared by multiple products and variability in the cost base is not a challenge unique to BT. Large, multi-product businesses often develop processes and systems to build forecasts that incorporate the best information available to the firm on possible future cost and volume movements in order to inform the setting of charges. We would expect BT to do the same particularly in relation to those charges for which it has cost orientation obligations.

[463] Valuing Copper Access statement, 18 August 2005 (the "Copper Statement"): http://stakeholders.ofcom.org.uk/binaries/consultations/copper/statement/statement.pdf

Forecasting FAC to DSAC ratios

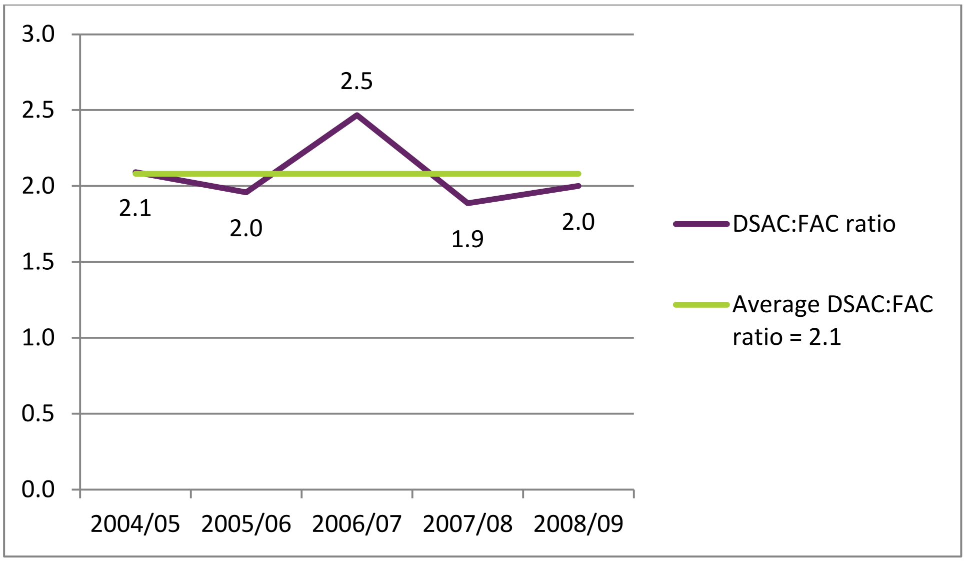
13.63 Below we present charts showing the ratio of external DSAC to external FAC for each of the services for which revenues exceeded DSAC using our adjusted data. We also show the average DSAC:FAC ratio for the service over the Relevant Period.

Figure 13.1: DSAC:FAC ratio for 34/45 Mbit/s trunk



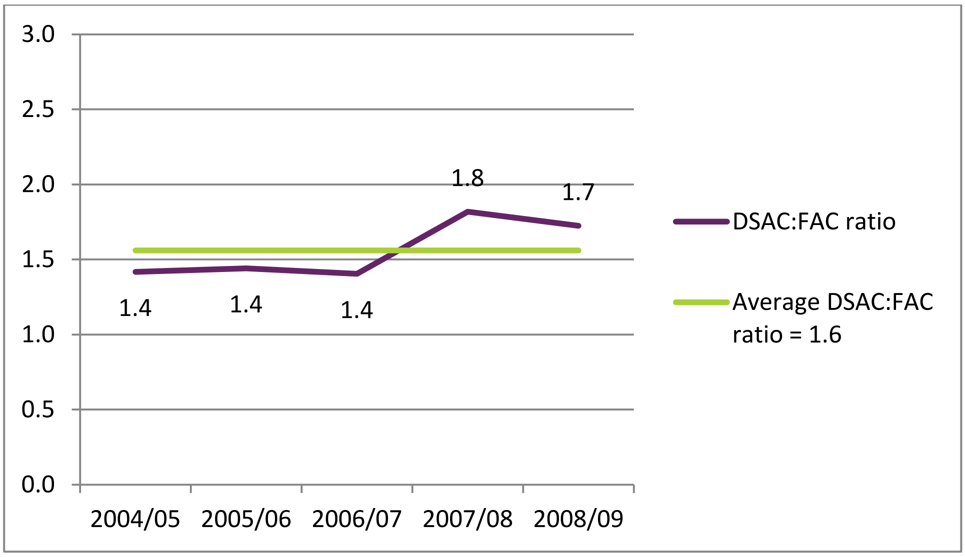
Source: Ofcom – based on data supplied by BT

Figure 13.2: DSAC:FAC ratio for 140/155 Mbit/s distribution



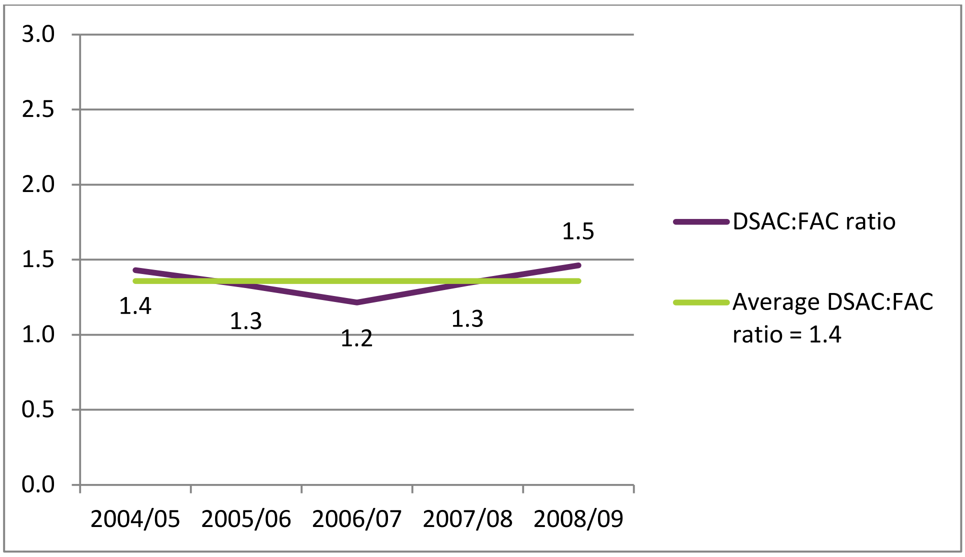
Source: Ofcom – based on data supplied by BT

Figure 13.3: DSAC:FAC ratio for 140/155 Mbit/s main link



Source: Ofcom – based on data supplied by BT

Figure 13.4: DSAC:FAC ratio for 140/155 Mbit/s local end



Source: Ofcom – based on data supplied by BT

13.64 As the charts show, there is some movement in the DSAC:FAC ratio between years, although the amount by which they move varies between services. BT's 140/155 Mbit/s local end services show the least variability, with the ratio being at most 10% above or below the average over the period. For the other services the ratio varies from the average by up to 15% to 19%, although this tends to reflect a spike or dip in a particular year rather than consistent fluctuations of this magnitude. However, it should be noted that for 140/155 Mbit/s terminating segment main link, there appears to be a step change in the ratio in 2007/08. This may be connected with the introduction of new cost components in this year (as discussed at paragraph 13.30.4). Prior to this step change, there was much less variation in the ratio.

13.65 Therefore, we accept that there is some variation in the ratio between FAC and DSAC between years, although we do not consider this is as severe as BT seeks to suggest in its response. If BT can demonstrate that, despite "*doing its level best*" to comply with its cost orientation obligations, a specific charge failed the DSAC test because the outturn DSAC was materially different to that forecast as a consequence of a change in the DSAC:FAC ratio that BT could not have reasonably foreseen, we can take this into account in our assessment of the charge. We consider BT's arguments in respect of specific charges below.

13.66 As set out in paragraph 13.35 above, the Disputing CPs argue in their comments on BT's response to our Draft Determinations that "*BT contends that there is no fixed ratio between FAC and DSAC*" and that this position is "*directly contradictory*" to its arguments in relation to the accuracy of its published DSACs in the Ethernet Disputes. The Disputing CPs argue that BT's two positions "*do not appear to be reconcilable*"[464]. BT's response to our Draft Determinations does not address the consistency of its arguments in this case and those it advanced in the Ethernet Disputes. However, in our view BT's positions can be reconciled. BT argued in its response to the Ethernet Provisional Conclusions that DSAC would normally be expected to lie above FAC for individual services. However, BT does not argue in that case that the specific ratio between DSAC and FAC is fixed over time despite FAC being used as an input for its LRIC calculations. Therefore, there does not appear to us to be an inconsistency between arguing that the ratio between DSAC and FAC may vary each year (as BT argues in this case) and that DSAC would normally be expected to be greater than FAC (as BT argues in the Ethernet Disputes).

Timeline for setting prices for PPCs

13.67 BT notes that precise cost allocations will not be known until the final ASPIRE model is run at the end of the year, and that the RFS are published after the end of the year to which they relate. We recognise that BT does not have contemporaneous published RFS data available when setting charges at the start of a financial year as such data is only available four to six months after the end of the financial year.

13.68 However, we consider that BT should not be solely reliant on its published accounts when setting charges, as the Disputing CPs argue, and that it should monitor the relationship between its charges and costs throughout the year. For example, we understand that BT generates 'draft' RFS documents prior to the publication of the final RFS for the year and that it has used these documents to inform its pricing decisions.[465] We would expect BT to use such draft or forecast accounts to monitor its compliance with its cost orientation obligations on an on-going basis throughout the year. Furthermore, we would expect BT to endeavour to use what data it has available to develop estimates or proxies for the costs of the services which are subject to cost orientation obligations and for which it may not have better data.

13.69 We also note the CAT's comment in the PPC Judgment that *"whilst no doubt a regulated firm can keep a month-by-month track of its costs and its prices, at the end of the day the conclusive figures (as published in the regulatory financial statements) will be retrospective ones"*.[466] With this in mind, we accept the potential relevance of the lag between when prices are notified and changed and when finalised regulatory financial information becomes available.

13.70 BT accepts that its approach *"may not have been all it that it should have been"* and it is not possible to be certain about what BT could have reasonably known had it been monitoring compliance appropriately. However, in assessing whether BT's

[464] Disputing CPs' comments on BT's response, paragraph 12.
[465] In BT's 20 May 2011 submission, BT referred to its 'draft' RFS and how it used it for pricing decisions. See paragraph 10.189 of the Ethernet Determinations.
[466] PPC Judgment, paragraph 299.

specific charges were cost orientated we consider BT's arguments and evidence that costs moved in a way that it could not have reasonably foreseen.

Conclusion on BT's arguments regarding difficulties in forecasting unit DSACs

13.71 We accept there may be some difficulty in accurately predicting DSACs for individual services in order to prospectively inform price setting. In light of any such difficulties, we would expect BT to have procedures in place to monitor its compliance with its obligations on an on-going basis. However, we do not consider this difficulty is necessarily as severe as BT implies, nor do we consider that it makes it impossible for BT to comply with its cost orientation obligations. Rather, we consider it appropriate to take account of forecasting difficulties where BT demonstrates that they apply in the case of specific charges. We consider these arguments with respect to the services in dispute below.

Assessment of specific services

13.72 We now undertake an assessment of each of the charges which exceed DSAC, taking into account the views of the Parties and in particular the following factors:

13.72.1 the relationship between revenue and FAC;

13.72.2 ROCE; and

13.72.3 the magnitude and duration by which revenues exceeded DSAC.

13.73 We also consider BT's charges for 140/155 Mbit/s terminating segment connection services in the first three financial years of the Relevant Period (i.e. 2004/05 to 2006/07), for which BT was unable to provide us with financial data to enable us to compare its charges with DSAC (see paragraph 9.31).

13.74 For each of the services considered, we set out the following information, where available:

13.74.1 internal and external volumes;

13.74.2 average external revenue;

13.74.3 unit DSAC and unit FAC;

13.74.4 revenue as a percentage of DSAC;

13.74.5 revenue as a percentage of FAC;

13.74.6 ROCE;[467] and

13.74.7 the price listed in the CPL.[468]

13.75 The measures of revenue, DSAC and FAC are based on BT's data as adjusted by Ofcom. Similarly, BT's ROCEs are calculated on the basis of BT's data as adjusted by Ofcom.

[467] CCA FAC rates of return on (mean) capital employed that BT earned each year on external sales of the relevant PPC services.
[468] We have CPL data for the services in dispute from October 2005.

13.76 We refer to this financial and pricing data in a number of different tables in this section. In each table, we highlight in grey where: the revenue/DSAC ratio is over 100% (i.e. where revenues are greater than DSAC); the revenue/FAC ratio is over 100% (i.e. where revenues are greater than FAC); and where the ROCE is greater than BT's average WACC across the period (which was around 12%).[469]

13.77 In relation to BT's revenues, we note that BT's reported and adjusted average revenues were in some circumstances different from the charges listed in the CPL. Where this is the case, it is principally because: (i) the average revenue figure includes our adjustments to BT's revenues (to improve the matching of resilience revenues and costs in 2006/07 to 2008/09); and/or (ii) the average revenue figure includes revenues for enhanced maintenance. Where there is a divergence between average revenues and the charges listed in the CPL, we rely on the average revenue for our assessment of overcharging, as this is what the CPs actually paid.

34/45 Mbit/s PPC trunk services

Our Draft Determinations

13.78 We provisionally found that BT's external revenues for 34/45 Mbit/s PPC trunk services exceeded DSAC for the final two financial years of the Relevant Period. BT's 34/45 Mbit/s PPC trunk charges were therefore not persistently above DSAC for the majority of the period and consideration of the specific circumstances surrounding BT's charges was warranted.

13.79 Based on our adjusted financial data, BT's external revenues exceeded DSAC by 10% and 27% in 2007/08 and 2008/09 respectively. Therefore, the extent to which charges exceeded DSAC grew over the two year period. We noted that, even on the basis of BT's unadjusted base data, revenues exceeded DSAC in both years (by 4% and 17% respectively) and followed the same increasing trend.

13.80 We provisionally concluded that external charges for 34/45 Mbit/s PPC trunk services did not exceed DSAC in 2005/06, based on our adjusted data. We noted that, using BT's unadjusted base data, its external charges exceeded DSAC in 2005/06. However, we explained that under BT's unadjusted base data the allocation of certain core distribution costs between trunk and terminating segments was inappropriate prior to 2006/07, resulting in trunk costs being understated. Reflecting this revised allocation methodology for 2004/05 and 2005/06 (i.e. the period before BT corrected its approach) was one of our most substantial adjustments to BT's cost data for 34/45 Mbit/s trunk services.

13.81 We explained that, given BT's charges for 34/45 Mbit/s PPC trunk services were unchanged between 2006/07 and 2008/09 (at £552 per km), the primary driver of external revenues exceeding DSAC in 2007/08 and 2008/09 was a significant reduction in unit DSAC compared to 2006/07. We set out our understanding that the change in unit DSACs between 2006/07 and 2007/08 was principally a result of CCA adjustments associated with duct assets.[470]

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[469] This is a time-weighted WACC that allows for the variations in BT's WACC over the Relevant Period (i.e. 13.5% in 2004/05, 12.3% in 2005/06, and 11.4% for 2006/07 to 2008/09).

[470] In its response of 7 October 2008 to Question 4 of our 1 October 2008 section 191 notice, BT explains that: "*The DSAC for the 34M/45 Mbit/s trunk segment has decreased in 2007/08 as a result of a CCA adjustments in both 2006/07 and 2007/08 reported years. In 2006/07 there was a write*

13.82 We responded to a number of arguments made by BT that it considered Ofcom should take into account when considering the implications of these circumstances for whether or not its 34/45 Mbit/s PPC trunk charges in 2007/08 and 2008/09 constituted overcharging. Specifically, BT argued that:

13.82.1 Between October 2008, when the 2004 charge controls ended, and the start of the new leased line charge controls (in September 2009), BT had given Ofcom a commitment (in response to Ofcom's request) to keep all PPC charges unchanged in nominal terms.[471]

13.82.2 As part of the 2009 LLCC review Ofcom did not require BT to make starting charge changes to the charges for 34/45 Mbit/s PPC trunk (whereas it did for 2 Mbit/s PPC trunk charges, for example). BT argued that this suggested that Ofcom did not have significant concerns with the level of 34/45 Mbit/s PPC trunk charges. It argues that if Ofcom had considered them to be materially out of line with underlying costs of provision, it would have required changes.

13.82.3 BT acted to reduce prices (by 34%) in December 2009 having become aware that prices had exceeded DSAC for two years (i.e. 2007/08 and 2008/09) and that the gap between price and DSAC had widened in 2008/09.

13.83 In relation to the pricing commitment given by BT to Ofcom, we noted that in paragraph 7.9 of the 2008 LLCC Consultation, we were clear that our expectations in relation to BT's pricing of TI terminating and trunk services were that *"[p]rices will not be increased in nominal terms between 1 October 2008 and the introduction of the charge control"*. We explained that it was therefore clear that our concern in relation to its pricing for TI services was to ensure BT did not use the gap between charge controls to increase its charges to the detriment of its customers. BT was however free to reduce prices where it chose to do so. Given our concern was ensuring protection to customers over the period, it is hard to see why BT considered any offer it made to us should have precluded it from adhering to its cost orientation obligations. Therefore, we provisionally concluded that BT's pricing commitments as part of the 2009 LLCC review had no meaningful significance to these Disputes.

13.84 We also provisionally concluded that BT should not derive comfort in relation to whether its charges are cost orientated from changes made to starting charges in the 2009 LLCC Statement and in particular the absence of an adjustment to charges for 34/45 Mbit/s PPC trunk services.

13.85 We explained that the revisions to the starting charges for the 2009 LLCC Statement stemmed from proposals made by BT (among others) to reduce its 2 Mbit/s trunk service charges. We noted that in the 2009 LLCC Statement, we expressly did <u>not</u> conclude that BT's proposals had addressed our concerns in relation to BT's PPC charges. Specifically, in paragraph 4.87 of the 2008 LLCC Consultation we noted that:

> *"BT's proposed prices <u>go some way</u> to addressing the key issues identified by us, by bringing prices within the DLRIC/DSAC floors and ceilings. However there are also some differences between our analysis and*

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down of duct assets where the asset life moved from 60 years to 40 years, conversely in 2007/08 there was a write up of duct assets based on the Piper revaluation."

[471] See Section 7 of the 2008 LLCC Consultation, especially paragraphs 7.6 and 7.7.

> *BT's…<u>we identified further services whose prices are outside our recalculated floors/ceiling</u>"* (emphasis added).

13.86 In addition, in paragraph 4.190 of the 2009 LLCC Statement we set out that it was not within the scope of the LLCC to require BT to bring the remaining services that we identified as outside the floors and ceilings back within them:

> *"We have concluded that it is not within the scope of these charge controls to require BT to bring the remainder of charges within appropriately measured DSAC and DLRIC. BT has an obligation to ensure that it complies with all its SMP obligations at all times and it is not within the scope of this Statement to examine BT's compliance. In setting these charge controls we therefore do not conclude on whether BT's charges are cost orientated or not."*

13.87 Therefore, in reviewing BT's proposals for starting charge adjustments, we had been explicit in the 2008 LLCC Consultation and 2009 LLCC Statement that:

13.87.1 BT has an obligation to ensure its own compliance with SMP obligations, including cost orientation, at all times;

13.87.2 BT should not infer any conclusions in relation to cost orientation from our decisions in the 2009 LLCC Statement; and

13.87.3 we considered there to be charges outside of the DLRIC/DSAC range that BT had not addressed in its proposals.

13.88 Finally, in considering BT's argument that it had acted to reduce prices in December 2009 when it became aware that prices had exceeded DSAC for two years, we stated that any submissions from BT about circumstances it wishes us to take into account in our assessment must be accompanied by a specific and evidence-based explanation of those circumstances (see paragraph 8.91 above). We provisionally concluded that BT had not provided such an explanation in relation to its 34/45 Mbit/s PPC trunk charges. Specifically BT had not explained why it considered the reduction in DSAC between 2006/07 and 2007/08 was not reasonably foreseeable. Nor had it explained why it considered that the reduction in costs in 2007/08 was likely to be only temporary and therefore justified not acting to change prices as soon as it discovered that charges were in excess of DSAC. Rather, it had only provided a description of the overall changes in unit DSACs and charges, which was not sufficient to satisfy us that its charges in 2007/08 and 2008/09 did not constitute overcharging. We explained that if BT was able to provide such evidence in response to our Draft Determinations, we would take this into account when reaching our final conclusion.

Views of the Parties

13.89 The Disputing CPs agree with our assessment and, in particular, support our provisional views on BT's arguments in relation to the fact that Ofcom did not require BT to make starting charge changes to 34/45 Mbit/s trunk charges in the 2009 LLCC Statement and the fact that it had acted to reduce prices (by 34%) in December 2009.[472]

[472] Disputing CPs' response to our Draft Determinations, paragraphs 7.3 to 7.5; Verizon response to our Draft Determinations, page 4.

13.90 BT did not provide further arguments or evidence beyond that considered in the Draft Determinations in relation to the relevance of:

13.90.1 the pricing commitment given to Ofcom; and

13.90.2 the 2009 LLCC starting charge changes.

13.91 However, it did make further arguments in relation to the extent to which it could have forecast prices to be above DSAC for the years relevant to these Disputes. It also argues that "*large drops in costs in some years...could not have been reasonably anticipated*"[473]. To support its argument, BT provides tables for 34/45 Mbit/s trunk showing three types of analysis:

13.91.1 Analysis of the main cost categories for 2006/07 to 2008/09[474] – [✂].[475]

13.91.2 Analysis of the main cost categories contributing to the changes in unit costs between 2006/07 and 2007/08 and between 2007/08 and 2008/09[476] – [✂].

13.91.3 Analysis of the underlying reasons for the main cost changes between 2006/07 and 2007/08 and between 2007/08 and 2008/09[477] – [✂].

13.92 We reproduce each of these tables in Annex 6 to these Determinations.

13.93 Based on this analysis, BT's response identifies a number of factors it considers show that it could not have predicted the changes in DSAC and BT argues that we should, therefore, find that it did not overcharge for 34/45 Mbit/s trunk services:

13.93.1 First, consistent with its general arguments set out in paragraphs 13.27 to 13.33 above, BT argues that it would have been difficult to derive an accurate FAC estimate. It notes there are over 500 cost pools that contribute to costs of the 34/45 Mbit/s trunk service, with the biggest single one (SDH) only accounting for 30% of costs. BT also points out that at least 96% of total costs are allocated to other services, meaning that small changes in the volumes of other services will have a large effect on the cost attributed to this service.[478] BT argues that, as a result, it is not sufficient to have a good view of the likely change in total cost, it is also necessary to be able to forecast how cost items will be allocated over all the services that

[473] BT's response to our Draft Determinations, paragraph 123.
[474] Table 2 of BT's response to our Draft Determinations, page 30.
[475] 'F8 codes' are the cost pools used as inputs by ASPIRE (BT's main financial reporting system). For more information on F8 codes see BT's Detailed Attribution Methods (DAM) document (published annually). For example, DAM 2009: http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2009/DetailedAttributionMethods.pdf.
[476] Table 3 of BT's response to our Draft Determinations, page 32.
[477] Table 4 of BT's response to our Draft Determinations, page 33.
[478] BT's response to our Draft Determinations, paragraphs 90 to 92.

share it. BT states that it is difficult to do this without running the ASPIRE model.

13.93.2 Second, BT argues that *"[t]he effects of the major events described previously that happened during 2007; CCA adjustments, Reorganisation, changes to 21CN accounting, could not have been reasonably foreseen or expected to cause a 62% reduction in operating costs."*[479] It argues that it had "*no reasonable reason*" to suspect its charge would be above DSAC in 2007/08 because in previous years the revenues earned were well below DSAC. It notes that if costs had been £2m higher, revenues would have been below DSAC. CCA adjustments alone caused a £4m reduction in costs, while £3.5m of the reduction came from small changes of less than £300k in 500 cost lines. It argues that these movements were beyond the capability of forecasting models to predict.[480]

13.93.3 Third, BT argues that even if an accurate FAC estimate were available, if it had relied on the DSAC:FAC ratio in 2007/08 being consistent with the previous year, it would have estimated DSAC to be 30% higher, and so would have seen no reason to reduce the price.[481]

13.93.4 Fourth, BT points out that when the 2007/08 DSAC figure became available, it showed a small excess over DSAC based on BT's published RFS. However, BT argues that, given the extent of the disruption and CCA revaluation, it could not be established whether this was a structural change to costs or a one-off implementation distortion – in short, there was *"no robust information available that would have led a reasonably prudent person to revise the charge in 2008/09"*.[482]

Our analysis

13.94 Owing to amendments we have made to our adjustments to BT's data (see Section 12), the data upon which we base our assessment of BT's 34/45 Mbit/s trunk services has changed from that used in the Draft Determinations.

13.95 Table 13.3 below shows the relevant comparisons of external DSAC, FAC and ROCE for 34/45 Mbit/s trunk services over the Relevant Period. Figure 13.5 shows the price per km listed in the CPL, the average external revenue per km, and the external DSAC per km for 34/45 Mbit/s PPC trunk services over the Relevant Period.[483]

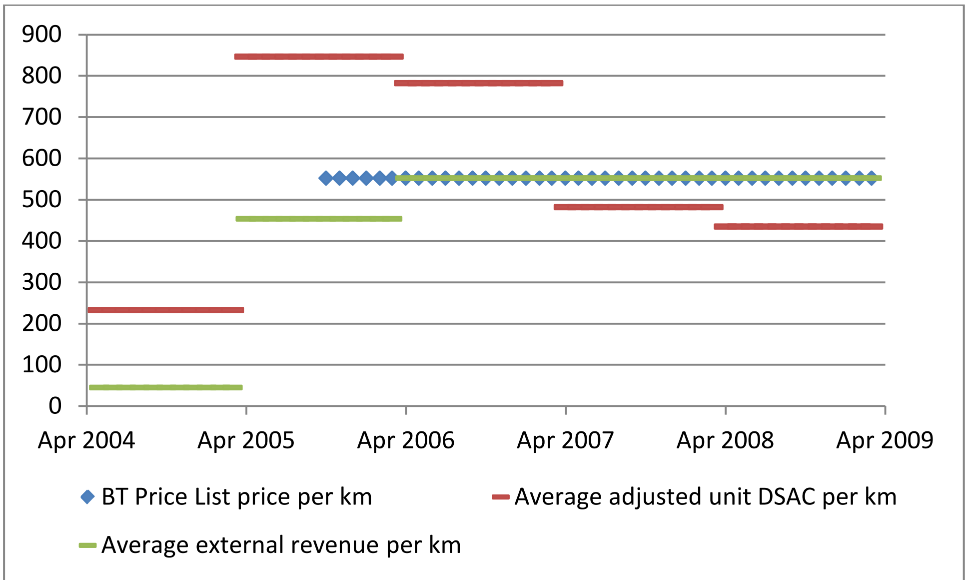
[479] BT's response to our Draft Determinations, paragraph 95.
[480] BT's response to our Draft Determinations, paragraph 96.
[481] BT's response to our Draft Determinations, paragraph 97.
[482] BT's response to our Draft Determinations, paragraph 98.
[483] CPL data relates to the period from October 2005.

Table 13.3: Key financial measures for 34/45 Mbit/s trunk services, as adjusted by Ofcom

34/45 Mbit/s trunk	2004/05	2005/06	2006/07	2007/08	2008/09
Internal volume, km	204,325	65,932	72,581	62,959	62,780
External volume, km	32,455	12,381	12,984	18,533	18,985
Total volume, km	236,780	78,313	85,565	81,492	81,765
Average external revenue, £ per km	45	454	552	552	552
External unit DSAC, £ per km	234	848	782	482	435
External revenue as % of DSAC	19%	54%	71%	115%	127%
External unit FAC, £ per km	122	519	371	274	250
External revenue as % of FAC	37%	87%	149%	201%	221%
External ROCE	-11%	6%	44%	57%	65%

Source: Ofcom – based on data supplied by BT
Note: In 2004/05 volumes were reported and provided to Ofcom by BT on a route-distance basis. Later years are reported and presented on a radial-distance basis and are therefore not directly comparable without the use of route to radial factors. As a consequence unit revenues and costs in 2004/05 are also not directly comparable with later years.

Figure 13.5: CPL price, unit DSAC and average external revenue for 34/45 Mbit/s trunk services, £ per km



Source: Ofcom – based on data supplied by BT
Note: In 2004/05 volumes were reported and provided to Ofcom by BT on a route-distance basis. Later years are reported and presented on a radial-distance basis and are therefore not directly comparable without the use of route to radial factors. As a consequence unit revenues and costs in 2004/05 are also not directly comparable with later years.

13.96 As shown in Table 13.3, we continue to find that BT's external revenues for 34/45 Mbit/s PPC trunk services exceeded DSAC for the final two financial years of the Relevant Period, but were below DSAC in the first three years. BT's 34/45 Mbit/s PPC trunk charges were therefore not persistently above DSAC for the majority of the period. As explained in paragraph 8.59 above, in such a situation, consideration of the specific circumstances surrounding BT's charges is warranted before concluding on whether overcharging has occurred.

13.97 Based on our adjusted financial data, BT's external revenues exceeded DSAC by 15% and 27% in 2007/08 and 2008/09 respectively. Therefore, the extent to which charges exceeded DSAC grew over the two year period. BT's revenues also exceeded FAC in these two years, and by a considerable margin (more than 100%). Moreover, BT's ROCEs in 2007/08 and 2008/09 were 57% and 65% respectively, both of which are significantly in excess of BT's WACC. Taken together, the evidence on FAC and ROCE would support a finding of overcharging in 2007/08 and 2008/09.

13.98 As we set out in Section 11, it is now our understanding that BT's DSACs published in its RFS appear not to reflect cost causation in their treatment of duct costs. In paragraphs 11.151 to 11.153, we explain that, although robust evidence is lacking, it seems likely that the DSACs of core transmission components are over-stated in BT's original methodology compared to the cost causation approach. As a result, the DSAC for 34/45 Mbit/s trunk (and 140/155 Mbit/s terminating segment distribution) services may be overstated in the DSAC methodology used in BT's published RFS. It is possible that, without this overstatement of DSACs, BT's revenues may have exceeded DSAC in 2007/08 and 2008/09 by a greater amount, which would reinforce any finding of overcharging. However, as discussed in paragraph 11.153, the extent of the over-statement of DSAC is not clear.

13.99 As BT has not provided further argument or evidence beyond that considered in the Draft Determinations in relation to the relevance of the pricing commitment given to Ofcom and the 2009 LLCC starting charge changes, we confirm our provisional conclusions in the Draft Determinations on these arguments. These are set out in paragraphs 13.81 and 13.82 above.

13.100 As we set out in the Draft Determinations, the reason why BT's charges for 34/45 Mbit/s trunk services failed the DSAC test in 2007/08 and 2008/09, but not in 2006/07, is that the unit DSAC decreased significantly between 2006/07 and 2007/08 and then fell further between 2007/08 and 2008/09. BT's charge remained the same over the three years. We also noted that the reduction in DSAC between 2006/07 and 2007/08 was principally a result of CCA adjustments associated with duct assets.

13.101 As we have set out in paragraph 13.46 above, it does not appear that BT made its pricing decisions for the services in dispute in this case using service-level DSAC information. It has not provided any contemporaneous evidence of the DSAC forecasts it used in setting charges. It has also not demonstrated that, despite "*doing its level best*" to comply with its cost orientation obligations, its charges exceeded DSAC due to specific circumstances that it was not reasonably able to foresee when it was setting its charges. Rather, BT has sought to show that even if it had priced 34/45 Mbit/s trunk services on the basis of DSAC, its charges could not reasonably have been expected to pass the DSAC test due to the nature of the cost movements over the Relevant Period. We consider BT's specific arguments and evidence in relation to 34/45 Mbit/s trunk below.

13.102 Before doing so, we make a general observation in relation to BT's evidence on cost movements for 34/45 Mbit/s trunk, which also applies to its evidence in relation to 140/155 Mbit/s terminating segment distribution and main link services. One of the key reasons for unit DSACs varying over time is the existence of holding gains and losses (i.e. CCA adjustments). Under a CCA approach, variation in the underlying value of assets will feed through into the costs for services.[484] BT's evidence on cost

[484] Consistent with our approach in the 2009 Final Determinations we include holding gains and losses within the costs of services in the year that BT identified them as arising in the RFS. We do not remove any holding gains or losses, nor do we reallocate them over time periods different to those used in the RFS. We received no arguments from Parties in response to our Draft Determinations that an alternative approach in this case was warranted.

movements includes "*CCA adjustments*" but BT does not disaggregate the CCA adjustments to show which assets they relate to and therefore it does not explain in detail the context in which they arose. For example, in 2006/07 BT shows that there was a large CCA adjustment, however BT does not identify it as relating to a change in duct life (we discuss this further at paragraphs 13.110 and 13.155.2 below). As we have set out at paragraphs 13.58 above, the extent to which a CCA adjustment can be reasonably forecast at the beginning of a financial year depends on the nature of the asset or the CCA adjustment.

13.103 As set out in paragraph 13.93 above, BT sets out in its response four specific arguments regarding 34/45 Mbit/s trunk services and why it considers its charges to be cost orientated despite exceeding DSAC in 2007/08 and 2008/09.

13.104 BT's first argument indicates the *potential* for movements in unit DSACs to arise from changes in the volumes of other services. However, BT has not demonstrated that the potential was realised in this case i.e. it has not demonstrated that the costs for 34/45 Mbit/s trunk services varied in a manner that was not reasonably foreseeable in 2007/08 or 2008/09 due to changes in the volumes of other services altering the proportion of common costs allocated to 34/45 Mbit/s trunk.

13.105 In its second argument, BT suggests that it experienced a 62% reduction in operating costs due to the "*major events*" that happened during 2007 (referred to in paragraph 13.30). First, we note that BT's analysis of "*operating costs*" is based on F8 code cost data that is generated by its ASPIRE model. These data are not DSAC cost data (which are produced using BT's LRIC model outputs). As a result, the cost movements identified in BT's analysis do not necessarily match the nature and/or scale of those observed in the detailed outputs of BT's DSAC modelling (which we discuss in paragraphs 13.176 to 13.177). Second, notwithstanding this observation, it is unclear how BT derives its estimate that operating costs fell by 62% between 2006/07 and 2007/08. Based on the analysis it presents in Table 3 of its response to our Draft Determinations, operating costs in 2006/07 were £26.9m and fell to £16.7m in 2007/08. This represents a reduction of 38%, not 62%. Total costs fell further in 2008/09 to £14.2m, representing a 15% reduction from 2007/08 or a 47% fall from 2006/07.

13.106 Further, BT argues that the reduction in costs between 2006/07 and 2007/08 "*could not have been reasonably foreseen or expected*". However, BT does not demonstrate that this is the case. As is shown in Tables 3 and 4 of BT's response to our Draft Determinations (and reproduced in Annex 6), using the F8 code cost data from ASPIRE, around 60% of the cost reduction is accounted for by changes in SDH depreciation and CCA adjustments.[485] As noted in paragraph 13.103, BT does not identify which assets the CCA adjustments relate to, nor does it explain why the adjustments "*could not have been reasonably foreseen or expected*".

13.107 However, we understand[486] that the major contributor is duct, as we set out in the Draft Determinations. In 2006/07 BT reduced duct asset life from 60 to 40 years

[485] As set out in paragraph 13.126 below, based on our analysis of the detailed outputs of BT's DSAC calculations we find that CCA adjustments are more important (around 90% of the cost reduction) in explaining the reduction in DSAC costs between 2006/07 and 2007/08 than BT's analysis of ASPIRE data suggests.

[486] In its response of 7 October 2008 to question 4 of the 1 October 2008 section 191 notice, BT explains that: "*The DSAC for the 34M/45 Mbit/s trunk segment has decreased in 2007/08 as a result of a CCA adjustments in both 2006/07 and 2007/08 reported years. In 2006/07 there was a write down of duct assets where the asset life moved from 60 years to 40 years, conversely in 2007/08 there was a write up of duct assets based on the Piper revaluation.*"

which gave rise to a large holding loss in 2006/07. As the holding loss was not repeated in 2007/08, BT's costs fell between 2006/07 and 2007/08. In addition, there was a change in SDH depreciation resulting from BT changing the asset life in response to the anticipated migration to 21CN (see Table 4 of BT's response to our Draft Determinations). The extent to which these two factors could have been reasonably foreseen by BT when setting its relevant charges depends upon when the decisions to change the economic lives of the assets were made. If, for example, the decisions were made in advance of setting charges, then the cost movement (at least its direction and approximate order of magnitude) could have been reasonably foreseen when the charges were set. If, however, the decision to change asset lives was made within the financial year (and was not previously anticipated), then it would not have been reasonably foreseeable when charges were set at the beginning of the year. BT has not provided any evidence to demonstrate that the timing of the decisions to change these asset lives meant that the resulting cost movements could not have been reasonably foreseeable when it set the 34/45 Mbit/s trunk charges for 2007/08. Indeed, as we note at paragraph 13.59 above, our understanding is that the 2006/07 revaluation of duct arose as a consequence of the Copper Statement which was published in August 2005 (i.e. at least 19 months before the start of 2007/08).

13.108 BT's third point is that if it had relied on the previous year's DSAC: FAC ratio for forecasting 2007/08 DSAC, it would have incurred a significant forecast error. First, at the start of 2007/08 BT would not have had access to the previous years' published RFS (i.e. 2006/07) as it was not published until August 2007. Second, it is not clear why BT should rely only on the previous year's ratio as a reasonable indication of the next year's ratio, rather than looking at an average over a number of years. This is particularly the case given that there is more variability in the DSAC: FAC ratio for 34/45 Mbit/s trunk than some of the other relevant services (see Figures 13.1 to 13.4 above). Using our adjusted numbers, the average ratio between 2004/05 and 2005/06 (i.e. the two most recent published RFS available to BT when setting 2007/08 charges) is around 180%. This compares to the actual DSAC: FAC ratio in 2007/08 of around 175%.

13.109 BT's fourth point is that when the 2007/08 DSAC figure became available, it showed a small excess in revenue over DSAC based on BT's published RFS but, "*[g]iven the extent of the disruption to the cost allocation and the large CCA revaluation*", there was *"no robust information available that would have led a reasonably prudent person to revise the charge in 2008/09"*[487]*.* BT did not provide specific evidence to demonstrate that its charge exceeding DSAC in 2007/08 could reasonably have been expected to be short-lived. We consider in more detail what BT could have reasonably inferred about its charges at different points in time (based on the information we are aware was at its disposal at the time) in the paragraphs below. However, as we explain above, BT's DSAC for 34/45 Mbit/s trunk in 2006/07 was inflated by a holding loss in relation to duct. The regulatory statement from which the change in duct life followed was published in August 2005. BT would have been able to interrogate the detailed outputs of its DSAC calculations for 2006/07 in August 2007 at the latest (i.e. when the 2006/07 RFS was published). This would have shown that, absent a reduction in charges, there was at least a material risk that the 2007/08 charge would fail the DSAC test. Although there may have been some uncertainty over the precision of any such analysis, in our view it would have provided sufficiently robust evidence to lead BT's "*reasonably prudent person*", mindful of their regulatory obligations, to reduce the charges for 2008/09.

[487] BT's response to our Draft Determinations, paragraph 98.

13.110 We therefore do not consider that BT's arguments in relation to its 34/45 Mbit/s trunk charges satisfactorily demonstrate that the charges in excess of DSAC in 2007/08 and 2008/09 were cost orientated.

13.111 We now consider the circumstances related to BT's 34/45 Mbit/s trunk charges and costs in 2007/08 and 2008/09 and the extent to which BT may have reasonably foreseen that its charges in 2007/08 and 2008/09 would exceed DSAC when setting those charges. Our analysis is based on the information we are aware was at BT's disposal at the different points in time relevant to its pricing decisions. While we accept that it is only when the RFS is published that BT has finalised cost and revenue information on a particular year, we would expect BT to have additional, more frequently generated, information which informs its pricing decisions. Indeed, as we set out in paragraph 13.68 evidence submitted by BT in the context of the Ethernet Disputes suggests that BT has 'draft' RFS documents that it has used to make pricing decisions. However, without a complete understanding of the key relevant information that BT had, or could reasonably have been expected to have, available to it when making its pricing decisions (e.g. in relation to when it took decisions to change asset lives) it is difficult to draw firm conclusions as to what BT could have reasonably foreseen in relation to how its charges would compare to DSAC and we refer to and take these evidential limitations into account where relevant.

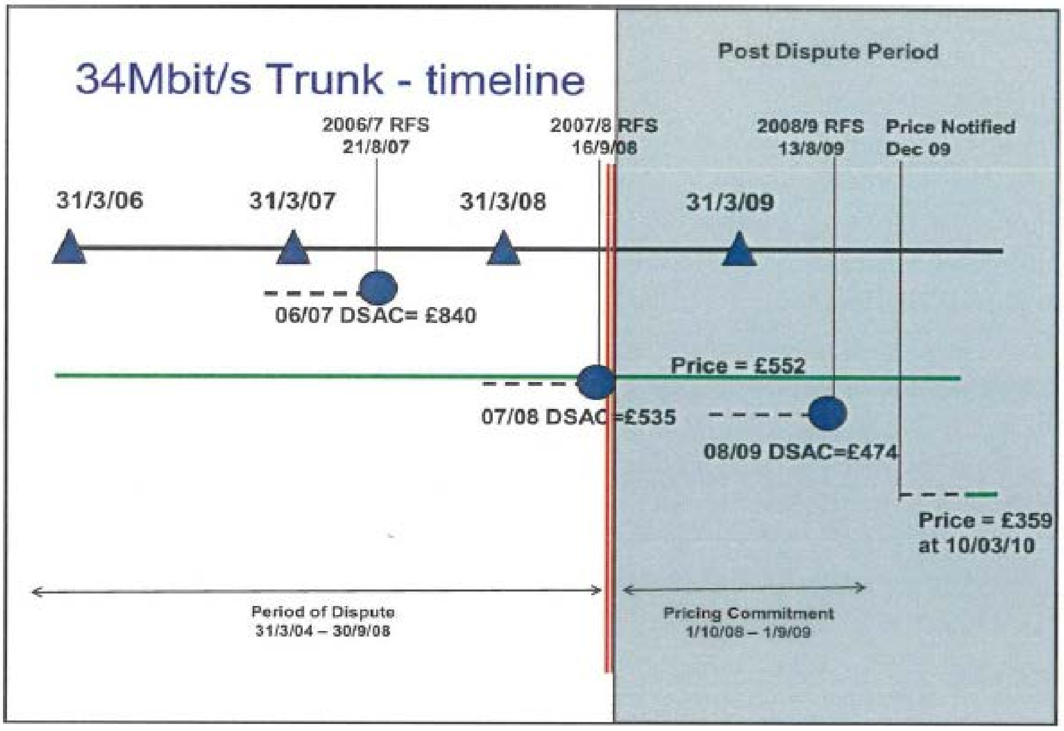
13.112 When BT sets charges at the start of the financial year it does not have access to the published RFS for the previous financial year. The RFS for the year ending 31 March of any year should be published by 31 July of that year.[488]Therefore there is a difference in the information available to BT at the start of the financial year and part way through that year. This distinction is particularly relevant to our consideration of BT's 34/45 Mbit/s trunk charges in 2007/08. Therefore, our discussion below distinguishes between the start of the 2007/08 financial year and part way through that year.

<u>Charges at the start of 2007/08</u>

13.113 As is shown in Figure 13.6,[489] at the start of 2007/08, the 2004/05 and 2005/06 RFS were the latest published regulatory accounts available to BT. As we noted in the Draft Determinations, on the basis of BT's unadjusted base data its charges exceeded DSAC in 2005/06 (i.e. charges represented 105% of DSAC), but were less than DSAC in 2004/05. However, as we explain in paragraph 12.118, BT's allocation of certain core distribution costs between trunk and terminating segments was inappropriate prior to 2006/07. This inappropriate allocation resulted in trunk costs being understated (and terminating segment distribution costs being overstated). Ofcom identified concerns relating to this in 2005 and BT implemented a revised methodology for the 2006/07 (and subsequent) RFS. BT was therefore aware from 2005 that its RFS data was inappropriate in this respect for the first two financial years of the Relevant Period.

[488] Although, for some years relevant to these Disputes, BT published the RFS late (in August or September).
[489] This is identical to Figure 11.1 in the Draft Determinations.

Figure 13.6: BT's pricing timeline for 34/45 Mbit/s trunk



Source: BT, Letter to Ofcom dated 27 May 2011

13.114 We therefore accept that the published regulatory accounting information available to BT in setting its charges for 2007/08 would not have been sufficiently reliable for it to set charges that it could have been confident would be in compliance with its cost orientation obligations, although we note that this was a consequence of deficiencies in BT's accounting analysis (its adoption of an inappropriate accounting approach in 2004/05 and 2005/06).

13.115 However, the Basis of Charges Condition relevant to 34/45 Mbit/s trunk services (Condition H3.1) was imposed on BT in 2004. It imposed on BT an obligation to ensure and be able to demonstrate that its charges were cost orientated. Therefore, from the time when the problems with its RFS methodology became apparent in 2005, BT should have established an approach to setting its charges that enabled it to comply with its obligations despite the lack of reliable published data in the RFS. For example, BT could have developed estimates for the costs, adjusting for the unreliable methodology. We have seen no evidence that BT took such steps.

13.116 The data presented in Table 13.3 above include our adjustments to BT's unadjusted base data and therefore include an adjustment to the DSACs for 2004/05 and 2005/06 to correct for the inappropriate allocation methodology for core transmission costs. On the basis of these Ofcom-adjusted data, we find that BT's charges for both 2004/05 and 2005/06 were below DSAC. Our understanding is that BT experienced a holding loss in 2005/06 in relation to its SDH core transmission equipment.[490] We understand this to have arisen from a reduction in the assumed economic life for

[490] As we have noted in paragraph 13.114 above, BT also experienced a large holding loss in 2006/07 in relation to its duct assets. This resulted in its DSAC costs for the year being temporarily elevated compared to the following years. However, we note that Table 13.3 shows that on the basis of our adjusted data, the unit DSAC for 34/45 Mbit/s trunk in 2005/06 exceeds that for 2006/07, despite the holding loss in 2006/07. Our understanding is that this is primarily because BT experienced a holding loss in 2005/06 in relation to SDH.

these assets. This holding loss resulted in a temporary increase in SDH costs for 2005/06. At the start of 2007/08, BT would have had access to the detailed accounting information for 2005/06 and, therefore, would have been aware of the (temporary) SDH holding loss for 2005/06.

13.117 This holding loss in relation to SDH costs in 2005/06 therefore introduced a further complication in relation to the robustness of the 2005/06 RFS data for setting charges in 2007/08 (in addition to the complication arising from the inappropriate allocation of core distribution costs between trunk and terminating segments discussed in paragraph 13.114).[491] However, we note that the two complications in relation to the 2005/06 unadjusted base data would not act in the same direction when considering what the 2007/08 unit DSAC was likely to be on the basis of the 2005/06 data:

13.117.1 the core transmission allocation issue would suggest that the unadjusted unit DSAC for 34/45 Mbit/s trunk in 2005/06 understated the underlying DSAC; while

13.117.2 including the effect of the SDH CCA holding loss in 2005/06 in an estimate of DSAC for 2007/08 would lead to an overstatement of costs as these one-off CCA costs would be expected to drop out of the accounts for years following 2005/06.

13.118 Accurately disentangling these opposing effects to establish a robust DSAC estimate for 2007/08 at the start of that year may have been difficult, particularly if the appropriate approach to allocating trunk and distribution costs (as used in the 2006/07 RFS for the first time) had not been determined. Therefore, while BT has not provided evidence which demonstrates that it could not have reasonably foreseen that its charge would exceed DSAC at the start of 2007/08, we are unable to draw firm conclusions as to whether or not it was reasonably foreseeable.

13.119 However, given its apparent lack of reliable costing data at the start of 2007/08, allied to the risk of those charges exceeding DSAC and its obligations in respect of cost orientation, we would expect BT to have closely monitored its costs for the service throughout 2007/08 and, specifically, monitored the extent to which they compared with its charges. Again, we have no evidence of BT engaging in such monitoring activity.

13.120 We also note that the lack of robust historical data for 2005/06 at the start of 2007/08 was caused by deficiencies in BT's own accounting systems. We consider that we should put limited weight on the lack of appropriate historical data arising from BT's own failings in considering whether BT's prices above DSAC are nevertheless cost orientated.

Charges in 2007/08 from August 2007

13.121 As noted in paragraph 13.119, 2006/07 was the first year when published DSAC figures that corrected for the trunk/distribution cost rebalancing issue were available for trunk services. This information was published mid-way through the 2007/08 financial year in August 2007 (although provisional drafts of the data may have been available internally earlier). This is shown in the timeline in Figure 13.6. The

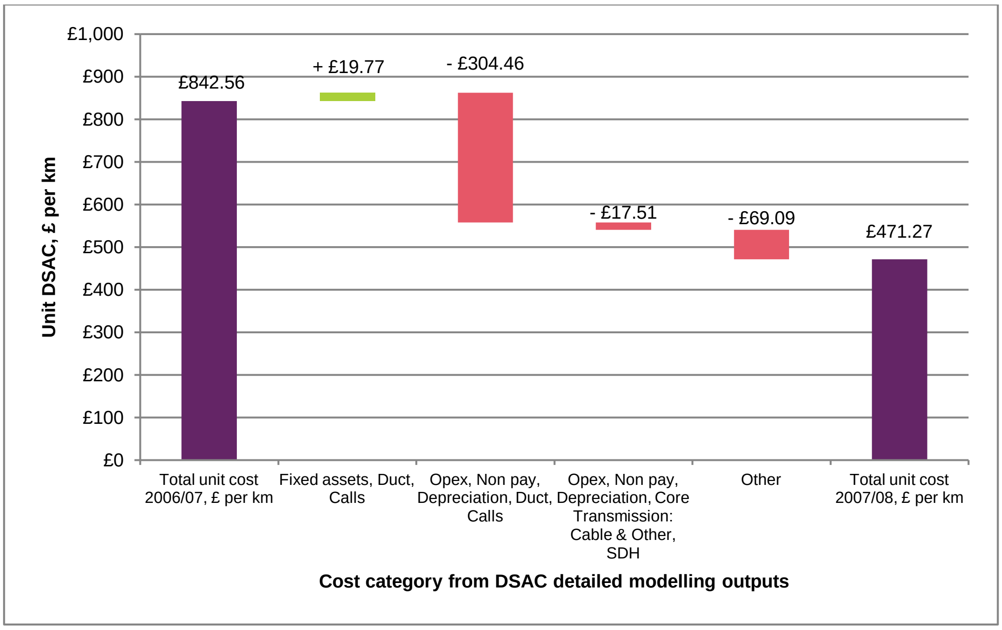
[491] We understand that the core distribution costs which were affected by the inappropriate allocation between trunk and terminating segments included the SDH costs affected by the CCA holding loss.

published data showed revenues were 66% of DSAC, with unit DSAC at £839.62.[492] Our adjusted data shows revenues were 71% of DSAC, with unit DSAC at £782.20. However, in this year there was a large holding loss which inflated costs.

13.122 Specifically, as we have explained above, the change to duct asset life (which gave rise to the large holding loss) followed a regulatory decision which was published in August 2005 (i.e. almost two full years before the 2006/07 RFS was due, and 19 months before the start of the 2007/08 financial year). Therefore, BT should have been aware that costs would be artificially high in 2006/07 due to this accounting change. In our view, BT should therefore have reasonably expected that costs would likely be substantially lower in 2007/08 than in 2006/07.

13.123 In Figure 13.7 below we present data on the changes between the 2006/07 and 2007/08 unit DSACs for the 34 Mbit/s trunk component[493]. The chart is based on Ofcom's analysis of the detailed outputs of BT's DSAC calculations (which come from BT's LRIC model)[494]; it therefore excludes the effect of Ofcom's costs adjustments which, in this case, reduce unit costs. There are over 400 cost categories within the model, therefore we have focussed on the changes attributable to the duct and SDH cost categories discussed in paragraph 13.53 above. The 'other' category captures the net effect of a number of both increases and decreases in the remaining 400 or so cost categories.[495]

Figure 13.7: Change in unit DSACs between 2006/07 and 2007/08, 34 Mbit/s trunk component



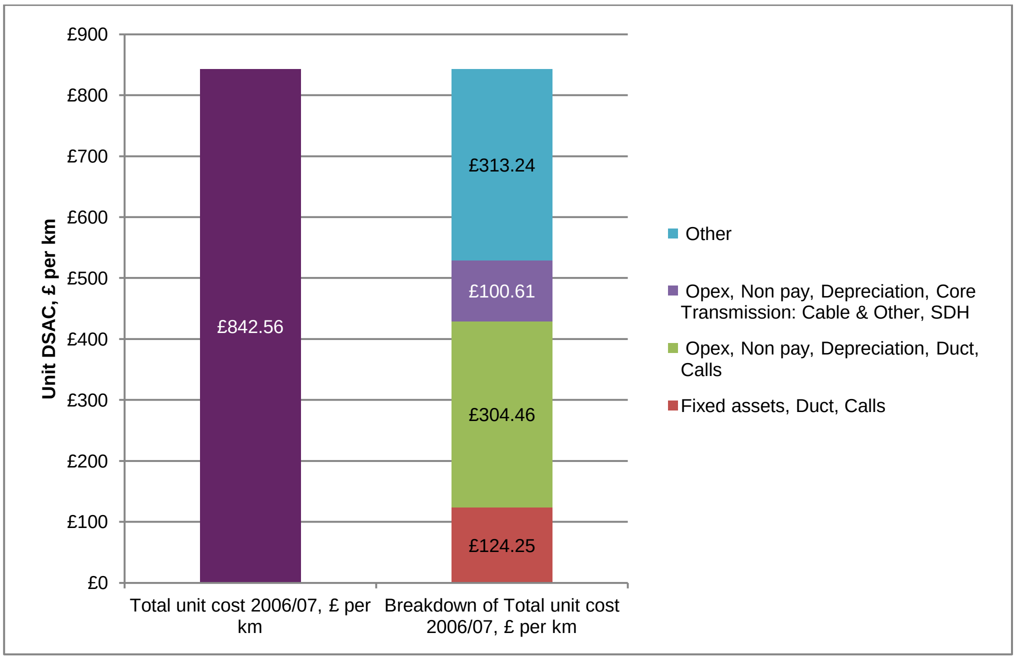
Source: Ofcom – based on data supplied by BT

[492] http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2007/CurrentCostFinancialStatements.pdf - see Section 4.8.
[493] i.e. 'PC rental 34Mbit link per km trunk'
[494] Total costs are extracted from BT's detailed DSAC calculations (i.e. the outputs of the LRIC model). However, to calculate unit costs we use service volumes provided by BT in its responses to the 23 December 2008 and 5 July 2011 section 191 notices. We do not use the component volumes reported in the outputs of the LRIC model as these incorporate errors that BT corrected in subsequent RFS restatements. We use a consistent approach to calculating unit costs in Figures 13.10 and 13.13 below.
[495] In Table 4 of BT's response to our Draft Determinations it refers to a number of cost changes that arise from reorganisations. These costs would be captured by our "other" category.

13.124 As we have noted in Section 11, BT's LRIC model produces outputs for components. These components are combined in a separate calculation to generate cost estimates for services. The costs for the 34/45 Mbit/s trunk service consist of the 34 Mbit/s trunk component plus two sales and general administration ("SG&A") components.[496] The 34 Mbit/s trunk component represents around 90% of the service costs on a FAC basis. Therefore, the difference between the unit DSACs for 2006/07 and 2007/08 reported in Figure 13.7 (i.e. £842.56 and £471.27 respectively) and the published service DSACs reported in Figure 13.6 (i.e. £840 and £535 respectively) appears to be accounted for, in part, by SG&A. However, in addition, to calculate unit costs in Figure 13.7 we use service volumes provided by BT in its responses to the 23 December 2008 and 5 July 2011 section 191 notices. These differ from those reported by BT in the RFS due to errors that BT corrected in subsequent RFS restatements. The unit costs in Figure 13.6 are based on the incorrect volumes originally published in the RFS. As Figure 13.7 demonstrates, while there were changes in a number of cost categories that contributed to the change in unit DSAC for 34/45 Mbit/s trunk between 2006/07 and 2007/08, the reduction in duct depreciation was the largest contributor. It represents over 80% of the net reduction in unit DSAC between the two years. As we have set out above, in 2006/07 duct depreciation costs were inflated due to the change in the assumed economic life of duct. Therefore, the observed decline in duct depreciation costs in 2007/08 represents a return to a more normal level of duct depreciation as compared to 2006/07.

13.125 In Figure 13.8 we present a breakdown of the total unit DSAC for the 34Mbit/s trunk component in 2006/07. More than a third of the DSAC for the 34 Mbit/s trunk component in 2006/07 related to duct depreciation[497] which, as we understand it, includes CCA adjustments.

Figure 13.8: Breakdown in unit DSAC for 2006/07, 34 Mbit/s trunk component



Source: Ofcom – based on data supplied by BT

[496] As shown on page 108 of the 2010 BT RFS, in 2008/09 the 34/45 Mbit/s trunk service consisted of the 'PC rental 34Mbit link per km trunk' component plus 'SG & A private circuits' and 'SG & A partial private circuits'.
[497] Cost category PLOPNPDPZZD3ZZZZ.C: Opex, Non pay, Depreciation, Duct, Calls

13.126 We are not able to split the depreciation costs for duct between the CCA adjustment and other depreciation. Therefore, we cannot identify the precise impact of the duct CCA adjustment on unit DSACs. However, in 2005/06 (and in 2007/08 and 2008/09) it was considerably lower than in 2006/07.[498]

13.127 As we show in Table 13.3, we find that BT's revenues per unit for 34/45 Mbit/s trunk services were around £230 below DSAC in 2006/07. As we have explained above, BT's DSAC costs for 2006/07 were inflated considerably by the duct holding loss in 2006/07. If BT had compared the amount of unit DSAC that duct depreciation represented in 2006/07 (i.e. around £304) to the surplus of DSAC over revenue for the year (i.e. £230) it would have identified at least as early as when the 2006/07 RFS was published in August 2007 that there was a material risk that its (unchanged) charges for 2007/08 would exceed DSAC, particularly given the lower level of duct depreciation in 2005/06 (i.e. £35 per km).[499] To the extent that BT generated preliminary runs of the LRIC modelling in advance of the RFS being published, it could have been aware of this risk in advance of August 2007. Therefore, BT could have identified a material risk of revenues exceeding DSAC by August 2007 at the latest (i.e. with seven or more months of 2007/08 remaining). However, it did not reduce its charges.

Charges in 2007/08: conclusions

13.128 As set out in paragraph 9.23, BT accepts that its approach to compliance with its cost orientation obligations during the Relevant Period *"may not have been all that it should have been"*. BT did not consider charges against service-level DSACs. It has not provided evidence in relation to the DSAC forecasts it used in setting the charges and why these forecasts were reasonable at the time, nor has it provided evidence of ongoing monitoring of its charges against DSACs. Indeed, BT has provided no evidence to demonstrate that it took any steps to ensure compliance with its obligations. We therefore do not consider BT, in this case, to have been doing its "*level best to comply*" with its cost orientation obligations.

13.129 Further, as we have set out in paragraphs 13.104 to 13.111 above, in our view, the evidence BT has provided is not sufficient to satisfy us that its charges above DSAC in 2007/08 (and 2008/09) were nevertheless cost orientated and we do not consider that BT has demonstrated that it could not have reasonably have foreseen the breach of the DSAC ceiling even if it had been considering DSAC data when setting charges.

13.130 In order to draw firm conclusions as to whether a charge in excess of DSAC could or could not have been reasonably foreseen when setting the charge, it is necessary to have an understanding of the key relevant information that BT would have had, or could reasonably have been expected to have had, at its disposal at the time it set the charge and throughout the period that the charge applied. BT's response to our Draft Determinations does not provide us with such information.

13.131 On the basis of the information we have available, we have not been able to draw firm conclusions as to whether BT could or could not have reasonably foreseen its charges in 2007/08 exceeding DSAC at the beginning of 2007/08. However, our analysis suggests that, at the latest, when the RFS for 2006/07 became available in

[498] i.e. £35 in 2005/06, £0 in 2007/08 and -£1 per km in 2008/09.
[499] As demonstrated by Figure 13.6, even on the basis of BT's unadjusted data, DSAC exceeded charges by £288 in 2006/07. Therefore, even using data excluding Ofcom's adjustments, BT could have identified a material risk of charges exceeding DSAC in 2007/08.

August 2007, BT could have been able to identify that there was a material risk that its charge for 2007/08 would exceed DSAC. However, BT did not reduce its charges.

13.132 We therefore continue to consider that BT has not provided us with evidence which demonstrates that its charges above DSAC for 34/45 Mbit/s trunk services in 2007/08 were nevertheless cost orientated.

13.133 On the basis of the information available to us, we therefore conclude that BT overcharged with respect to its 34/45 Mbit/s trunk service in 2007/08 on the basis that:

13.133.1 the charge exceeded DSAC by 15%;

13.133.2 given it seems likely that the DSACs of core transmission components are over-stated in the original DSAC methodology, this excess of BT's charge over DSAC for 34/45 Mbit/s trunk may be under-stated;

13.133.3 its charge also significantly exceeded FAC, resulting a ROCE that was many multiples of its relevant WACC;

13.133.4 BT has not demonstrated that its charge exceeded DSAC in 2007/08 despite it "*doing its level best*" to comply with its cost orientation obligations;

13.133.5 we have nevertheless considered BT's arguments as to why its charges were cost orientated despite exceeding DSAC. As we have set out in paragraphs 13.104 to 13.111, we do not consider that BT has demonstrated that the charge was cost orientated;

13.133.6 We have not been able to draw firm conclusions as to what BT could or could not have reasonably foreseen at the start of 2007/08. A deficiency in BT's accounting systems as regards the appropriate allocation of PPC costs meant that there was a lack of robust accounting data available to BT before the 2006/07 RFS was published in August 2007. However, we consider that we should put limited weight on the lack of appropriate historical data arising from BT's own failings in considering whether BT's prices above DSAC are nevertheless cost orientated;

13.133.7 BT does not appear to have developed suitable approaches to ensuring and monitoring compliance with its cost orientation obligations, despite having been aware of the deficiency in its accounting systems since 2005;

13.133.8 at the latest, by August 2007 BT could have been aware of the material risk that its charges for 2007/08 would exceed DSAC, yet BT did not reduce its charges until 2010.

<u>Charges in 2008/09</u>

13.134 Having concluded that BT charged for 34/45 Mbit/s trunk services in 2007/08, we have considered the following points as regards charges in 2008/09:

13.134.1 At the start of 2008/09, BT would have had time to observe and interrogate the 2006/07 data (which was available from August 2007 at the latest) more fully to appreciate the likely effect of the holding loss in relation to duct assets on the underlying cost data. This would have shown that there was at least a material risk that charges in 2007/08 (and therefore 2008/09, absent a reduction in charges) would exceed DSAC.

13.134.2 Further, part way through the year in August 2008 (see Figure 13.6) BT would have had data from 2007/08 showing that revenues had in fact exceeded DSAC in that year, and might be likely to exceed DSAC again. BT's unadjusted base data shows an excess of DSAC over revenues of 4% for 2007/08, although our revised data shows a larger excess of 15%. In 2008/09, the excess over DSAC actually increased (to 17% in the unadjusted base data, and 27% on the basis of our adjusted data).

13.134.3 As BT notes in its response, this reduction in costs in 2008/09 seems to be due to: (i) lower depreciation charges for SDH equipment; and (ii) rebates on rates (i.e. the cumulo rates referred to in paragraph 13.30.5 above). We note that, while these two changes in cost may have been less predictable than the change in duct costs discussed above, they are not determinative of the failure of the DSAC test in 2008/09; if BT's costs had not changed between 2007/08 and 2008/09 BT would have still failed the DSAC test in 2008/09.

13.134.4 However, BT did not reduce its prices until March 2010.

13.135 On the basis of the information available to us, we therefore conclude that BT also overcharged with respect to its 34/45 Mbit/s trunk service in 2008/09 on the basis that:

13.135.1 the charge exceeded DSAC for a second year and by 27%;

13.135.2 given it seems likely that the DSACs of core transmission components are over-stated in the original DSAC methodology, this excess of BT's charge over DSAC for 34/45 Mbit/s trunk may be under-stated;

13.135.3 its charge also significantly exceeded FAC, resulting a ROCE that was many multiples of its relevant WACC;

13.135.4 BT has not demonstrated that its charge exceeded DSAC in 2008/09 despite it "doing its level best" to comply with its cost orientation obligations;

13.135.5 we have nevertheless considered BT's arguments as to why its charges were cost orientated despite exceeding DSAC. As we have set out in paragraphs 13.104 to 13.111, we do not consider that BT has demonstrated that the charge was cost orientated;

13.135.6 Indeed, we find that BT could have been aware at the start of 2008/09 that there was at least a material risk that charges in 2008/09 would exceed DSAC (see paragraph 13.134.1);

13.135.7 further, from August 2008 at the latest BT would have been aware that its unchanged charge in 2007/08 had exceeded DSAC and might be likely to do so again in 2008/09 (see paragraph 13.134.2), yet BT did not reduce its charges until 2010.

140/155 Mbit/s PPC terminating segment distribution

Our Draft Determinations

13.136 We provisionally found that BT's external revenues for 140/155 Mbit/s terminating segment distribution services exceeded DSAC for the final two financial years of the Relevant Period. BT's 140/155 Mbit/s terminating segment distribution charges were therefore not persistently above DSAC for the majority of the period and consideration of the specific circumstances surrounding BT's charges was warranted.

13.137 Based on our adjusted financial data, BT's external revenues for 140/155 Mbit/s terminating segment distribution services exceeded DSAC by 15% and 25% in 2007/08 and 2008/09 respectively. Therefore, the extent to which charges exceeded DSAC grew over the two year period, as we also observed for 34/45 Mbit/s trunk services. We noted that although our adjustments to BT's data increased the extent to which revenues exceeded DSAC, even on BT's unadjusted base data revenues exceeded DSAC in both years (by 2% and 11% respectively) and followed the same increasing trend.

13.138 We explained that, given BT's charges for 140/155 Mbit/s terminating segment distribution services were unchanged between 2006/07 and 2008/09 (at £1215 per km), the primary driver of external revenues exceeding DSAC in 2007/08 and 2008/09 was a significant reduction in unit DSAC.

13.139 We set out in the Draft Determination that our analysis of BT's detailed DSAC modelling outputs suggests that the reduction in unit DSAC between 2006/07 and 2007/08 was primarily a consequence of a reduction in duct depreciation costs. We observed that BT's charges therefore exceeded DSAC for the final two years of the period as a consequence of a substantial reduction in costs which it did not contemporaneously pass through to customers by way of price reductions.

13.140 We stated that if BT wishes us to take specific circumstances surrounding a charge into account when assessing overcharging, it needs to provide us with an explanation of the specific reasons why it considered a cost reduction was either not reasonably foreseeable, or likely to be temporary in nature. We considered that BT had not yet provided us with such an explanation. Specifically, BT had only provided a description of the overall changes in unit DSACs and charges, which was not sufficient for us to consider charges that have exceeded DSAC for two years to be nevertheless appropriate. However, we explained that if BT was able to provide such evidence in response to our Draft Determinations, we would take this into account when reaching our final conclusion.

Views of the Parties

13.141 In its response to our Draft Determinations, BT provides similar analysis for 140/155 Mbit/s terminating segment distribution as it provides for 34/45 Mbit/s trunk:

13.141.1 Analysis of the main cost categories for 2006/07 to 2008/09[500] – [✂].[501]

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[500] Table 8 of BT's response to our Draft Determinations, page 38.

[501] 'F8 codes' are the cost pools used as inputs by ASPIRE (BT's main financial reporting system). For more information on F8 codes see BT's Detailed Attribution Methods (DAM) publication.

13.141.2 Analysis of the main cost categories contributing to the changes in unit costs between 2006/07 and 2007/08 and between 2007/08 and 2008/09[502] – [✂].

13.141.3 Analysis of the underlying reasons for the main cost changes between 2006/07 and 2007/08 and between 2007/08 and 2008/09[503] – [✂].

13.142 We reproduce each of these tables in Annex 6 to this document.

13.143 Based on this analysis, BT's response identifies two specific factors it considers we should take into account which show that it could not have predicted the changes in DSAC and that we should therefore find that it has not overcharged for 140/155 Mbit/s terminating segment distribution services:

13.143.1 First, BT argues that 96% of total costs are allocated to other services, and therefore the cost of 140/155 Mbit/s terminating segment distribution services is heavily influenced by the volumes of other services.[504]

13.143.2 Second, for 2007/08, BT argues that the main reduction in cost was caused by a CCA revaluation which reduced costs by almost £5m. It argues that, if CCA adjustments "*had been in line with expectations*", its charge would have been substantially below DSAC. It argues that it could not have reasonably foreseen the large cost reduction, and would not reasonably have been able to predict two years ahead to determine if it was transitory or if costs would rise in future years.[505]

13.144 The Disputing CPs did not comment on our assessment of BT's charges for 140/155 Mbit/s terminating segment distribution services.

Our analysis

13.145 Owing to amendments we have made to our adjustments to BT's data (see Section 12), the data upon which we base our assessment of BT's 140/155 Mbit/s terminating segment distribution services has changed from that used in the Draft Determinations.

13.146 Table 13.4 below shows the relevant comparisons of external DSAC, FAC and ROCE for 140/155 Mbit/s terminating segment distribution services over the Relevant Period. Figure 13.9 shows the price per km listed in the CPL, the average external revenue per km, and the external DSAC per km for 140/155 Mbit/s terminating segment distribution services over the Relevant Period.[506]

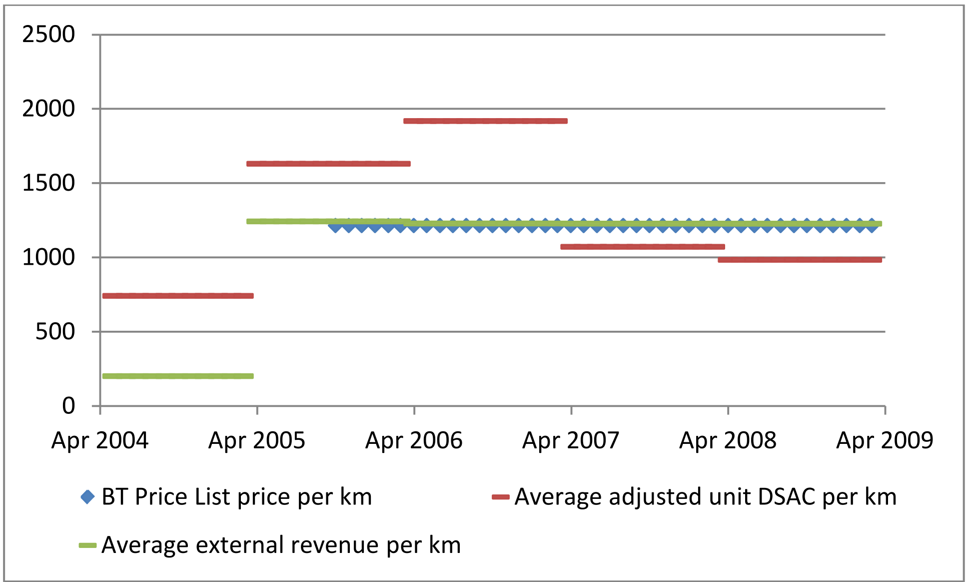
[502] Table 9 of BT's response to our Draft Determinations, page 40.
[503] Table 10 of BT's response to our Draft Determinations, page 41.
[504] BT's response to our Draft Determinations, paragraph 108.
[505] BT's response to our Draft Determinations, paragraphs 109 and 110.
[506] CPL data relates to the period from October 2005.

Table 13.4: Key financial measures for 140/155 Mbit/s terminating segment distribution services, as adjusted by Ofcom

140/155 Mbit/s distribution	2004/05	2005/06	2006/07	2007/08	2008/09
Internal volume, km	83,932	37,236	30,969	27,665	26,510
External volume, km	1,253	452	637	1,140	1,286
Total volume, km	85,185	37,688	31,606	28,805	27,796
Average external revenue, £ per km	201	1,243	1,229	1,228	1,227
External unit DSAC, £ per km	747	1,638	1,932	1,071	985
External revenue as % of DSAC	27%	76%	64%	115%	125%
External unit FAC, £ per km	357	836	783	567	492
External revenue as % of FAC	56%	149%	157%	216%	249%
External ROCE	-3%	37%	39%	60%	67%

Source: Ofcom – based on data supplied by BT
Note: In 2004/05 volumes were reported and provided to Ofcom by BT on a route-distance basis. Later years are reported and presented on a radial-distance basis and are therefore not directly comparable without the use of route to radial factors. As a consequence unit revenues and costs in 2004/05 are also not directly comparable with later years.

Figure 13.9: CPL price, unit DSAC and average external revenue for 140/155 Mbit/s terminating segment distribution services, £ per km



Source: Ofcom – based on data supplied by BT
Note: In 2004/05 volumes were reported and provided to Ofcom by BT on a route-distance basis. Later years are reported and presented on a radial-distance basis and are therefore not directly comparable without the use of route to radial factors. As a consequence unit revenues and costs in 2004/05 are also not directly comparable with later years.

13.147 As shown in Table 13.4, we continue to find that BT's external revenues for 140/155 Mbit/s terminating segment distribution services exceeded DSAC for the final two financial years of the Relevant Period, but were below DSAC in the first three years. These findings are not sensitive to our adjustments – if we use BT's unadjusted base data (i.e. without our adjustments) we find that charges are below DSAC for the first three years and above DSAC for the final two years. BT's 140/155 Mbit/s terminating segment distribution charges were therefore not persistently above DSAC for the majority of the Relevant Period. As explained in paragraph 8.59 above, under such a situation, consideration of the specific circumstances surrounding BT's charges is warranted before concluding on whether overcharging has occurred.

13.148 Based on our adjusted financial data, BT's external revenues exceeded DSAC by 15% and 25% in 2007/08 and 2008/09 respectively. Therefore, the extent to which charges exceeded DSAC grew over the two year period. BT's revenues also exceeded FAC in these two years, and by a considerable margin (by 116% and 149% respectively). Moreover, BT's ROCE in 2007/08 and 2008/09 was 60% and 67% respectively, both of which are significantly in excess of BT's WACC. Taken together, the evidence on FAC and ROCE would support a finding of overcharging in 2007/08 and 2008/09.

13.149 As we set out in the Draft Determinations, and as with our finding for 34/45 Mbit/s trunk services, the reason why BT's charges for 140/155 Mbit/s terminating segment distribution services exceeded DSAC in 2007/08 and 2008/09, but not in 2006/07, is that the unit DSAC reduced significantly between 2006/07 and 2007/08 and then fell further between 2007/08 and 2008/09. BT's charge remained the same over these three years. We also noted that the reduction in DSAC between 2006/07 and 2007/08 was principally a result of CCA adjustments associated with duct assets.

13.150 Although we provisionally concluded in the Draft Determinations that BT had not yet provided us with sufficient evidence upon which to satisfy ourselves that its charges in 2007/08 and 2008/09 did not constitute overcharging, we noted that if BT was able to provide us with such evidence in response to the Draft Determinations, we would take it into account in reaching our final conclusions. However, we noted that, if BT wishes us to take specific circumstances surrounding a charge into account when assessing overcharging, it needs to provide us with an explanation of the specific reasons why it considered a cost reduction was either not reasonably foreseeable, or likely to be temporary in nature.

13.151 As we have set out in paragraph 13.46 above, it does not appear that BT made its pricing decisions for the services in dispute in this case using service-level DSAC information. It has therefore not provided any contemporaneous evidence of the DSAC forecasts it used in setting charges. It has also not demonstrated that, despite "*doing its level best*" to comply with its cost orientation obligations, its charges exceeded DSAC due to specific circumstances that it was not reasonably able to foresee when it was setting its charges.

13.152 Rather, as we have explained in the context of 34/45 Mbit/s trunk services, BT has sought to show that even if it had priced the relevant services on the basis of DSAC, its charges could not reasonably have been expected to pass the DSAC test due to the nature of the cost movements observed over the period. We consider BT's specific arguments and evidence below.

13.153 In paragraph 13.103 above we made a general observation on the evidence BT supplied in relation to CCA adjustments. This observation also applies to the evidence BT supplied in relation to its 140/155 Mbit/s terminating segment distribution services.

13.154 As set out in paragraph 13.144 above, BT sets out in its response two specific arguments regarding its 140/155 Mbit/s terminating segment distribution services. In our view:

13.154.1 With respect to BT's first argument, as we have set out in relation to 34/45 Mbit/s trunk services (see paragraph 13.105 above), while there may be the potential for movements in unit DSACs to arise from changes in the volumes of other services, BT has not demonstrated this was actually the case for 140/155 Mbit/s terminating segment distribution in 2007/08 or 2008/09.

13.154.2 BT's second argument is in relation to a CCA adjustment in 2006/07 dropping out of the cost stack in 2007/08. It argues that it could not have reasonably foreseen the large cost reduction, and would not reasonably have been able to predict two years ahead to determine if it was transitory or if costs would rise in future years.[507] We discuss the issues relevant to this argument in paragraph13.156.11 below (although they are similar to those discussed above in relation to 34/45 Mbit/s trunk services). BT does not provide evidence to explain and demonstrate that it could not have foreseen the reduction in costs associated with the CCA adjustments between 2006/07 and 2007/08 when setting charges in 2007/08. The higher CCA costs in 2006/07 related to the large holding loss arising from a change in duct life. Our understanding is that this duct life assumption change followed the Copper Statement. BT has not provided evidence to demonstrate that the timing of the decisions to change duct life meant that the resulting cost movements could not have been reasonably foreseeable when it set its charges for 2007/08.

13.155 Reflecting the similarities in the cost base between trunk and terminating distribution services, the following circumstances appear relevant both to BT's 34/45 Mbit/s trunk service charges and its 140/155 Mbit/s terminating segment distribution charges:

13.155.1 charges exceeded DSAC for both services in 2007/08 and 2008/09 and by broadly similar amounts. In both cases the excess of revenue over DSAC increased in 2008/09 as compared to 2007/08;

13.155.2 given it seems likely that the DSACs of core transmission components are over-stated in the original DSAC methodology, the excess of BT's charge over DSAC in both cases may be under-stated;

13.155.3 in both cases the excess of revenue over DSAC arises from a reduction in costs between 2006/07 and 2007/08. Further, for both, costs reduce again in 2008/09;

13.155.4 although costs decreased further in 2008/09 for both services, even without these further decreases in cost, BT's charges would still have been above DSAC in 2008/09 as prices did not change from 2007/08;

13.155.5 BT's ROCE on both services from 2006/07 onwards was many multiples of its cost of capital;

13.155.6 for both services, the latest published RFS available at the start of 2007/08 was the 2005/06 RFS. However, the 2006/07 RFS was available for setting charges in 2008/09;

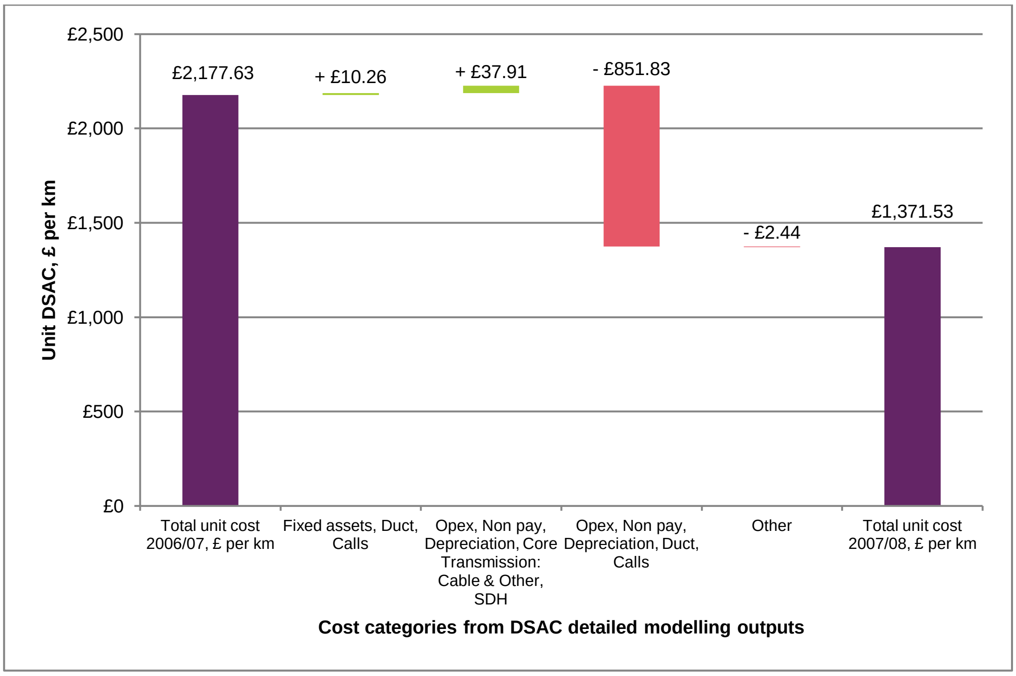
13.155.7 the RFS for 2005/06 (and 2004/05) for both types of service contained data that was based on an inappropriate allocation of trunk and distribution costs and therefore was not a reliable basis for setting charges in 2007/08. Further, the costs of both services in 2005/06 were affected by a large holding loss associated with SDH core transmission equipment (i.e. costs were higher in 2005/06 in this respect than later years);

[507] BT's response to our Draft Determinations, paragraphs 109 and 110.

13.155.8 in both cases, despite apparently having no reliable published data upon which to set charges at the beginning of 2007/08, we have no evidence that BT sought to establish reasonable estimates or proxies. Nor do we have evidence that BT sought to monitor its compliance with its obligations over 2007/08 in light of the absence of reliable published information. We would expect a firm subject to cost orientation obligations to undertake such activities;

13.155.9 as both use broadly the same types of network assets, the primary reason why costs dropped between 2006/07 and 2007/08 is the same; in 2006/07 there was a large holding loss associated with a revaluation of duct which was not repeated in 2007/08. In Figure 13.10 we present the equivalent chart to that presented in Figure 13.7 but for 140/155 Mbit/s terminating segment distribution rather than 34/45 Mbit/s trunk services.[508] This shows that the duct holding loss reduced unit costs by around £850 per km between 2006/07 and 2007/08. We note that, as for Figure 13.7, the data presented in Figure 13.10 excludes Ofcom's cost adjustments.[509]

Figure 13.10: Change in unit DSACs between 2006/07 and 2007/08, 140/155 Mbit/s terminating distribution component



Source: Ofcom – based on data supplied by BT

13.155.10 As with 34/45 Mbit/s trunk, the lack of reliable published accounting data in 2005/06 means that we are not able to draw firm conclusions as to whether BT could have reasonably foreseen at the start of 2007/08 that its charge would exceed DSAC.

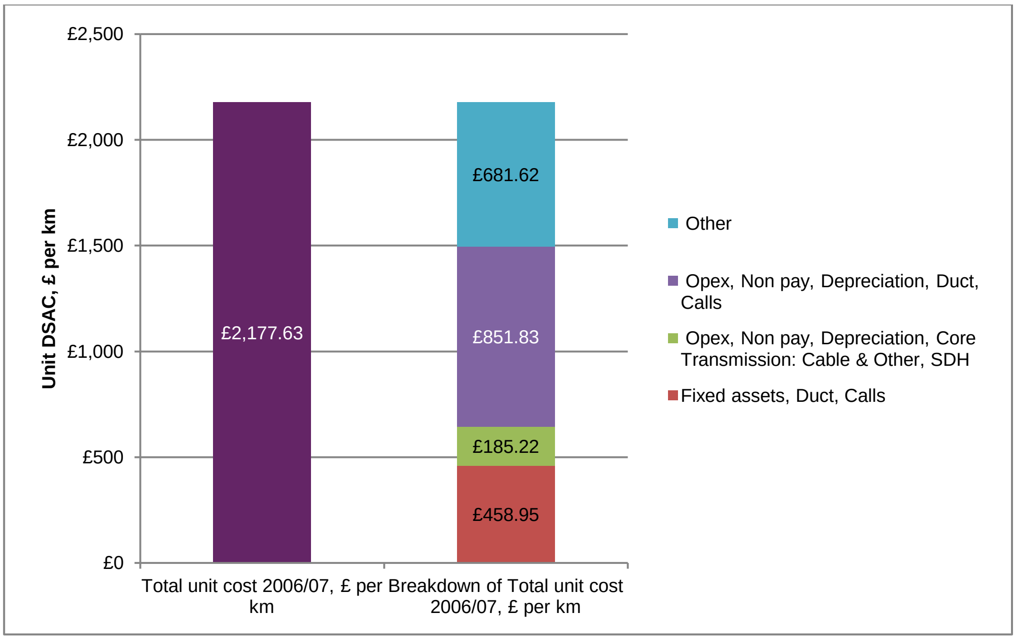
13.155.11 However, also as with 34/45 Mbit/s trunk, from August 2007 at the latest, when the 2006/07 RFS was published, BT could have identified and

[508] Our cost adjustments for 140/155 Mbit/s terminating segment distribution are more substantial than those we make for 34/45 Mbit/s trunk services. Therefore, the unit costs in Figure 13.10 are lower than those reported in Table 13.4 above, particularly in relation to 2006/07.

[509] The data relates to the 140 Mbit/s terminating segment distribution component – the service costs also include some additional SG&A costs, as we explained in relation to 34/45 Mbit/s trunk services.

estimated the scale of the effect of the duct holding loss on the DSAC for 2006/07 and therefore could have been aware of the material risk that its unchanged charges for 2007/08 would exceed DSAC. In Figure 13.11 we present the equivalent chart to that presented in Figure 13.8 but for 140/155 Mbit/s terminating segment distribution rather than 34/45 Mbit/s trunk services. We note that, as for Figure 13.8, the data presented in Figure 13.11 excludes Ofcom's cost adjustments.[510] As we noted for 34Mbit/s trunk components, more than a third of the DSAC for the 140Mbit/s distribution component in 2006/07 related to duct depreciation[511] which, as we understand it, includes CCA adjustments.[512] As shown in Table 13.4 above, DSAC was around £703 greater than BT's charge in 2006/07 (i.e. £1932 per km compared to a charge of £1229). If BT had compared the amount of unit DSAC that duct depreciation represented in 2006/07 (i.e. around £852) to the surplus of DSAC over revenue for the year (i.e. £703), it would have identified at least as early as August 2007 that there was a material risk that its (unchanged) charges for 2007/08 would exceed DSAC, particularly given the lower level of duct depreciation in 2005/06 (i.e. £149 per km). As for 34/45 Mbit/s trunk, BT did not reduce its charges in response to this risk.

Figure 13.11: Breakdown in unit DSAC for 2006/07, 140Mbit/s terminating distribution component



Source: Ofcom – based on data supplied by BT

13.156 BT did not change its charges between 2006/07 and 2008/09 even when it became clear, on the basis of the 2007/08 RFS (published in September 2008), that BT's charges exceeded DSAC in that year and were likely to do so again at the start of 2008/09.

[510] The data relates to the 140 Mbit/s terminating segment distribution component – the service costs also include some additional SG&A costs, as we explained in relation to 34/45 Mbit/s trunk services.
[511] Cost category PLOPNPDPZZD3ZZZZ.C: Opex, Non pay, Depreciation, Duct, Calls
[512] Duct depreciation in 2007/08 was zero, hence the proportion of total unit DSAC related to duct depreciation in Figure 13.11 is the same as the change in unit DSAC in Figure 13.10.

13.157 In our view, and on the basis of the information available to us, these circumstances support a conclusion that BT overcharged in 2007/08 and 2008/09 for 140/155 Mbit/s terminating segment distribution, as we have found for 34/45 Mbit/s trunk services. This is on the basis that:

13.157.1 the charge exceeded DSAC by 15% in 2007/08 and 25% in 2008/09;

13.157.2 given it seems likely that the DSACs of core transmission components are over-stated in the original DSAC methodology, this excess of BT's charge over DSAC for 140/155 Mbit/s terminating segment distribution may be under-stated;

13.157.3 its charges also significantly exceeded FAC in both years, resulting in a ROCE that was many multiples of its relevant WACC;

13.157.4 BT has not demonstrated that its charges above DSAC in 2007/08 and 2008/09 were despite it undertaking best endeavours to comply with its obligations;

13.157.5 BT has not demonstrated that its charges exceeded DSAC in 2007/08 and 2008/09 despite it "*doing its level best*" to comply with its cost orientation obligations;

13.157.6 we have nevertheless considered BT's arguments as to why it considers its charges were cost orientated despite exceeding DSAC. As we have set out in paragraph 13.155, we do not consider that BT has demonstrated that the charge was cost orientated;

13.157.7 we have not been able to draw firm conclusions as to what BT could or could not have reasonably foreseen at the start of 2007/08. A deficiency in BT's accounting systems as regards the appropriate allocation of PPC costs meant that there was a lack of robust accounting data available to BT before the 2006/07 RFS was published in August 2007. However, as we set out in the context of BT's 34/45 Mbit/s trunk services, we consider that we should put limited weight on the lack of appropriate historical data arising from BT's own failings in considering whether BT's prices above DSAC are nevertheless cost orientated;

13.157.8 BT does not appear to have developed suitable approaches to ensuring and monitoring compliance with its cost orientation obligations, despite having been aware of the deficiency in its accounting systems since 2005;

13.157.9 at the latest, by August 2007 BT could have been aware of the material risk that its charges for 2007/08 would exceed DSAC;

13.157.10 further, from August 2008 at the latest BT would have been aware that its unchanged charge in 2007/08 had exceeded DSAC and might be likely to do so again in 2008/09, yet BT did not reduce its charges until 2010.

140/155 Mbit/s PPC terminating segment main link

Our Draft Determinations

13.158 We provisionally found that BT's external revenues for 140/155 Mbit/s terminating segment main link services exceeded DSAC for only one of the financial years of the Relevant Period – 2006/07. Consideration of the specific circumstances surrounding BT's charges was therefore warranted before drawing conclusions on whether this constituted overcharging.

13.159 Based on our adjusted financial data, BT's external revenues for 140/155 Mbit/s terminating segment main link services exceeded DSAC by 74% in 2006/07. However, we noted that both in the previous financial years and the following financial years, external revenues were generally significantly below DSAC.

13.160 We explained that, given BT's charges were unchanged between 2005/06 and 2008/09 (£10,392 per link), the primary driver of external revenues exceeding DSAC was therefore changes in unit DSAC.

13.161 We identified that BT's unit DSACs declined significantly between 2005/06 and 2006/07 from around £12,000 per link to around £8,000 per link, before reverting back to a similar level as in 2004/05, around £25,000 and £21,000 in 2007/08 and 2008/09 respectively. In the Draft Determinations, we said that there appeared to be two main factors driving these movements:

13.161.1 first, our analysis of BT's detailed DSAC calculations suggested that between 2005/06 and 2006/07 unit DSAC fell by a third, primarily (albeit not only) as a consequence of reductions in SDH distribution asset depreciation; and

13.161.2 second, between 2006/07 and 2007/08 unit DSACs more than trebled, principally as a result of the inclusion of indirect costs specifically associated with 21CN that had previously not been included in the main link service cost stack.

13.162 In light of this, we explained that it seemed reasonable to conclude that BT's charge for 140/155 Mbit/s PPC terminating segment main link services in 2006/07 was cost orientated if, for example, BT was able to demonstrate to our satisfaction that:

13.162.1 there were specific reasons why a reduction in unit DSAC in 2006/07 was not reasonably foreseeable; and

13.162.2 given that BT did not change its prices in response to the charge being above DSAC for one year, there were specific reasons why it considered it reasonable to expect that unit DSACs in the years following 2006/07 would increase.

13.163 We considered that BT had not yet provided us with sufficient evidence upon which to satisfy ourselves that its charges in 2006/07 did not constitute overcharging. Specifically, BT had not provided any additional representations on its 140/155 Mbit/s PPC terminating segment main link services beyond those considered in the 2009 Final Determinations and the PPC appeal. However, we explained that if BT was able to provide such evidence in response to our Draft Determinations, we would take this into account when reaching our final conclusion.

Views of the Parties

13.164 The Disputing CPs agree that, despite DSACs only being exceeded in one year, Ofcom should conclude that there was nevertheless overcharging in that year by virtue of the magnitude by which BT's charges exceeded DSAC (74%) and since this resulted in a ROCE of 118% in that year. They highlight that duration is just one of the factors which Ofcom has said it will take into account in line with the PPC Judgment. In this instance, the sheer magnitude of the excess should be sufficient to justify a finding of overcharging.[513] Verizon suggests that "*[a]nything else could provide BT with an incentive to play the market*".[514]

13.165 In its response to our Draft Determinations, BT provides similar analysis for 140/155 Mbit/s terminating segment main link as it provides for 34/45 Mbit/s trunk and 140/155 Mbit/s terminating segment distribution. It provides tables showing three types of analysis:

13.165.1 Analysis of the main cost categories for 2005/06 to 2006/07[515] – [✂].[516]

13.165.2 Analysis of the main cost categories contributing to the changes in unit costs between 2005/06 to 2006/07[517] – [✂].

13.165.3 Analysis of the underlying reasons for the main cost changes between 2005/06 to 2006/07[518] – [✂].[519]

13.166 We reproduce each of these tables in Annex 6 to this document.

13.167 Based on this analysis, BT's response to our Draft Determinations identifies a number of factors it considers show that it could not have predicted the changes in

[513] Disputing CPs' response to our Draft Determinations, paragraphs 7.11 to 7.12; Verizon response to our Draft Determinations, page 4.
[514] Verizon response to our Draft Determinations, page 4.
[515] Table 5 of BT's response to our Draft Determinations, page 35.
[516] 'F8 codes' are the cost pools used as inputs by ASPIRE (BT's main financial reporting system). For more information on F8 codes see BT's Detailed Attribution Methods (DAM) publication.
[517] Table 6 of BT's response to our Draft Determinations, page 36.
[518] Table 7 of BT's response to our Draft Determinations, page 36.
[519] [✂].

DSAC and that we should therefore find that it did not overcharge for 140/155 Mbit/s terminating segment main link services in 2006/07:

13.167.1 First, (similar to the point noted in paragraph 13.93.1 above), BT argues that 97% of total costs are allocated to other services, and therefore the cost of 140/155 main link services is heavily influenced by the volume of other services. [520]

13.167.2 Second, it argues that the large reduction in cost between 2005/06 and 2006/07 is the result of a CCA revaluation and could not have been anticipated at the start of the year.[521]

13.168 BT's response in relation to 140/155 Mbit/s terminating segment main link services focussed on the unit DSAC reduction between 2005/06 and 2006/07. It did not provide any specific explanation or evidence in relation to the increase in unit DSAC between 2006/07 and 2007/08.

13.169 The Disputing CPs comment in response to BT's arguments that: "*If BT had been genuinely caught out by a step change in costs or revenues, but had operated a robust internal compliance procedure and had taken corrective actions, albeit a little late, then it might have been open to Ofcom to reach a different conclusion over single year prices above DSAC*". They consider, however, that "*the facts of this case are quite different, with BT showing a serious disregard for its obligations*".[522]

Our analysis

13.170 Owing to amendments we have made to our adjustments to BT's data (see Section 12), the data upon which we base our assessment of BT's 140/155 Mbit/s terminating segment main link services has changed from that used in the Draft Determinations.

13.171 Table 13.5 below shows the relevant comparisons of external DSAC, FAC and ROCE for 140/155 Mbit/s terminating segment main link services over the Relevant Period. Figure 13.12 shows the price per link listed in the CPL, the average external revenue per link, and the external DSAC per link for 140/155 Mbit/s terminating segment main link services over the Relevant Period.[523]

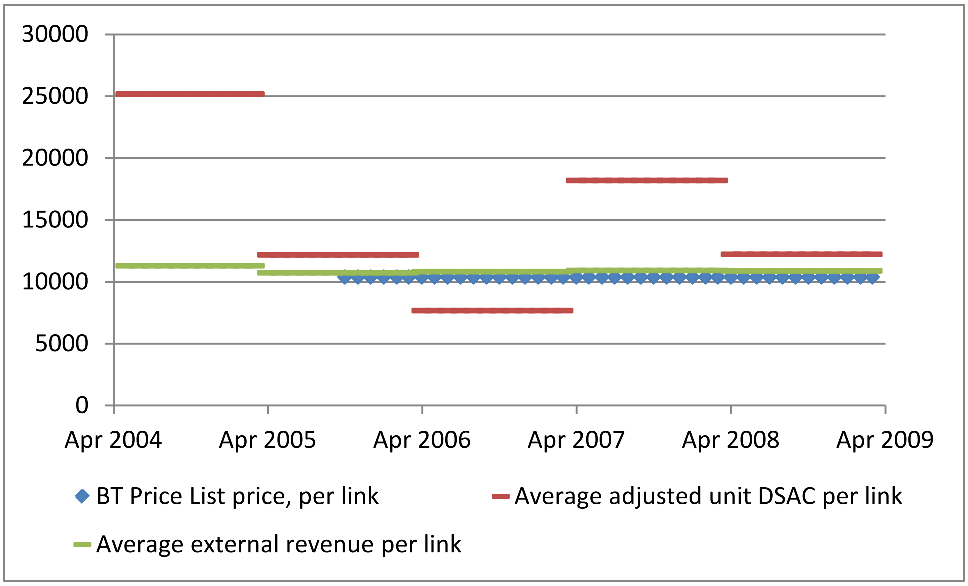
[520] BT's response to our Draft Determinations, paragraph 101.
[521] BT's response to our Draft Determinations, paragraph 103.
[522] Disputing CPs' comments on BT's response, paragraph 10.
[523] CPL data relates to the period from October 2005.

Table 13.5: Key financial measures for 140/155 Mbit/s terminating segment main link services, as adjusted by Ofcom

140/155Mbit/s main link	2004/05	2005/06	2006/07	2007/08	2008/09
Internal volume, links	1,726	3,123	3,062	1,991	2,257
External volume, links	10	27	52	92	114
Total volume, links	1,736	3,150	3,114	2,083	2,371
Average external revenue, £ per link	11,305	10,737	10,827	10,918	10,889
External unit DSAC, £ per link	25,353	12,244	7,737	18,190	12,223
External revenue as % of DSAC	45%	88%	140%	60%	89%
External unit FAC, £ per link	17,889	8,494	5,512	10,010	7,091
External revenue as % of FAC	63%	126%	196%	109%	154%
External ROCE	-5%	32%	75%	19%	37%

Source: Ofcom – based on data supplied by BT

Figure 13.12]: CPL price, unit DSAC and average external revenue for 140/155 Mbit/s terminating segment main link services, £ per link



Source: Ofcom – based on data supplied by BT

13.172 As shown in Table 13.5, we continue to find that BT's external revenues for 140/155 Mbit/s terminating segment main link services exceeded DSAC in 2006/07, but were below DSAC in the years before and after. BT's 140/155 Mbit/s terminating segment main link charges were therefore above DSAC for fewer than three years. As explained in paragraph 8.59 above, in such a situation, consideration of the specific circumstances surrounding BT's charges is warranted before concluding on whether overcharging has occurred.

13.173 Based on our adjusted financial data, BT's external revenues exceeded DSAC by 40% in 2006/07. We note that this is less than the amount by which we provisionally found revenues to exceed FAC in 2006/07 in our Draft Determinations (74%). In both the previous financial year and the following financial year, external revenues were below DSAC, and generally significantly so.

13.174 In 2006/07, BT's revenues were almost twice as high as FAC in 2006/07, and BT's ROCE was 75%, which is significantly in excess of BT's WACC. Taken together, the evidence on FAC and ROCE would support a finding of overcharging in 2006/07.

13.175 As set out in paragraph 13.168 above, in its response BT set out two specific arguments regarding its 140/155 Mbit/s PPC terminating segment main link services. In our view:

13.175.1 With respect to BT's first argument, as we have set out in relation to 34/45 Mbit/s trunk and 140/155 Mbit/s terminating segments distribution services (see paragraphs 13.105 and 13.155 above), while there may be the potential for movements in unit DSACs to arise from changes in the volumes of other services, BT has not demonstrated this was actually the case for 140/155 Mbit/s terminating segment main link in 2006/07.

13.175.2 As regards BT's second argument, according to BT's detailed DSAC modelling outputs, a significant element of the DSAC reduction in 2006/07 compared to 2005/06 was due to a reduction in SDH equipment costs. Both the asset value and depreciation cost fell significantly, by more than 30% and 60% respectively. However, BT has not provided a detailed explanation of the nature of these cost changes, specifically it has not provided evidence to demonstrate that they could not have been reasonably foreseen when setting charges for 2006/07. For example, as discussed further below, assuming these cost changes relate to CCA adjustments from changes in the asset lives (to which BT's response refers), BT has not provided evidence on when the decision to change the asset lives was made and therefore whether it could have been anticipated when setting charges for 2006/07.

13.176 Our understanding of the categorisation of costs in BT's DSAC modelling outputs is that the depreciation cost category includes CCA holding gains and losses. Therefore, given the combined and substantial changes in both the SDH equipment asset value and depreciation costs observed in the modelling outputs, it seems likely that the reduction in costs observed between 2005/06 and 2006/07 is the result of a revaluation of SDH equipment in 2005/06 and an associated CCA holding loss occurring in that year which caused a spike in costs in 2005/06 compared to 2006/07.

13.177 In its response to the Draft Determinations BT explains that [✂].

13.178 In the Draft Determinations we set out that "*[i]t would seem reasonable to conclude that BT's charge for 140/155Mbit/s PPC terminating segment main link services in 2006/07 was cost orientated if for example BT was able to demonstrate to our satisfaction that...given that BT did not change its prices in response to the charge being above DSAC for one year, there were specific reasons why it considered it reasonable to expect that unit DSACs in the years following 2006/07 would increase*".[524]

13.179 BT's response does not discuss the increase in costs in 2007/08 and 2008/09 in the context of 140/155 Mbit/s PPC terminating segment main link services. It therefore does not provide any specific explanation of the underlying cost changes, the reason for those changes and why, given that BT did not change its prices in response to the

[524] Draft Determinations, paragraph 11.55.

charge being above DSAC for one year, it considered it reasonable to expect that unit DSACs in the years following 2006/07 would increase.

13.180 However, as explained in paragraph 13.162.2 above, in our Draft Determinations we said that the main factor driving the increase in unit DSAC between 2006/07 and 2007/08 was the inclusion of indirect costs specifically associated with 21CN in the main link cost stack. In its response to our Draft Determinations, BT comments generally on the changes it made to 21CN accounting through the introduction of new 21CN specific components from 2007/08 (see paragraph 13.30.4). It explains that the decision to make this change was made by BT in January 2008. This was *after* the start of the 2007/08 financial year and *after* the 2006/07 RFS was published. BT also argues that *"the effect on existing cost allocation [of the change in accounting treatment] could not have been anticipated."*[525] On this basis it seems unlikely to us that BT could have reasonably expected unit DSACs to increase in 2007/08 and onwards either at the start of 2007/08 or when the 2006/07 RFS were published in August 2007.

13.181 We therefore do not consider that BT has explained why, given that it did not change its prices in response to the charge being above DSAC for one year (i.e. 2006/07), there were specific reasons why it considered it reasonable to expect that unit DSACs in the years following 2006/07 would increase.

13.182 Therefore, in our view, BT's response is not sufficient to meet the requirements set out in paragraph 13.163 or to demonstrate that its charges exceeding DSAC did not constitute overcharging:

13.182.1 BT's submission does not explain why the reduction in unit DSAC in 2006/07 was not reasonably foreseeable when setting its prices for 2006/07. Rather it simply asserts that it was due to CCA adjustments which were not predictable. As we have explained above, we do not accept that all CCA adjustments are unpredictable. Some adjustments can be anticipated well in advance of price setting.

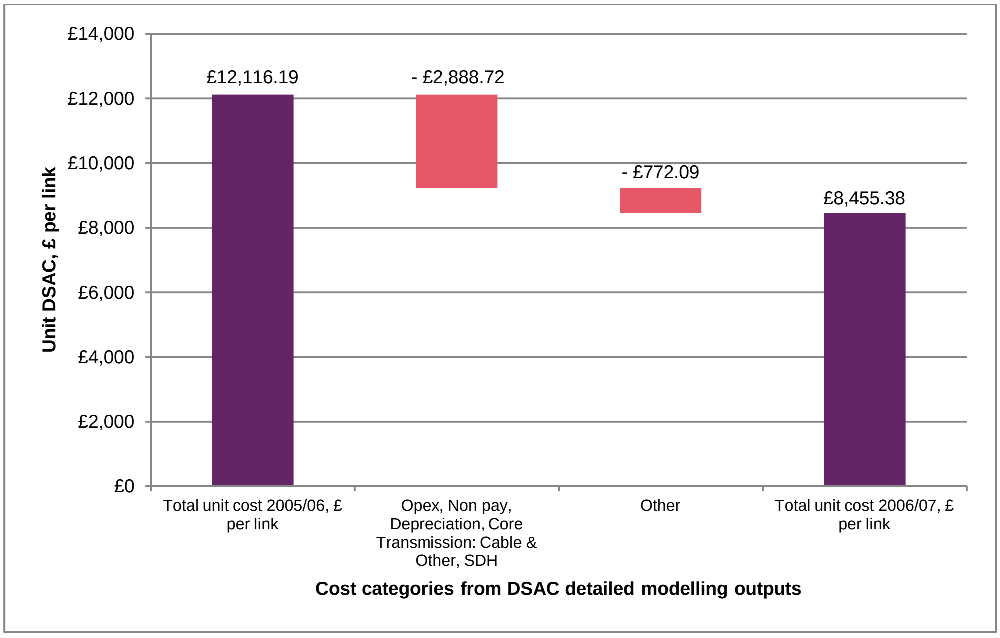
13.182.2 BT's submission does not demonstrate why, given that BT did not change its prices in response to the charge being above DSAC for one year (2006/07), there were specific reasons why it considered it reasonable to expect that unit DSACs in the years following 2006/07 would increase.

13.183 BT has not provided information on when it took the decision to revalue its SDH equipment for the 2005/06 RFS, which appears relevant to understanding what BT could have reasonably expected at the start of 2006/07. Notwithstanding this, and consistent with our consideration of BT's arguments in relation to its 34/45 Mbit/s trunk services and 140/155 Mbit/s terminating segment distribution services above, we have considered whether, when the 2005/06 RFS was published in September 2006, BT could have identified a risk that its charge for 2006/07 would exceed DSAC.

13.184 In Figure 13.13 below, we present an equivalent chart to Figures 13.7 and 13.10. This shows that the reduction in SDH depreciation[526] between 2005/06 and 2006/07 accounted for a reduction of around £2,900 per link in the DSAC for main link.

[525] BT's response to our Draft Determinations, paragraphs 77 to 79.
[526] Cost category PLOPNPDPZZDAJ9ZZ: Opex, Non pay, Depreciation, Core Transmission: Cable & Other, SDH.

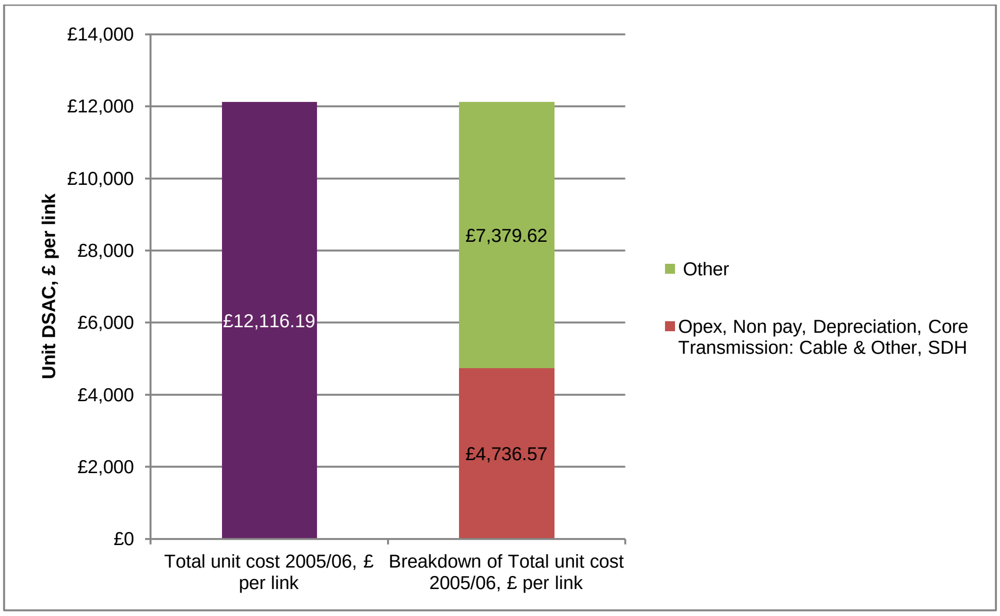
Figure 13.13: Change in unit DSACs between 2005/06 and 2006/07, 140Mbit/s terminating main link component



Note: the detailed output of BT's DSAC calculations for 2005/06 which BT provided does not include information on component volumes. Therefore, unit DSACs in 2005/06 are calculated on the basis of 140/155 Mbit/s main link service volumes in 2005/06.
Source: Ofcom – based on data supplied by BT

13.185 In Figure 13.14 below we present a breakdown of the total unit DSAC for main link in 2005/06. This shows that around 40% of the unit DSAC for the 140Mbit/s terminating link component in 2005/06 was SDH depreciation which, as we understand it, includes CCA adjustments.

Figure 13.14: Breakdown in unit DSAC for 2005/06, 140Mbit/s terminating main link component



Note: the detailed output of BT's DSAC calculations for 2005/06 which BT provided does not include information on component volumes. Therefore, unit DSACs in 2005/06 are calculated on the basis of 140/155 Mbit/s main link service volumes in 2005/06.
Source: Ofcom – based on data supplied by BT

13.186 As we show in Table 13.5 we find that BT's revenues per link for main link in 2005/06 were around £1500 below DSAC. SDH depreciation costs in 2005/06 were such a large proportion of the total unit DSAC and the costs were affected by the holding loss. Therefore, if BT had compared the amount of unit DSAC that SDH represented in 2005/06 (i.e. around £4700) to the surplus of DSAC over revenue for the year (i.e. around £1500) it would have identified at least as early as when the 2005/06 RFS was published in September 2006 that there was a risk that its (unchanged) charges for 2006/07 would exceed DSAC.

13.187 We therefore conclude that, on the basis of the information available to us, BT overcharged with respect to its 140/155 Mbit/s terminating segment main link service in 2006/07 on the basis that:

13.187.1 the charge exceeded DSAC by 40%;

13.187.2 the charge also significantly exceeded FAC, resulting a ROCE that was many multiples of its relevant WACC;

13.187.3 BT has not demonstrated that its charge was above DSAC in 2006/07 despite it "*doing its level best*" to comply with its cost orientation obligations;

13.187.4 we have nevertheless considered BT's arguments as to why the 2006/07 charge was cost orientated despite exceeding DSAC. As we have set out in paragraphs 13.176 to 13.182, we do not consider that BT has demonstrated that the charge was cost orientated;

13.187.5 at the latest, by September 2006 BT could have been aware of the risk that its charges for 2006/07 would exceed DSAC, yet it did not change its charge. Further, as we have explained in paragraph 13.180, evidence provided by BT appears to suggest that BT's failure to change its charge in light of it exceeding DSAC in 2006/07 was not as a result of it anticipating its unit DSAC increase in 2007/08.

13.188 We note that in the 2009 Final Determinations we found that BT's main link charges at the 2 Mbit/s and 34/45 Mbit/s bandwidths in 2006/07 were cost orientated despite exceeding DSAC by 14% and 23% respectively in that year. However, in our view, there are important differences in the circumstances surrounding our assessment of BT's main link charges in the 2009 Final Determinations and in this case.

13.189 First, reflecting the additional information on, and our understanding of, BT's main link costs over the Relevant Period, we have a greater evidence base upon which to base our assessment in this case than in the 2009 Final Determinations. The PPC Judgment emphasised the importance we should place on the comparison of charges with DSAC (i.e. we should treat charges above DSAC as "*intrinsically excessive*"). We consider that the approach we have adopted in this case is consistent with the PPC Judgment.

13.190 Second, as the Disputing CPs note in their response to our Draft Determinations, the magnitude of the excess of revenues over DSAC is relevant to our assessment of overcharging. The excess of revenues over DSAC for 140/155 Mbit/s terminating main link services is greater (at 40%) than for the lower bandwidth main link services considered in the 2009 Final Determinations.:

140/155 Mbit/s PPC terminating segment local end

Our Draft Determinations

13.192 We provisionally found that BT's external revenues for 140/155 Mbit/s terminating segment local end services significantly exceeded DSAC for the last three of the financial years of the Relevant Period. Specifically, we found that external revenues exceeded DSAC by 86% in 2006/07, 27% in 2007/08 and 73% in 2008/09. We also provisionally found that BT's revenues exceeded FAC by 144% in 2006/07, 90% in 2007/08 and 182% in 2008/09. As a consequence, BT's ROCE for these services was many multiples of its cost of capital in each of these three years.

13.193 We explained that, given BT's charges for local end were unchanged between 2005/06 and 2008/09 (at £15,394 per local end), the primary driver of external revenues exceeding DSAC from 2006/07 onwards was a substantial reduction in unit DSACs between 2005/06 and 2006/07.

13.194 We noted that while analysis of BT's detailed DSAC outputs suggested that a number of factors contributed to this significant fall in costs, consistent with what we observed for main link, a significant reduction in depreciation for SDH distribution assets appeared to be the primary driver.

13.195 We referred to BT's representations in its 27 May 2011 letter as to why it believes that its local end charges did not constitute overcharging, and said that these related to BT's argument that our cost estimates for 140/155 Mbit/s PPC local end in the Final Determinations failed to adequately reflect the higher POH costs that external customers face compared to internal sales. We explained that, to the extent that we agreed with BT's point, it was reflected in our adjusted data. We also noted that whilst the adjustments we made to BT's accounting information did not typically result in a change in the outcome of the DSAC test, this was not the case for 140/155 Mbit/s terminating segment local end services.[527] However, in light of our view that BT could reasonably have been expected to make these adjustments at the time of generating its accounting statements, we provisionally concluded that it was therefore appropriate to base our assessment on the adjusted data.

13.196 Given our provisional finding that BT's charges were persistently and significantly above DSAC for the majority of the Relevant Period, we explained that we would normally expect charges above the DSAC for this length of time to indicate that BT had failed to take action to alter its charges appropriately. On this basis we said that we would normally expect to conclude that such charges constitute overcharging. We noted that this would be consistent with our analysis of local end revenues compared to FAC and the rates of return on capital employed earned by BT on local end services set out above.

Views of the Parties

13.197 BT's response to our Draft Determinations on its local end charges focused on the adjustments we made to BT's cost and revenue data. BT's arguments in this respect are addressed in Section 9.

[527] On BT's unadjusted base data external revenues are below DSAC in all five years of the Relevant Period, whereas on the basis of Ofcom's adjusted data BT failed the DSAC test in the final three years.

13.198 The Disputing CPs did not specifically comment on our assessment of 140/155 Mbit/s PPC terminating segment local end.

Our analysis

13.199 Owing to amendments we have made to our adjustments to BT's data (see Section 12), the data upon which we base our assessment of BT's 140/155 Mbit/s terminating segment local end services has changed from that used in the Draft Determinations.

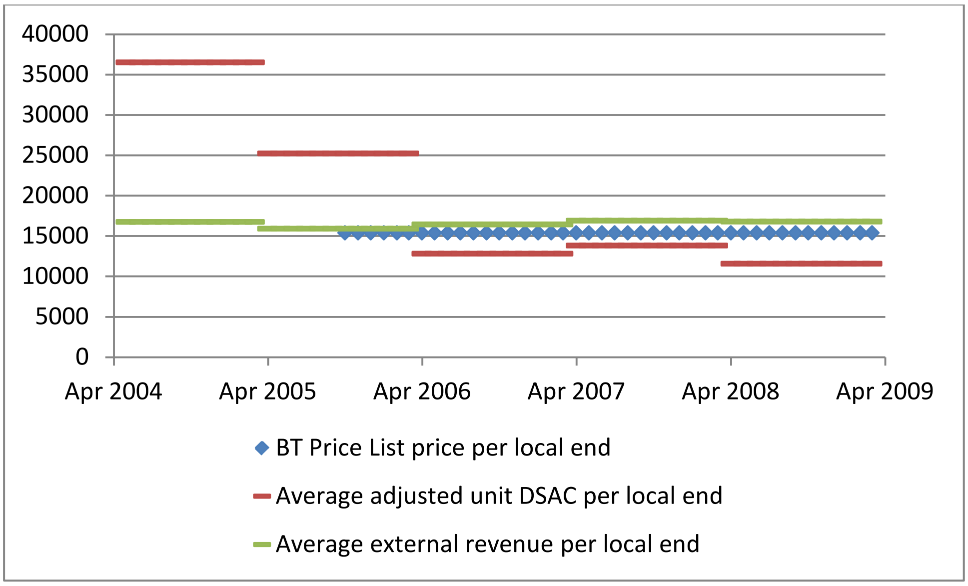
13.200 Table 13.6 below shows the relevant comparisons of external DSAC, FAC and ROCE for 140/155 Mbit/s terminating segment local end services over the Relevant Period. Figure 13.15 shows the price per local end listed in the CPL, the average external revenue per local end, and the external DSAC per local end for 140/155 Mbit/s terminating segment local end services over the Relevant Period.[528]

Table 13.6: Key financial measures for 140/155 Mbit/s terminating segment local end services, as adjusted by Ofcom

140/155Mbit/s local end	2004/05	2005/06	2006/07	2007/08	2008/09
Internal volume, local ends	1,516	2,310	2,213	1,864	1,649
External volume, local ends	14	24	51	82	103
Total volume, local ends	1,530	2,334	2,264	1,946	1,752
Average external revenue, £ per local end	16,746	15,905	16,436	16,898	16,783
External unit DSAC, £ per local end	37,682	25,423	12,951	13,980	11,865
External revenue as % of DSAC	44%	63%	127%	121%	141%
External unit FAC, £ per local end	26,336	19,118	10,658	10,394	8,113
External revenue as % of FAC	64%	83%	154%	163%	207%
External ROCE	-4%	0%	44%	43%	80%

Source: Ofcom – based on data supplied by BT

Figure 13.15: CPL price, unit DSAC and average external revenue for 140/155 Mbit/s terminating segment local end services, £ per local end



Source: Ofcom – based on data supplied by BT

528 CPL data relates to the period from October 2005.

13.201 As shown in Table 13.6, we continue to find that BT's external revenues for 140/155 Mbit/s terminating segment local end services exceeded DSAC for the last three financial years of the Relevant Period, but were below DSAC in 2004/05 and 2005/06.

13.202 Specifically, based on our adjusted financial data, BT's external revenues exceeded DSAC by 27% in 2006/07, 21% in 2007/08 and 41% in 2008/09. We note that as a result of the amendments we have made to our adjustments of BT's data, the amounts by which revenues exceeded FAC are lower than those we provisionally found in the Draft Determinations (86%, 27% and 73% respectively).

13.203 BT's revenues also exceeded FAC in these three years, by 54%, 63% and 107% respectively. Moreover, BT's ROCE was 44% in 2006/07, 43% in 2007/08 and 80% in 2008/09, all of which are significantly in excess of BT's WACC. Taken together, the evidence on FAC and ROCE would support a finding of overcharging in 2006/07, 2007/08 and 2008/09.

13.204 As we explain in Section 12, we make adjustments to BT's accounting information to correct for volume errors and mismatching of data that would otherwise lead to a distorted and inappropriate dataset for resolving these Disputes. In the case of local end services, our adjustments are relatively substantial. This reflects the nature of errors in BT's base data and how that data has been reported. Specifically, as we explain in more detail in Section 12, we make a number of adjustments to ensure that there is a correct matching of resilience circuit costs and revenues (which results in changes to BT's revenues), and that costs are not included in BT's cost stack where those costs are recovered from other charges. We address BT's arguments in relation to our adjustments in Section 12 and, to the extent that we agree with them, they are reflected in our adjusted data. For the reasons explained in Section 12, in our view it is appropriate to base our assessment of overcharging on our adjusted data.

13.205 As set out in paragraphs 13.190 and 13.191 above, in our Draft Determinations we explained that revenues exceeded DSAC from 2006/07 onwards primarily as a consequence of a substantial reduction in unit DSACs between 2005/06 and 2006/07. We explained that while analysis of BT's detailed DSAC outputs suggested that a number of factors contributed to this significant fall in costs, consistent with what we observed for main link, a significant reduction in depreciation[529] for SDH distribution assets appeared to be the primary driver.

13.206 In its response to our Draft Determinations, BT did not provide any specific and evidence-based explanation as to why its charges for local end services do not constitute overcharging despite exceeding DSAC. It did not explain the reduction in DSAC between 2005/06 and 2006/07, nor why it would not have been reasonably foreseeable when setting charges for 2006/07 (or any subsequent year). In addition, BT has failed to provide any specific argument (beyond those considered in Section 10) as to why, despite its charges persistently exceeding DSAC over the period 2006/07 to 2008/09, those charges should not be considered to constitute overcharging. We do not consider that BT's general arguments as to the difficulty in forecasting costs are sufficient to justify the excess of revenues over DSAC, as BT has not established that they are specifically relevant to our assessment of local end services. In any case, we note charges exceeded DSAC for three consecutive years, the majority of the Relevant Period. As set out in the 2009 Final Determinations, this

[529] As set out in paragraph 13.177 above, our understanding is that the depreciation category in the DSAC detailed modelling includes CCA adjustments.

is strong evidence that BT had failed to take action to alter its charges appropriately and therefore had overcharged its customers.

13.207 Finally, we note that it is now our understanding that BT's DSAC data published in its RFS appear not to reflect cost causation in their treatment of duct costs (see paragraphs 11.92 to 11.94). In paragraphs 11.154 to 11.157, we explain that, although robust evidence is lacking, it seems plausible that the DSACs of local access components (i.e. local ends) are under-stated in the original methodology compared to the cost causation approach. As a result, the DSAC for 140/155 Mbit/s terminating segment local end services under BT's original approach may be understated. However, as discussed in paragraph 11.157, the extent of the under-statement of DSAC is not clear. Given this limitation, we put limited weight on this consideration in our conclusion on overcharging.

13.208 We therefore conclude that, on the basis of the information available to us, BT's charges for 140/155 Mbit/s terminating segment distribution in 2006/07, 2007/08 and 2008/09 were not cost orientated and gave rise to overcharging.

140/155 Mbit/s PPC terminating segment connection services

Our Draft Determinations

13.209 We provisionally found that BT's external revenues for 140/155 Mbit/s PPC terminating segment connection services exceeded DSAC for the final two financial years of the Relevant Period.

13.210 We noted that the extent to which revenues exceeded DSAC reduced between the two years. This reduction was largely driven by a reduction in average unit revenues. As BT's charges for connection services did not change between 2007/08 and 2008/09, we found that the change in average unit revenues reflects our adjustments to BT's revenues to ensure that they also reflect the revenues from resilience circuits.

13.211 We explained that BT did not make any representations in its 27 May 2011 letter to explain why a finding of overcharging would be inappropriate given the specific facts of the case.

13.212 We noted that we have considerably less financial information on BT's connection charges than for its other terminating segment service charges. Although we have revenue data for all five financial years relevant to the Disputes, we explained that we only have cost (i.e. FAC and DSAC) data for the last two financial years (i.e. 2007/08 and 2008/09). BT's 140/155 Mbit/s connection services were not separately reported in the RFS in 2004/05, 2005/06 and 2006/07 and BT was unable to provide cost data for these services in these years in its responses to our 23 December 2008 section 191 notice.[530]

13.213 Due to this lack of information we set out that we are not able to undertake the DSAC test for the first three years relevant to the Disputes on the basis of actual DSAC data provided by BT. However, we argued that given that BT's charges (as listed in BT's CPL) for these connection services did not change during the Relevant Period, and that we had provisionally found overcharging in relation the latter two years, we need to consider whether overcharging could have also occurred in these first three years.

13.214 We argued that it is not appropriate for BT to benefit from its failure to provide us with sufficient data to consider whether it has complied with its regulatory obligations over the Relevant Period. As we have noted above, BT did not change its prices for connections during the Relevant Period. Therefore, in the absence of reliable evidence from BT that costs were materially higher in the first three years of the Disputes, we argued that it seems reasonable to conclude that BT has overcharged the Disputing CPs for the entire Relevant Period. Furthermore, (and again in the absence of evidence suggesting otherwise) we argued that it seems reasonable to conclude that the rate of overcharging (i.e. proportion of revenues in excess of DSAC) would be broadly consistent with the average for the last two years of the period.

13.215 On this basis, for the first three years of the Relevant Period we proposed to assess the level of BT's overcharge for externally sold connection services by multiplying its external revenues for the services in each year by the average rate of overcharge observed in the final two years of the period. The proposed overcharge for 2004/05 then was prorated to reflect the fact that only nine months of the financial year were within the Relevant Period. In the absence of evidence from BT to the contrary, we

[530] Emails from David Coulson (BT) to Andrew Boardman (Ofcom) dated 14 November 2008 (in respect of 2004/05 and 2005/06) and 29 June 2009 (in respect of 2006/07).

therefore proposed to conclude that BT's charges were not cost orientated for 140/155 Mbit/s PPC terminating segment connection services for the period 24 June 2004 to 30 September 2008 and that this breach resulted in overcharging.

Views of the Parties

13.216 BT's response to our Draft Determinations on its connection charges focused on the adjustments we made to BT's cost and revenue data in 2007/08 and 2008/09. BT's arguments in this respect are dealt with in Section 12.

13.217 The Disputing CPs did not comment on our assessment of 140/155 Mbit/s PPC terminating segment connection.

Our analysis

13.218 Owing to amendments we have made to our adjustments to BT's data (see Section 12), the data upon which we base our assessment of BT's 140/155 Mbit/s PPC terminating segment connection services has changed from that used in the Draft Determinations.

13.219 Table 13.7 below shows the relevant comparisons of external DSAC, FAC and ROCE for 140/155 Mbit/s PPC terminating segment connection services over the Relevant Period. Figure 13.16 shows the price per circuit listed in the CPL, the average external revenue per circuit, and the external DSAC per circuit for 140/155 Mbit/s PPC terminating segment connection services over the Relevant Period.[531]

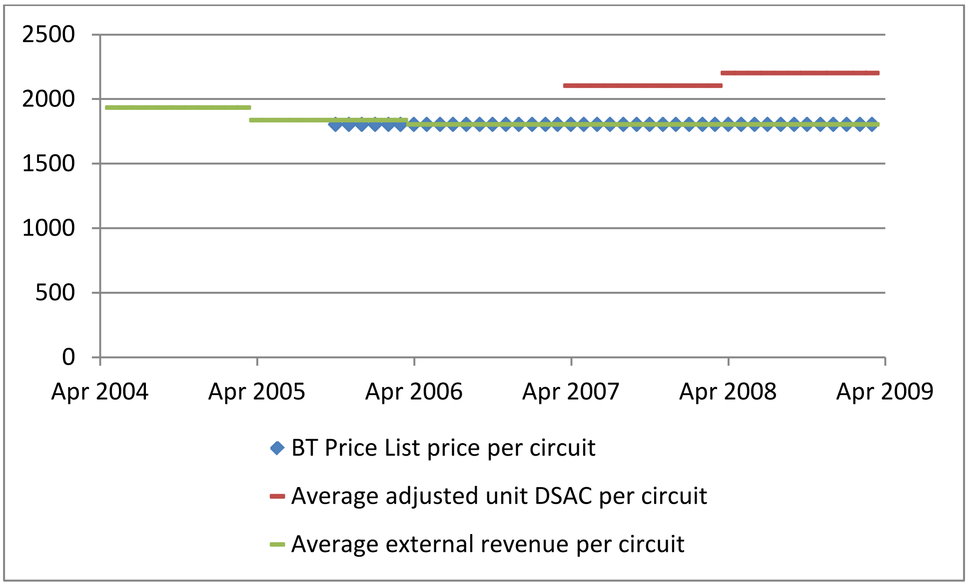
[531] CPL data relates to the period from October 2005.

Table 13.7: Key financial measures for 140/155 Mbit/s PPC terminating segment connection services, as adjusted by Ofcom

140/155 Mbit/s connection	2004/05	2005/06	2006/07	2007/08	2008/09
Internal volume, circuits	63	119	47	8	3
External volume, circuits	11	13	29	28	32
Total volume, circuits	74	132	76	36	35
Average external revenue, £ per circuit	1,935	1,838	1,805	1,805	1,805
External unit DSAC, £ per circuit	n/a	n/a	n/a	2,105	2,202
External revenue as % of DSAC	n/a	n/a	n/a	86%	82%
External unit FAC, £ per circuit	n/a	n/a	n/a	1,294	1,495
External revenue as % of FAC	n/a	n/a	n/a	139%	121%
External ROCE	n/a	n/a	n/a	n/a	n/a

Source: Ofcom – based on data supplied by BT. 140/155 Mbit/s PPC connection services were not published in the RFS in 2004/05, 2005/6 and 2006/07 and BT was unable to provide FAC and DSAC data relating to these years.

Figure 13.16: CPL price, unit DSAC and average external revenue for 140/155 Mbit/s PPC terminating segment connection services, £ per circuit



Source: Ofcom – based on data supplied by BT. 140/155 Mbit/s PPC connection services were not published in the RFS in 2004/05, 2005/6 and 2006/07 and BT were unable to provide DSAC data relating to these years.

13.220 As shown in Table 13.7, and as explained in paragraph 9.31 above, we no longer find that BT's external revenues for 140/155 Mbit/s PPC terminating segment connection services exceeded DSAC for the final two financial years of the Relevant Period (i.e. 2007/08 and 2008/09). As we no longer find that BT's revenues for 140/155 Mbit/s PPC terminating segment connection services exceed DSAC for these two years, and the Parties have not put forward specific arguments in this case which cause us to consider that these charges below DSAC may not be cost orientated, we consider that BT's charges for 140/155 Mbit/s terminating segment connection services in these two financial years were cost orientated and that BT has so demonstrated to our satisfaction.

13.221 As we set out in the Draft Determinations, BT was unable to provide us with DSAC data for the first three financial years relevant to these Disputes (i.e. 2004/05 to 2006/07). As we have set out in paragraphs 13.212 to 13.213 above, in the Draft Determinations we based our provisional conclusions on overcharging for these earlier years on the information we had for the final two years of the Relevant Period. None of the Parties commented on this approach in response to the Draft Determinations.

13.222 As explained in paragraph 13.219, we no longer find evidence of overcharging in 2007/08 and 2008/09. We have considered whether this change implies that we should also revise our proposed conclusions in relation to the first three financial years. Although we continue to consider that it is not appropriate for BT to benefit from its failure to provide us with sufficient data to consider whether it has complied with its regulatory obligations over the entire Relevant Period, as a result of the revised cost and revenue evidence we have for 140/155 Mbit/s PPC terminating segment connection services over the Relevant Period, we no longer find that we have sufficient evidence to conclude that BT overcharged for these services in 2004/05 to 2006/07. Our decision is based on:

13.222.1 our finding that BT did not overcharge for 140/155 Mbit/s PPC terminating segment connection services in 2007/08 and 2008/09; and

13.222.2 the fact that BT's average revenues for connection services (as amended from the Draft Determinations in light of BT's response) in all three years (i.e. 2004/05 to 2006/07) are below the unit DSACs for the two years for which we have DSAC data (i.e. 2007/08 and 2008/0).

13.223 We therefore conclude that BT's charges for 140/155 Mbit/s terminating segment connection services over the Relevant Period were cost orientated and therefore did not give rise to overcharging.

Summary of our overcharging conclusions

Our provisional conclusions

13.224 We proposed to find that BT had overcharged its customers, in respect of:

13.224.1 34/45 Mbit/s trunk services for the period 1 April 2007 to 30 September 2008;

13.224.2 140/155 Mbit/s PPC terminating segment distribution services for the period 1 April 2007 to 30 September 2008;

13.224.3 140/155 Mbit/s PPC terminating segment main link service for the period 1 April 2006 to 31 March 2007;

13.224.4 140/155 Mbit/s PPC terminating segment local end service for the period 1 April 2006 to 30 September 2008; and

13.224.5 140/155 Mbit/s PPC terminating segment connection service for the period 24 June 2004 to 30 September 2008.

Our final conclusions

13.225 In summary, we conclude that BT has overcharged its customers, in respect of its:

13.225.1 34/45 Mbit/s trunk service for the period 1 April 2007 to 30 September 2008;

13.225.2 140/155 Mbit/s PPC terminating segment distribution service for the period 1 April 2007 to 30 September 2008;

13.225.3 140/155 Mbit/s PPC terminating segment main link service for the period 1 April 2006 to 31 March 2007; and

13.225.4 140/155 Mbit/s PPC terminating segment local end service for the period 1 April 2006 to 30 September 2008.

13.226 We consider the level of this overcharging below.

Calculating the level of overcharge

Our provisional conclusions

13.227 In our Draft Determinations, we proposed to apply the same methodology for calculating the level of overcharge that we applied in the 2009 Final Determinations. That is, for each individual service, the overcharge equals the amount by which BT's external revenues exceed DSAC in each year that we conclude there is overcharging. For any overcharging in 2004/05 or 2008/09, we have prorated the overcharge to reflect the proportion of the financial year that is within the Relevant Period.

Views of the Parties

13.228 BT does not comment specifically on our calculation of overcharging.

13.229 As set out in Section 14, the Disputing CPs agree with the methodology used to derive the repayment amounts, specifically *"the difference between the amounts paid by them for higher bandwidth PPC services and the maximum charge under which Ofcom would have considered BT not to have overcharged for those services (DSAC)"*.[532]

Our analysis

13.230 As in our Draft Determinations, for each individual service, the overcharge equals the amount by which BT's external revenues exceed DSAC in each year that we conclude there is overcharging. For any overcharging in 2004/05 or 2008/09, we have prorated the overcharge to reflect the proportion of the financial year that is within the Relevant Period.

13.231 We summarise the levels of overcharging in Table 13.8 below. This table shows the level of overcharging with respect to all of BT's external customers, not just the Disputing CPs.

Table 13.8: Overcharging to BT's external customers, £, as adjusted by Ofcom

PPC service	2004/05	2005/06	2006/07	2007/08	2008/09	Total
140/155Mbit/s TISBO						
Connection	-	-	-	-	-	**-**
Main link	-	-	160,700	-	-	**160,700**
Distribution	-	-	-	178,800	155,900	**334,700**
Local end	-	-	177,700	239,300	253,900	**670,900**
Trunk						
34/45Mbit/s	-	-	-	1,306,800	1,115,800	**2,422,600**
Total	**-**	**-**	**338,400**	**1,724,900**	**1,525,600**	**3,588,900**

Note: amounts rounded to nearest £100. Totals have been calculated by adding up the rounded figures. For any overcharging in 2004/05 and 2008/09, proposed overcharges are pro-rated to the Relevant Period.
Source: Ofcom – based on data supplied by BT

Economic harm

Introduction

13.232 In Section 8 we set out why we do not consider an assessment of economic harm to be necessary in our assessment of BT's charges for the services in dispute. However, for completeness and as in the 2009 Final Determinations, we set out in this section why we nevertheless consider that any overcharging by BT in this case may be associated with economic harm (subject to the implications of potential biases in the DSAC figures, which we have been unable to quantify).

13.233 Before considering the specific types of harm in this case, we note that Conditions GG3.1 and H3.1 were imposed in the 2004 LLMR Statement because we found that, absent such a remedy, there was *"a relevant risk of adverse effects arising from price distortion because BT, as it has SMP in these markets, has the ability to price above the competitive level, so as to have adverse consequences for end users of public*

[532] Disputing CPs' response to our Draft Determinations, paragraphs 8.1 and 8.3.

electronic communications services".[533] We would typically expect that where such SMP Conditions are breached, harm will ensue: as the CAT said, *"[e]conomic harm and breach of the cost orientation condition are…two sides of the same coin"*.

13.234 The starting point for our assessment is to establish the appropriate counterfactual against which to assess BT's charges. We then go on to identify the mechanisms by which adverse effects on consumers and/or competition might arise.

Establishing the appropriate counterfactual

Introduction

13.235 The analysis of economic harm generally involves identifying a counterfactual against which the actual outcome can be compared. This is especially so when considering the possible adverse effects of apparently high prices. The analysis then assesses the implications for consumers and/or competition of the actual prices charged, compared to the level assumed in the counterfactual.

13.236 In establishing the appropriate counterfactual, it is necessary to consider: (i) the appropriate aggregation of charges for the analysis; and (ii) the appropriate level for the charges. As we have set out in Sections 7 and 8 above, these also need to be considered in the context of assessing compliance with Conditions GG3.1 and H3.1. We would normally expect our conclusions in both these contexts to be consistent, however there may be considerations that are relevant to only one.

13.237 For the reasons we set out below, in this case we consider that the appropriate counterfactual is one which is consistent with our approach in the 2009 Final Determinations, and with our approach to assessing compliance with Conditions GG3.1 and H3.1. It therefore involves assuming that each of the charges in dispute is separately at (or below) DSAC.

The appropriate aggregation of charges for the counterfactual

13.238 In Section 7 we set out why we consider it appropriate to assess compliance with Conditions GG3.1 and H3.1 on the basis of each and every charge separately. In the paragraphs below, we set out why we also consider this to be the appropriate basis for the counterfactual in this case.

13.239 If it were the case that services could only be purchased in fixed proportions, then 'too low' charges for one service and 'too high' charges for another could net each other out in aggregate and, as the meaningful pricing signal would consist of the two charges together (because they were only purchased together in fixed proportions), such a charging structure would not necessarily be associated with economic harm.

13.240 However, as we explain below, we do not consider that any of the services for which the charges are in dispute in this case are purchased together in fixed proportions, either with services in scope of the Disputes or outside their scope. We therefore consider that the charges for the individual services relevant to these Disputes are meaningful economic signals in their own right. As such we would normally expect distortions to the individual charges to be associated with economic harm.

[533] Paragraph 6.90 of the 2004 LLMR Statement. See also paragraph 8.64 in which we made same finding in relation to the wholesale trunk segments market, and paragraphs 6.72, 6.80, 6.88, 8.41, 8.53 and 8.62 of that Statement.

Services relevant to these Disputes

13.241 Prior to the 2009 Final Determinations and in the PPC appeal, BT argued that the appropriate basis for considering its trunk and terminating charges, including their impact on economic welfare, was in aggregate.[534] BT argued that trunk is not purchased separately but always in conjunction with terminating segments,[535] and that a disaggregated approach "*ignored the product actually sold*"[536].

13.242 Although we noted in the 2009 Final Determinations that "*trunk and terminating segments are purchased together from BT on over 50% of occasions*", we rejected BT's arguments. We noted that:[537]

> "*The fact that they are often purchased together does not negate the fact that the various trunk and terminating services are (and were for the period of the Disputes) separately defined services which customers can choose to purchase and combine in different ways to reflect their own requirements...CPs sometimes choose to self-provide trunk services and sometimes they choose to buy them from other CPs.*"

> "*Trunk and terminating services are, however, not always purchased together and in fixed proportions...This difference in purchasing patterns reflects a number of factors, not least the extent of trunk self-supply and the relative lengths of the trunk circuits purchased by the Disputing CPs.*"

13.243 On this basis we found that, "*the relative prices of the individual services do have implications for the cost of service combinations that CPs buy. Therefore, individual service charges (e.g. 2Mbit/s trunk) are important and relevant as they have real implications for the purchasing and investment incentives of CPs*"[538].

13.244 In the PPC Judgment, the CAT noted that "*[c]ommunications providers obviously have very different networks*" and found that there was "*considerable variation*" in the PPCs purchased by the Disputing CPs and in their purchase of trunk segments.[539]

13.245 We remain of the view that BT's individual charges for trunk services (i.e. at separate bandwidths and independent of terminating segment charges) constitute economically meaningful signals in their own right. Therefore, we consider that the counterfactual for assessing economic harm in this case should be based on considering BT's 34/45 Mbit/s trunk charges separately from BT's charges for other PPC services.

13.246 The nature and structure of BT's charges for PPC terminating segment services is different from that for trunk services. As we explain in Section 6, while trunk services consist of one (per km) charge, there are various terminating segment services with different charges:

13.246.1 connection – a one-off charge incurred when the circuit is first connected;

13.246.2 local end – an annual fixed rental charge;

[534] For example, see 2009 Final Determinations, paragraph 4.46.
[535] 2009 Final Determinations, paragraph 4.99.
[536] PPC Judgment, paragraph 213.
[537] 2009 Final Determinations, paragraphs 4.47 to 4.50.
[538] 2009 Final Determinations, paragraph 4.48.
[539] PPC Judgment, paragraphs 33 to 35.

13.246.3 main link – an annual fixed rental charge; and

13.246.4 distribution – an annual per kilometre charge.

13.247 As we also explain in Section 6, not all circuits will require all four of the terminating segment services. For example, the need for a main link will be determined by where the purchaser interconnects with BT – if the purchaser is interconnected at the LSE then no main link will be required. Therefore, the needs of individual CPs will depend upon the coverage of their network and the number of LSEs to which they are connected. Furthermore, in cases where the four terminating segment services are consumed together, the combination is not in fixed proportions, for example:

13.247.1 terminating segments vary in length and therefore the mix of fixed annual and per kilometre charges varies; and

13.247.2 terminating segments are not all rented for fixed time periods therefore the mix of one-off and recurring charges varies.

13.248 The CAT set out an explanation of the various elements of a PPC circuit in the PPC Judgment.[540] Consistent with the explanation set out above, the CAT notes the different circumstances in which each of the terminating segment services would be consumed by BT's CP customers, which demonstrates that the services are not all consumed together and in fixed proportions.

13.249 We acknowledge that there is an initial period in which terminating segment connection and local end services are purchased together and typically in fixed proportions. BT is able to set a minimum contractual term, typically of one year. However, we note that:

13.249.1 any aggregation of connection and local end charges in the minimum contractual term would not affect the local end charges for circuits outside that period, which are above DSAC; and

13.249.2 aggregating connection and local end charges in the minimum contractual term might reduce the extent to which the combined charges exceed DSAC, but it would not remove all charging in excess of DSAC.

13.250 The individual charges for each of the terminating segment services are therefore generally economically meaningful signals in their own right. As such, they have real implications for the purchasing and investment incentives of CPs. We would normally expect distortions to the individual charges to be associated with economic harm. On this basis, we consider that the counterfactual for assessing economic harm in this case should be based on considering each of BT's 140/155 Mbit/s terminating segment charges separately from each other.

The appropriate cost benchmark for the counterfactual

13.251 In Section 8 above we set out why we consider that the appropriate cost benchmark for assessing compliance with Conditions GG3.1 and H3.1 is DSAC. In the paragraphs below, we set out why we also consider this to be the appropriate level for charges in the counterfactual.

[540] PPC Judgment, paragraphs 21 and 22.

13.252 As set out in the 1997 and 2001 NCC Guidelines, DSAC is an effective first order test for the likelihood of exploitative charging (even if it is not determinative). This suggests that economic harm is normally expected to follow from prices above DSAC. It also suggests that pricing of the service under investigation at DSAC will usually be a reasonable counterfactual in investigations.

13.253 We do not consider there to be compelling arguments in this case to adopt an alternative cost benchmark for our counterfactual. We therefore have adopted a counterfactual in which each of BT's disputed charges in the Relevant Period is set at (or below) DSAC.

13.254 As we set out in detail in Section 11, BT argues that the DSAC data it published in its RFS for the Relevant Period cannot be relied upon in resolving these Disputes as they were based on an incorrect methodology. It argues that we should replace the data with DSACs calculated using a revised methodology. The key difference between the two approaches is the way in which BT allocated its duct costs.

13.255 Although in Section 11 we reject BT's arguments that we should replace the published DSACs with those calculated using a different methodology, we nevertheless consider that, based on our understanding of the available evidence, the original methodology used to calculate DSACs in the Relevant Period does not appear to reflect cost causation in its treatment of duct costs.

13.256 There therefore appears to be a question as to whether BT's DSAC data based on the original methodology form an appropriate basis upon which to establish the counterfactual in these Disputes for the purpose of assessing economic harm.

13.257 In paragraph 11.158, we conclude that, as compared to an approach which reflects cost causation in its treatment of duct costs:

13.257.1 DSACs of core transmission components are likely to be over-stated in both the original and revised methodologies, although the extent of the over-statement is not clear; and

13.257.2 it seems plausible that DSACs of local access components (i.e. local ends) are under-stated in the original methodology, although this is less certain than the over-statement of core transmission component costs, and the extent of any under-statement is not clear.

13.258 In paragraph 11.159, we conclude that, in terms of the DSACs of the services in dispute:

13.258.1 PPC terminating segment connection and main link services are unaffected as they do not relate to duct costs;

13.258.2 PPC terminating segment distribution and trunk services are likely to be over-stated in both the original and revised methodologies; and

13.258.3 for PPC terminating segment local end services it seems plausible that DSACs are under-stated in the original methodology.

13.259 However, as noted above, we have been unable to reach a clear view on the size of any biases in the DSACs for the disputed services. It is difficult, therefore, to establish a specific counterfactual in this case which explicitly takes them into account. But we note the issue of the potential biases in DSACs in our conclusion on economic harm in this case.

Conclusions on the appropriate counterfactual

13.260 For the reasons set out above, we consider that the assessment of the types of economic harm in this case should be considered against a counterfactual in which each of the disputed charges is set separately at (or below) DSAC (subject to the implications of potential biases in the DSAC figures, which we have been unable to quantify).

Types of economic harm

13.261 Economic harm arises from the distortion of efficient economic decision-making, as a consequence of distorted price signals, such that economic welfare is reduced. BT’s PPC charges have resulted in the Disputing CPs and/or their retail customers paying BT too much for these services.

13.262 The nature of the types of economic harm that we consider in this case are analogous to those identified by the CAT in the PPC Judgment as having arisen in the case of 2 Mbit/s trunk. We therefore start by setting out a summary of Ofcom and the CAT’s findings in relation to 2 Mbit/s trunk services. We then go on to consider the relevance of these findings to the present case.

Ofcom and the CAT’s findings of economic harm in relation to 2 Mbit/s trunk services

13.263 We considered in the 2009 Final Determinations whether overcharging by BT for 2 Mbit/s trunk services could potentially cause economic harm. We considered that not only did BT’s charges for 2 Mbit/s trunk have the potential for causing economic harm, but that it seems likely that such harm would have occurred.[541] In summary, we found that:

> *“BT‘s 2Mbit/s trunk charges have resulted in the Disputing CPs and/or their retail customers paying BT too much for these services, and therefore generating financial loss or harm to them. Moreover, we also consider that the charges are likely to have given rise to a number of economic distortions, and therefore to economic harm. We consider that the main sources of this harm are likely to have been:*
>
> *i) reducing the overall demand for retail leased lines through increasing retail prices;*
>
> *ii) distorting competition between CPs at the retail level by favouring those able to self-supply trunk services; and*
>
> *iii) distorting the investment decisions of CPs in terms of whether to build or buy trunk services.”*[542]

13.264 In the PPC Judgment, the CAT considered these points to be correct and “*virtually self-evident*”. It found that:[543]

[541] 2009 Final Determinations, paragraph 7.35.
[542] 2009 Final Determinations, paragraph 7.36.

13.264.1 the increased costs borne by the Disputing CPs (in the form of unduly high charges for 2 Mbit/s trunk segments) were likely (in some way) to be passed on to their retail customers;

13.264.2 it was *"logically inevitable"* that those CPs needing to purchase more trunk (given the considerable variation in the Disputing CPs' networks) would be disadvantaged as against those whose networks mean that they can buy less; and

13.264.3 the economics of the decision whether to buy-in or self-supply trunk were distorted.

13.265 On this basis the CAT found that "*BT's overcharging in respect of 2 Mbit/s trunk certainly had the potential to cause economic harm, and very likely did so...we consider these consequences to be inherent in a failure to comply with Condition H3.1*"[544].

Types of harm in this case

13.266 Given that BT's 34/45 Mbit/s trunk and 2 Mbit/s trunk services are largely the same (except for the difference in bandwidth), the types of economic harm summarised in paragraph 13.261 above (and set out in detail in the 2009 Final Determinations) would appear equally relevant to 34/45 Mbit/s trunk:

13.266.1 reducing the overall demand for retail leased lines through increasing retail prices – the Disputing CPs base their charges to their retail leased lines customers on wholesale input costs, including the cost of PPC trunk and terminating segments that they purchase from BT. We consider it likely that some, albeit probably less than 100%, of the higher charges for 34/45 Mbit/s trunk segment services would have been passed on to retail customers given that the wholesale PPC charges are marginal costs for the Disputing CPs. As long as some level of passing-on occurred, it is likely that economic harm would have been suffered because the inflated retail prices are likely to have suppressed retail demand;

13.266.2 distorting competition between CPs at the retail level by favouring those able to self-supply trunk services – CPs with large existing networks are likely to be in a relatively better position to self-supply trunk circuits than those with more limited networks. Higher charges by BT for trunk circuits therefore lead to relatively higher costs for those CPs with smaller networks of their own and, as a consequence, will potentially lead to a distortion in retail competition; and

13.266.3 distorting the investment decisions of CPs in terms of whether to build or buy trunk services – high charges for wholesale services could give rise to circumstances whereby it is profitable for the Disputing CPs to invest in self-supply of the services despite their costs of provision being higher than BTs. This would be inefficient for society as a whole.

13.267 We would therefore expect to draw similar conclusions in relation to the likelihood of economic harm being associated with BT's 34/45 Mbit/s trunk charges as we did in relation to its 2 Mbit/s trunk charges. In our view, not only did BT's charges for 34/45

[543] PPC Judgment, paragraph 332.
[544] PPC Judgment, paragraph 334.

Mbit/s trunk services which were above DSAC have the potential for causing economic harm, but such harm was likely to have occurred.

13.268 In our view the three broad types of harm identified in relation to BT's trunk charges also appear relevant to BT's terminating segment charges in dispute. In particular:

13.268.1 assuming that at least some of the higher terminating segment charges were passed on to retail customers (which seems likely given that the wholesale PPC charges are a marginal cost for the Disputing CPs), the inflated retail prices could have suppressed retail demand;

13.268.2 given that there is considerable variation in the Disputing CPs' networks, high wholesale charges could potentially result in a distortion of competition between CPs at the retail level by favouring those able to self-supply the various terminating segment services for which BT overcharged; and

13.268.3 high charges for wholesale services could give rise to circumstances whereby it is profitable for the Disputing CPs to invest in self-supply of the services despite their costs of provision being higher than BT's. Therefore, high wholesale charges could distort the investment decisions of CPs in terms of whether to build or buy terminating segment services.

13.269 We note that the relative probabilities of each of these types of harm arising in relation to the various charges in dispute may vary depending on the PPC terminating segment service in question. For example, the business case for investing in self provision of PPC terminating segment transmission services may be stronger (all things being equal) than for investing in the self-provision of PPC terminating segment local ends. However, in such an example, while the distortion in investment decisions of CPs may be less for distribution services than local end services, greater harm may arise in relation to local end services due to the higher charges being passed through to retail customers and/or leading to a distortion of retail competition, reflecting the more limited options for the CPs to avoid overcharging on local ends.

13.270 In our view, while the relevance of the three types of harm identified in paragraph 13.266 may vary depending on the particular PPC terminating segment service in question, taken together, they set out why we consider that there is a risk that BT's disputed terminating segment charges that exceeded DSAC caused economic harm. Given the analogous nature of these types of harm to those considered by the CAT in the PPC Judgment, and consistent with the CAT's findings in relation to economic harm in that case (i.e. that it was "*very likely*" to have arisen), it seems to us that not only did the relevant PPC terminating segment charges have the potential to cause economic harm but such harm was likely to have occurred.

Conclusions on economic harm

13.271 As set out in paragraph 8.97, both the CAT and Court of Appeal have confirmed that we do not need to demonstrate that economic harm has occurred as a result of BT's charges in order to find it has breached its cost orientation obligations. In this case we nevertheless consider that, for the reasons set out above, BT's charges for the services in dispute had the potential to cause economic harm, and such harm was likely to have occurred in terms of higher prices to end users, reducing overall retail demand, and/or distorting investment decisions or competition between CPs (subject to the implications of potential biases in the DSAC figures, which we have been unable to quantify).

Section 14

Repayments

Introduction

14.1 In Section 13, we concluded that BT has overcharged for the services in dispute as set out in Table 13.7.

14.2 Where Ofcom has made a determination of the proper amount of a charge in respect of which amounts have been paid by one of the Parties to the other, section 190(2)(d) of the Act gives us the power to give a direction, enforceable by the party to whom the sums are to be paid, requiring the payment of sums by way of an adjustment of an underpayment or an overpayment.

14.3 In this section we consider whether we should exercise our discretion to require BT to make a repayment to the Disputing CPs, by way of an adjustment of an overpayment, and if so, what the level of any such repayment should be.

14.4 In reaching our decision, we have been guided by our duties and Community obligations under sections 3, 4 and 4A of the Act (as amended). We have also taken account of the findings of the CAT and the Court of Appeal in relation to Ofcom's power under section 190(2)(d) to require repayments in the PPC Judgment and PPC Court of Appeal Judgment, and comments made to us by the Parties.

14.5 For the sake of completeness, we have included an account of the PPC Judgment and the Parties' responses to our Draft Determinations. However, it is important to note that these pre-date the PPC Court of Appeal Judgment and that court's reasoning on these issues is the current authority, and is fuller and largely on a different basis to that of the CAT in the PPC Judgment.

14.6 As noted at paragraph 3.29, we sought comments from the Parties in response to the PPC Court of Appeal Judgment and we refer to the Parties' comments below.

The PPC Court of Appeal Judgment

14.7 On 27 July 2012 the Court of Appeal handed down the PPC Court of Appeal Judgment which considers, among other matters, Ofcom's power under section 190(2) to require repayments.

14.8 The Court of Appeal rejected BT's ground of appeal that Ofcom and the CAT had acted unlawfully and contrary to English law principles of compensation and restitution in their directions for repayment by BT to the Disputing CPs.

14.9 The Court did not accept that it is necessary or appropriate to align section 190(2)(d) of the Act with English common law causes of action and remedies. It considered that section 190 is part of a statutory code intended to give effect to the CRF, and:

> *"[t]he express purpose of section 190(2)(d) is to give effect to the determination by Ofcom of "the proper amount" of a charge and to do so by way of adjustment of any underpayment or overpayment."*[545]

[545] PPC Court of Appeal Judgment, paragraph 82.

14.10 The Court did not accept that Ofcom's discretion under section 190 is an "all or nothing" discretion but held that it is:

> *"a discretion to make such order for repayment as will best achieve the objectives of the Act and the CRF on the particular facts of the case."*[546]

14.11 It held that the discretion under section 190 *"must be exercised in a principled way with a view to achieving those objectives."*[547] It considered that:

> *"The starting point must be, in a case of overcharging in breach of an SMP condition, to order repayment of the amount of the excess charge. If, however, the payee can show some good reason why a lesser repayment or no repayment at all would better achieve the objectives of the Act and the CRF then that would provide a principled basis for Ofcom to give a direction for only a partial repayment or to make no direction for repayment at all."*[548]

14.12 The Court rejected BT's contention that, by way of analogy with damages for breach of statutory duty or with restitution for unjust enrichment, neither Ofcom nor the CAT should have given a direction for repayment because (1) there was no evidence that the Disputing CPs had suffered any harm, and (2) it would be unjust to make an order for repayment without the Disputing CPs having to account, or give credit, for the benefit they received by virtue of the low charges for terminating segments they purchased from BT.[549]

14.13 In relation to BT's first ground, the Court of Appeal found that "*both Ofcom and the Tribunal found that overcharging had adverse consequences for both the Disputing CPs and their customers and distorted the market*".[550] It held therefore that: *"Both Ofcom and the Tribunal were perfectly entitled to conclude that it is not consistent with the regulatory regime and the objectives of the CRF to leave BT with the benefit of its excessive charging for trunk segments in breach of Condition H3.1 in the light of those economic consequences as well as the economic harm suffered by the ultimate retail customers."* [551] The Court noted that Ofcom found that it was appropriate, in the light of the regulatory objectives, to direct BT to repay the overcharges even if the Disputing CPs passed on those charges to their customers.

14.14 In relation to the second ground, the Court of Appeal found that *"[f]ar from promoting the objects of the Act and the CRF counter-restitution would, on the facts of the present case, undermine them"*.[552]

14.15 The Court of Appeal also rejected BT's argument that the need to show loss or damage for a civil claim for breach of an SMP condition under section 104 of the Act requires a different interpretation of section 190(2)(d) of the Act, finding that "*[e]ach section turns on its particular wording*".[553]

Structure of this section

14.16 Our analysis in this section is split into three parts:

[546] PPC Court of Appeal Judgment, paragraph 83.
[547] PPC Court of Appeal Judgment, paragraph 84.
[548] PPC Court of Appeal Judgment, paragraph 84.
[549] PPC Court of Appeal Judgment, paragraph 85.
[550] PPC Court of Appeal Judgment, paragraph 87.
[551] PPC Court of Appeal Judgment, paragraph 88.
[552] PPC Court of Appeal Judgment, paragraph 86.
[553] PPC Court of Appeal Judgment, paragraph 90.

14.16.1 First, we consider whether we should require BT to make a repayment to the Disputing CPs.

14.16.2 Second, we consider what the level of any repayment should be.

14.16.3 Third, we consider whether BT is required to pay interest on repayments to the Disputing CPs.

14.17 Finally, we explain how our decision is consistent with our duties and powers.

Is BT required to make repayments to the Disputing CPs?

Our Draft Determinations

14.18 In our Draft Determinations, we considered that in applying section 190(2)(d) of the Act, BT should not unfairly retain any overcharge, as this could provide a disincentive for it to comply with its regulatory obligations. We noted that the incentives and regulatory signals that determinations in disputes of this nature send to CPs as to how we interpret regulatory obligations and assess future conduct are of real importance.

14.19 We considered that this position was supported by the PPC Judgment, in which the CAT noted that Ofcom's discretion under section 190(2)(d) "*is a "hard" discretion confined to requiring Ofcom to follow through on the conclusions it has drawn pursuant to the Dispute Resolution Process*."[554]

14.20 The CAT also held that:

> "*Had BT carefully sought to apply Condition H3.1, but failed, then we consider that that should have been taken into account, and the amount BT would have to pay reduced. But that is not so in this case. This is a case where BT has comprehensively misconstrued the obligation on it, and overcharged as a result. Any shift away from the restitutionary approach that we have described would, so we conclude, be unjustifiable*."[555]

14.21 We provisionally concluded that BT had not demonstrated to us that it carefully sought to apply Conditions GG3.1 and H3.1 in its charges for the services in dispute, and that the amounts we required BT to repay should not therefore be reduced to reflect any efforts to comply with the obligations. We proposed to apply the same approach to the level of repayments in these Disputes as we applied in the 2009 Final Determinations, which is to base the level of repayments on the difference between the level of the charge and DSAC.

14.22 Given Ofcom's conclusion in the 2009 Final Determinations that BT had overcharged, in that certain of its prices were not cost orientated, the CAT found that it was plain that the CPs in dispute with BT had overpaid in respect of those services and that BT had had the benefit of such overpayments. The CAT held that repayment was simply *"putting the parties in the position they would have been in had Condition H3.1 been complied with. Failure to do so would undoubtedly signal that compliance with SMP*

[554] PPC Judgment, paragraph 182.
[555] PPC Judgment, paragraph 338(2).

conditions is not rigorously policed and that – we consider – is an inappropriate signal to send."[556] The CAT described its approach as "restitutionary".

14.23 The CAT went on to reject BT's characterisation of Ofcom's direction as the imposition of a penalty: *"OFCOM's direction… was not intended (and did not) penalise BT, but sought to rectify some (but probably not all) of the adverse effects of BT's failure to comply with Condition H3.1."* The CAT considered that in so acting, Ofcom "*was acting consistently with a number of cases stating that where a person is given the power to levy charges, if that person charges excessively, then the excess is recoverable at the instance of the person who has overpaid*".[557]

14.24 In the 2009 Final Determinations[558] we also assessed what the impact of repaying the overcharged revenue to its external customers would be on BT's rate of return for PPCs over the period of overcharging to 30 September 2008. In the PPC Judgment, the CAT commented that it had some misgivings about this approach.[559] We therefore did not carry out a similar assessment of the impact of any repayments on BT's rate of return in reaching our Draft Determinations.

14.25 Given the evidence of overcharging and in light of the CAT's findings in the PPC Judgment, we proposed that we should direct BT to pay to the Disputing CPs sums by way of adjustment of those overpayments.

Views of the Parties

Parties' views on our Draft Determinations

14.26 The Disputing CPs support our proposal to require BT to repay the difference between the amounts paid and the DSAC.[560] They consider that awarding repayments "*is appropriate in order to provide the correct incentives to BT to comply with its regulatory obligations*" and that it is "*fair as between BT and the Disputing CPs, reasonable from the point of view of Ofcom's regulatory objectives and consistent with Ofcom's statutory duties, the Community Requirements and the CAT's conclusions in the PPC Judgment*".[561] They agree that "*there should be no reduction in the amount BT has to repay [the Disputing CPs]*." They quote paragraph 338(2) of the PPC Judgment, where the CAT stated that the amount should "*[p]ut the parties in the position they would have been had Condition H3.1 been complied with*".[562]

14.27 Verizon adds that *"[t]he awarding of repayments is appropriate given the degree to which BT has failed to comply with its SMP obligations and the scale of overcharging that has occurred".*[563]

14.28 BT did not comment on Ofcom's approach to repayment in its response to our Draft Determinations. However, as noted at paragraphs 3.25 and 8.31 above, BT states that it adopts certain submissions made in its response to our Ethernet Provisional Conclusions[564] in relation to errors of law which it alleged the CAT had made in the

556 PPC Judgment, paragraph 338(2).
557 PPC Judgment, paragraph 338(3).
558 2009 Final Determinations, paragraph 9.30.
559 PPC Judgment, paragraph 338(5).
560 Disputing CPs' response to our Draft Determinations, paragraph 8.1.1.
561 Disputing CPs' response to our Draft Determinations, paragraph 8.2.
562 Disputing CPs' response to our Draft Determinations, paragraph 8.6.
563 Verizon's response to our Draft Determinations, page 4.
564 See section 10 of BT's response to our Ethernet Provisional Conclusions.

PPC Judgment "*subject to those changes which need to be made for the purposes of TISBO and Trunk markets and these Disputes*".[565]

14.29 In its response to our Ethernet Provisional Conclusions, BT argued that Ofcom's use of its powers under section 190(2)(d) to order a *"mechanistic repayment"* of any charges above DSAC is *"unlawful as a matter of EU and English public law"* and *"contrary to well-established English compensatory and/or restitutionary principles"*. It argued that Ofcom's powers under section 190 must be construed in the light of the objectives of the CRF and any direction for BT to make payment must satisfy the policy objectives laid down in Article 8(2) of the Framework Directive and the proportionality and consistency/transparency requirements in section 3(3) of the Act.[566]

14.30 BT also considered that Ofcom did not carry out the required assessment of proportionality (as addressed in *Tesco v Competition Commission* [2009] CAT 6 at paragraph 135 and in *Vodafone v Ofcom* [2008] CAT 22) before deciding whether to order repayment, and that the CAT in the PPC Judgment had *"failed to consider whether the payments ordered complied with these EU and public law duties*." [567]

14.31 BT stated that the payment regime in section 190(2)(d) must be either compensatory or restitutionary, and concludes that it appears compensatory *"in view of the parallel enforcement regime for breach of statutory duty under section 104(2)(a) of the 2003 Act, which is compensatory in nature"*.[568]

14.32 If, however, the regime is restitutionary, BT contended that *"a true restitutionary approach is based on principles designed to ensure that neither claimant nor defendant is unjustly enriched at the expense of the other."* BT stressed that counter-restitution must be taken into account in order to avoid the Disputing CPs being unjustly enriched at the expense of BT.[569] BT referred to its arguments made in the PPC appeal that the Disputing CPs were not overcharged in relation to PPCs as a whole.[570]

Parties' comments following the PPC Court of Appeal Judgment

14.33 As set out in paragraphs 14.7 to 14.15, the PPC Court of Appeal Judgment sets out reasoning on the issue of repayments that we are following and we sought the Parties' comments on the judgment. Many of these related specifically to the Ethernet Disputes and are addressed in Section 15 of the Ethernet Determinations. However, we set out below the comments which may also apply to these Disputes.

14.34 Noting the Court's conclusions on Ofcom's powers under section 190(2)(d), C&W and Virgin consider that BT would have to do more than *"just show that it did its best to comply, but failed to do so through some misunderstanding of its obligations […]. There must be a reason relating to 'the better achievement of the objectives of the Act and the CRF' for any repayment to be reduced"*. They consider that BT is also unable to argue that a repayment should be less than the full amount because the Disputing CPs have not demonstrated that they suffered economic harm. C&W and Virgin consider that the judgment made clear that whether or not evidence that the

[565] BT's response to our Draft Determinations, paragraph 6.
[566] BT's response to our Ethernet Provisional Conclusions, paragraphs 372 to 373.
[567] BT's response to our Ethernet Provisional Conclusions, paragraph 373.
[568] BT's response to our Ethernet Provisional Conclusions, paragraph 375.
[569] BT's response to our Ethernet Provisional Conclusions, paragraph 376.
[570] BT's response to our Ethernet Provisional Conclusions, paragraph 377.

Disputing CPs suffered harm is presented is not a proper ground for impugning the exercise of Ofcom's discretion to order repayment in full,[571] and that there is *"no scope for BT to argue that credit must be given by disputing CPs for any 'low' charges for other services taken with the services which were overcharged (perceived 'low' charges being those for terminating segments in the case of PPCs…)"*.[572]

14.35 Verizon notes that the Court of Appeal rejected BT's position that *"both Ofcom and the Tribunal had acted unlawfully and contrary to well established English law principles of compensation and restitution in their directions for payment of compensation by BT."* Verizon notes that the Court of Appeal *"stated categorically"* that Ofcom and the CAT were correct in concluding that it is not consistent with the regulatory regime and the objectives of the CRF to leave BT with the benefit of its excessive charging.[573]

14.36 BT states that:

> "*the Judgment helpfully clarifies that the statutory dispute resolution scheme does not involve a hard discretion in respect of repayments, but rather, should the payee show good reason, Ofcom may reduce, in part or even in full, the gross repayment*."[574]

14.37 BT considers that there are "*clear, significant and good reasons*" why Ofcom should direct a reduced payment or no payment at all, including:[575]

14.37.1 *"giving BT a significant allowance or margin of error when assessing what BT should have concluded was a compliant maximum charge for network access at the time that BT set those charges, or, alternatively, reviewed those charges…*

14.37.2 *to the extent that Ofcom declines to allow BT's proposed cost adjustments (or objections to Ofcom's cost adjustments) and error corrections for the purpose of assessing the after the event limit of what is a compliant charge, by reflecting those cost adjustments and error corrections in a reduction in the amount of any repayment;*

14.37.3 *should Ofcom conclude, for the purpose of assessing compliance with the basis of charges condition, that … it is inappropriate to aggregate prices across bandwidths, nonetheless assessing whether the total charge to any given CP for the provision of a service or group of services results in an excessive or otherwise unfair charge and to the extent that there has been no unfairness reduce the repayment accordingly; and*

14.37.4 *considering the impact of "pass-through" or alternatively "windfall" and the impact of either of these two factors on citizens generally in communications markets and consumers of these products specifically, especially in the context of the promotion of effective competition, reducing any repayment accordingly."*

[571] C&W and Virgin's joint response to the PPC Court of Appeal Judgment, paragraphs 14 to 15.
[572] C&W and Virgin's joint response to the PPC Court of Appeal Judgment, paragraph 18.
[573] Verizon's response to the PPC Court of Appeal Judgment, page 2.
[574] BT's response to the PPC Court of Appeal Judgment, page 2.
[575] BT's response to the PPC Court of Appeal Judgment, page 2.

Our analysis

14.38 As set out above, Ofcom has the power pursuant to section 190(2)(d) of the Act to direct that one party to a dispute should pay a sum to another party by way of an adjustment of an overpayment.

14.39 In this analysis we have taken full account of the PPC Court of Appeal Judgment. In that judgment, the Court held that Ofcom's discretion under section 190 *"must be exercised in a principled way"* with a view to achieving the objectives of the Act and the CRF on the particular facts of the case.[576]

14.40 In considering our regulatory objectives, we return first to the CRF and our reason for imposing the SMP conditions on BT. These reasons are discussed at paragraphs 4.22 to 4.35 above and we are satisfied that we complied with our obligations in setting Conditions H3.1 and GG3.1. We consider that remedying a breach of the SMP Conditions is consistent with the objectives of the CRF, as without a remedy the regime would risk being ineffective. We also consider that remedying a breach is consistent with the Act, which clearly envisages by way of section 190(2)(d) that Ofcom may decide that there should be a repayment of sums previously over- or under-paid.

14.41 We do not consider that our findings of overcharging depend on a finding of economic harm (see paragraph 8.97 above). However, we note our conclusions at paragraph 13.269 that not only did BT's charges have the potential for causing economic harm, but such harm was likely to have occurred. We consider that this is a further indication that we should order repayments, as to do otherwise would be inconsistent with our duties to further the interests of consumers, where appropriate by promoting competition.

14.42 The Court of Appeal considered that our starting point in a case of overcharging in breach of an SMP condition must be to order repayment of the amount of the excess charge, but that if BT can show a good reason why a lesser repayment or no repayment would better achieve the objectives of the Act and the CRF then we may order only a partial repayment or make no direction for repayment. The Court of Appeal also noted that it is not necessary or appropriate to align section 190(2)(d) of the Act to English common law causes of action and remedies and that, on the facts of that case, counter-restitution would be inconsistent with the 2004 regulatory regime and would undermine the objects of the Act and the CRF.[577]

14.43 In applying section 190(2)(d) of the Act, we consider that BT should not be left with the benefit of its excessive charging in breach of Conditions H3.1 and GG3.1, as this could provide an incentive for it to fail to comply with its regulatory obligations. Implicit in providing incentives for future conduct is the need to address unreasonable historic behaviour. As we noted in the 2009 Final Determinations[578], the greater the adverse financial implications for the regulated firm, the stronger the incentive to ensure future compliance. We consider that to require BT to make payments to the Disputing CPs by way of adjustment of overcharges promotes the interests of consumers and competition, by ensuring that the SMP obligations set on BT are enforced. This protects consumers, enables other providers to compete with BT and helps to level the playing field for BT's competitors, leading to downward pressure on prices, availability of a wider range of services and improved quality of service.

[576] PPC Court of Appeal Judgment, paragraphs 83 and 84.
[577] PPC Court of Appeal Judgment, paragraphs 82 to 84 and 86.
[578] 2009 Final Determinations, paragraph 8.34.

14.44 We do not agree with BT's argument that the enforcement regime under section 104(2)(a) of the Act implies that the regime under section 190(2)(d) must be compensatory in nature. In our view, this would be inconsistent with the views of the Court of Appeal in the PPC Court of Appeal Judgment (at paragraph 90).

14.45 We remain of the view that we should not carry out an assessment of the impact of any repayments on BT's rate of return, and note the misgivings about this approach expressed by the CAT in the PPC Judgment (see paragraph 14.24 above).

14.46 We do not agree that we are 'mechanistic' in the exercise of our discretion to order repayments. On balance, having considered all our relevant regulatory duties in exercising this regulatory discretion, we consider that repayment is likely to best promote our regulatory objectives unless we have conflicting evidence that such an outcome would be inconsistent with our duties or the objectives of the legislative framework. We do not consider in this case that BT has shown any good reason why a lesser repayment or no repayment at all would better achieve the objectives of the Act and the CRF. In particular:

14.46.1 We have noted BT's arguments in relation to what it should have concluded was a compliant maximum charge at the time it set its charges. Especially where BT's charges exceeded DSAC in fewer than three financial years, we considered evidence that they did not constitute overcharging. We do not therefore consider it would be appropriate for us to exercise our discretion to order a lesser repayment on this basis.

14.46.2 In relation to BT's argument that we should reflect cost adjustments that we have not accepted in our assessment of overcharging in our determination of the appropriate level of repayments, we consider it would not be appropriate to base these decisions on two different data sets.

14.46.3 For the reasons summarised at paragraph 7.24, we consider that Conditions H3.1 and GG3.1 require 'each and every' charge to be cost orientated. In calculating the level of overcharge, we therefore carry out that calculation for each separate charge individually. We do not think that it would be appropriate to calculate repayments against a different benchmark in this case and consider this approach is consistent with the Court of Appeal's finding that a counter-restitution analysis would undermine the objects of the Act and the CRF (see paragraph 14.42 above).

14.46.4 We consider that in this case, where we have found that BT has overcharged in breach of an SMP condition, it is appropriate to require a repayment of the amount of the overcharge, even if the Disputing CPs may have passed on that charge to their customers.

14.47 We therefore conclude that we should direct BT to repay the Disputing CPs the amounts by which BT has overcharged them for PPC services. We consider that, by way of adjustment of an overpayment, we should direct BT to repay the full amount of the overcharge because, having considered arguments for a lesser amount, we do not consider that they are made out.

14.48 We would strongly encourage the Disputing CPs to pass on the benefits of any repayment to their customers. If they do so, customers of Disputing CPs may benefit from lower prices that the Disputing CPs may be able to deliver as a consequence of any repayment.

Calculating repayments

14.49 Having identified that BT has overcharged the Disputing CPs and concluded that we should require BT to refund the overpayments, we now identify the amount that BT must repay to each Disputing CP.

Our provisional conclusions

14.50 We proposed to adopt the same approach to quantifying the level of repayment for each Disputing CP as we adopted in the 2009 Final Determinations.[579] To calculate repayments to each Disputing CP for each year, we proposed to use BT's billing data for each service in dispute to calculate the relative share of total external spend that is attributable to each of the Disputing CPs.

Views of the Parties

14.51 BT expressed concerns regarding our calculation of the level of repayments. These relate specifically to the adjustments we proposed, and are set out in Section 12 above.

14.52 The Disputing CPs generally agree with the methodology used to derive the repayment amounts set out in the Draft Determinations.[580]

Our analysis

14.53 Since none of the Parties disagrees with our proposed approach to calculating individual repayments we intend to follow the approach set out in our Draft Determinations which is to use BT's billing data for each service in dispute to calculate the relative share of total external spend that is attributable to each of the Disputing CPs.

14.54 On this basis, we set out in Table 14.1 below the total refunds for each of the Disputing CPs in each year (rounded to the nearest £1000). In Table 14.2 we show the total repayments split by Disputing CP, PPC service and year.

[579] 2009 Final Determinations, paragraphs 8.70 *et seq*.
[580] Disputing CPs' response to our Draft Determinations, paragraph 8.3.

Table 14.1: Summary of repayments due to the Disputing CPs in £, split by year

Year	CWW[581]	Level 3	Virgin	Verizon	COLT	Total
2004/05	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
2005/06	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
2006/07	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
2007/08	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
2008/09	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total	[✂]	[✂]	[✂]	[✂]	[✂]	2,896,800

Note: values rounded to the nearest £100. Totals have been calculated by adding up the rounded figures. Source: Ofcom – based on data supplied by BT

Table 14.2: Repayments due to the Disputing CPs in £, split by service

Refund (£m)	CWW	Level 3	Virgin	Verizon	COLT	Total
2006/07						
140/155 Mbit/s main link	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
140/155 Mbit/s local end	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
2007/08	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
140/155 Mbit/s distribution	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
140/155 Mbit/s local end	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
34/45 Mbit/s Trunk	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
2008/09	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
140/155 Mbit/s distribution	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
140/155 Mbit/s local end	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
34/45 Mbit/s Trunk	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total	[✂]	[✂]	[✂]	[✂]	[✂]	**2,896,800**

Note: values rounded to the nearest £100. Totals have been calculated by adding up the rounded figures. Source: Ofcom – based on data supplied by BT

Interest on repayments

14.55 As discussed in the 2009 Final Determinations, the Disputing CPs asked us to require BT to pay interest on any overpayments.[582]

Our Draft Determinations

14.56 In our Draft Determinations, we had regard to the terms and conditions on which the Disputing CPs purchase PPCs from BT – the *BT Standard PPC Handover Agreement* ("the Agreement").[583] Paragraph 9.7 of the Agreement states that:

> *"If any charge (or the means of calculating that charge) for a BT service or facility has retrospective effect (for whatever reason) then BT shall, as soon as reasonably practicable following publication in the Carrier Price List, adjust and recalculate the charges in respect of such service or facility using the new charge and calculate the interest for any sum overpaid or underpaid at the Oftel Interest Rate*."

[581] Cable & Wireless Worldwide plc group ("CWW").
[582] See paragraph 8.83 onwards of the 2009 Final Determinations.
[583] The BT Standard PPC Handover Agreement is available on request from BT. https://www.btwholesale.com/pages/static/Products/Data_and_IP_Connectivity/Partial_Private_Circuits/pricingandcontract.htm

14.57 The "Oftel Interest Rate" is defined in Annex D to the Agreement as:

> "*...three eighths of one per cent (3/8%) above the London Inter Bank Offered Rate being the rate per annum of the offered quotation for sterling deposits for delivery on the due date for payment for a period of three months as displayed on page 3750 on the Telerate Service (or any other page that may replace page 3750 on that service) at or about 11 am London time on the due date of payment provided that if such a rate is not so displayed London Inter Bank Offered Rate shall mean the rate quoted by National Westminster Bank PLC to leading banks in the London interbank market at or about 11 am London time on the due date of payment for the offering of sterling deposits of a comparable amount for a period of three months. Such interest shall be calculated on a daily basis*."

14.58 We provisionally concluded that the Agreement clearly envisages a situation such as that arising in these Disputes occurring (i.e. charges for PPC services having a retrospective effect) and sets out that where this occurs, BT should recalculate the charges using the new charges and calculate interest using the Oftel Interest Rate.

14.59 We therefore proposed to conclude that, on the facts of these Disputes, it is appropriate and proportionate for Ofcom to exercise its powers under section 190(2)(d) of the Act to require BT to repay the amounts calculated in accordance with the proposed methodology with interest at the Oftel Interest Rate.

Views of the Parties

Parties' responses to our Draft Determinations

14.60 The Disputing CPs all agree that it is fair and reasonable for Ofcom to award interest in these Disputes.[584] Although the Disputing CPs consider this is supported by the terms of the Agreement, they argue that Ofcom should not place an undue amount of weight on the contractual arrangements between the parties in circumstances where the contract has to a large extent been imposed on CPs by BT and relates to services in which BT has been found to have SMP. They note that the CAT[585] has previously held that Ofcom's powers to resolve disputes and award repayments and interest override private law rights and contractual agreements.[586]

14.61 The Disputing CPs argue that, whilst the contract specifies interest at the Oftel Interest Rate in these circumstances, the 'fair and reasonable' approach would be to award interest at the 'Default Rate' (LIBOR +4%), on the basis that the Oftel Interest Rate is "*an anachronism from the pre-NCC BT Interconnect Agreement, subsequently transferred without any proper consideration to the PPC Handover Agreement*".[587]

14.62 The Disputing CPs also argue that the Oftel Interest Rate leads to under-compensation for the Disputing CPs as it does not reflect their collective or individual WACCs and is unfair in that is asymmetric in nature.[588]

[584] Disputing CPs' response to our Draft Determinations, paragraph 8.7; Verizon's response to our Draft Determinations, page 5.
[585] They refer to the CAT's judgment in *BT (Termination charges: 080 calls) v OFCOM* [2011] CAT 24 (the "08 CAT Judgment") at paragraph 241.
[586] Disputing CPs' response to our Draft Determinations, paragraphs 8.8 and 8.9.
[587] Disputing CPs' response to our Draft Determinations, paragraphs 8.10 and 8.11.
[588] Disputing CPs' response to our Draft Determinations, paragraph 8.12.

14.63 Verizon argues that the award of interest should be "*at a rate based on cost of capital effects rather than on the contractual rate*". It concludes that it "*is content for this to be calculated with reference to the designated WACC for BT Wholesale at the relevant times*".[589]

14.64 BT considers that the appropriate interest rate is "*a matter that Ofcom has already dealt with in the Final Determinations*". It considers that "*[t]here is no justification for Ofcom to change approach in this dispute.*"[590]

14.65 BT rejects the Disputing CPs' assertions regarding the imposition of the contract by BT, noting that "*clauses 14 and 15 of the PPC contract explicitly allow for industry review of the agreement every two years and the ability to refer the matter to Ofcom to determine where agreement cannot be reached.*" BT notes that "*[s]ince 2002 the PPC contract has been subject to at least three rounds of industry review and consultation under these provisions. At each stage CPs have had the opportunity to review the interest terms in the contract and raise the issue with Ofcom – none of the Disputing CPs have done this.*"[591]

Parties' response to PPC Court of Appeal Judgment

14.66 C&W, Virgin and Verizon refer to the Court of Appeal's judgment in the appeal of the 08 CAT Judgment (the "08 Court of Appeal Judgment").[592] They consider that the 08 Court of Appeal Judgment is relevant to their submissions on interest and supports the view that the contractual position between the parties does not bind a regulator when it is determining a dispute.[593]

14.67 Verizon considers that in light of the PPC Court of Appeal Judgment, it is clear that Ofcom has discretion about what it awards under section 190, *"including awards of interest"*, and reiterates that Ofcom should give due consideration to how it exercises that discretion.[594]

14.68 Verizon considers that the 08 Court of Appeal Judgment "*clearly demonstrate[s] that a correct legal analysis of the position is that contractual agreements are not binding or determinative on Ofcom in the exercise of its dispute resolution powers*" and that "*over reliance by Ofcom on the contractual conditions between parties in dispute may result in Ofcom not reaching a decision that achieves the relevant regulatory objectives…to reach a decision that is fair and reasonable between the parties and which restores the parties to the position they would have been had Condition H3.1 been complied with*".[595]

Our analysis

14.69 In response to our Draft Determinations, the Disputing CPs argue that, while it is fair and reasonable for Ofcom to award interest in these Disputes in addition to determining the appropriate charge for PPCs, Ofcom should not place an undue amount of weight on the contractual arrangements. Some of the Disputing CPs assert that the 'fair and reasonable' rate at which interest should be awarded is the

[589] Verizon's response to our Draft Determinations, pages 5 to 6.
[590] BT's comments on the Disputing CPs' response, page 2.
[591] BT's comments on the Disputing CPs' response, page 2.
[592] *Telefónica O2 UK Ltd v Office of Communications* [2012] EWCA Civ 1002.
[593] C&W and Virgin's and Verizon's responses to the PPC Court of Appeal Judgment. The responses refer in particular to paragraphs 73 to 75 and 101 of the 08 Court of Appeal Judgment.
[594] Verizon's response to the PPC Court of Appeal Judgment, page 3.
[595] Verizon's response to the PPC Court of Appeal Judgment, p.4.

'Default Interest Rate' (as defined in Annex D and applied for example in the case of late payment in Annex B of the Agreement) of LIBOR + 4%. Verizon asserts that interest should be awarded at BT's WACC (see paragraph 14.63 above). The Disputing CPs assert that the Oftel rate set out at clause 9.7 of the Agreement (to be applied if a charge has retrospective effect following recalculation or adjustment (for whatever reason) as is the case in these Disputes) under-compensates the Disputing CPs and is asymmetric and unfair. They assert this on the basis of BT's SMP in relation to PPC services without explaining the history and nature of the contractual negotiations which led to the inclusion of this clause. BT argues that Ofcom addressed this issue in the 2009 Final Determinations and considers we should not change our approach.

14.70 Ofcom has the power in determining a dispute to set aside contractual provisions and fix the rights and obligations between the parties to achieve an outcome which Ofcom considers would most appropriately meet its regulatory objectives (section 190(2) of the Act). As stated in the 08 Court of Appeal Judgment, whilst favouring commercial certainty by upholding contractual rights can be a relevant consideration for Ofcom to bear in mind, neither the actual or previous contractual position can be of any overriding significance.[596] The Court of Appeal observed that Ofcom's function and duty is to consider all the various factors and to come to a balanced assessment overall as to what outcome would most appropriately meet the relevant regulatory objectives.[597]

14.71 The Disputing CPs assert that clause 9.7 was imposed in the context of BT's SMP and is therefore unfair and unreasonable. The Disputing CPs have not put forward evidence to explain the reason for the inclusion of clause 9.7 in the context of the contractual negotiations. We note that the Oftel rate has been adopted as the applicable interest rate in the case of retrospective adjustment of charges in other BT contracts, such as BT's Standard Interconnect Agreement[598], and that if we were to conclude in resolving these Disputes that clause 9.7 of the Agreement was not fair and reasonable and should be set aside, that decision could have broader industry-wide effects. We note that the Disputing CPs entered into discussions with BT regarding the applicable interest rate in the Agreement. However, the Disputing CPs have not lodged a dispute or complaint with us in relation to this clause previously, even though it has been in place for some years during which the contract has been reviewed. We also note that we applied clause 9.7 in our 2009 Final Determinations.

14.72 The scope of these Disputes was to determine whether, during the Relevant Period, BT has overcharged for the services in dispute and, if so, whether and by how much BT should reimburse the Parties to adjust for any overcharge. We have determined that there was an overcharge and directed full repayment. Our decision on repayments was made in the light of our statutory duties and in particular with a view to incentivising BT to comply with its SMP obligations. We consider that we do not have sufficient evidence to decide whether we should also award interest at a rate other than the contractually agreed Oftel rate, which would involve setting aside the contractual provision, in order to meet our regulatory objectives following a balanced assessment of all the regulatory factors.

[596] 08 Court of Appeal Judgment, paragraph 74.
[597] 08 Court of Appeal Judgment, paragraph 94.
[598] BT's Network Charge Change Control Standard Interconnect Agreement. This is BT's reference interconnect offer for telephony that provides the terms and conditions on which calls are connected between the public electronic communications networks of BT and other CPs.

14.73 In conclusion, we consider that the Disputing CPs have not provided strong and compelling evidence that clause 9.7 is not fair and reasonable such that we should intervene in the light of our regulatory objectives to set it aside.

Ofcom's statutory obligations and regulatory principles

14.74 We have considered our general duties in section 3 of the Act and the six "Community requirements" set out in section 4 of the Act, which give effect, among other things, to the requirements of Article 8 of the Framework Directive.

14.75 We consider that our Draft Determinations are consistent with these duties and we would highlight in particular the following statutory obligations and regulatory principles as relevant to our proposed decision to require BT to make repayments by way of adjustment of overpayments in these Disputes.

14.76 Accepting the Disputes for resolution fits with Ofcom's regulatory principle to intervene where there is a specific regulatory duty to do so.

14.77 We consider that to require BT to make repayments to the Disputing CPs by way of adjustment of overpayments is consistent with the regulatory regime established for the TISBO and wholesale trunk segments markets by the 2004 LLMR Statement and with the policy objective of promoting competition that imposing the SMP conditions, including Conditions H3.1 and GG3.1, was intended to achieve. We therefore consider that requiring BT to make repayments to the Disputing CPs supports our obligation to further the interests of consumers, where appropriate by promoting competition, as it encourages BT to comply with its SMP obligations. It promotes competition more generally by enabling other providers to compete with BT in the provision of retail leased lines to businesses. Promoting competition in this case leads to benefits for businesses in the form of increased choice, downward pressure on retail prices and improved quality of service.

14.78 Requiring BT to make repayments for the Relevant Period as set out in Table 14.1, supports Ofcom's principal duty at section 3(1)(b) of the Act, as well as our duty under section 4(3) of the Act to promote competition in communications markets in accordance with the Framework Directive.

14.79 In addition, we consider that requiring BT to make repayments to the Disputing CPs by way of adjustment of overpayments supports our obligation at section 3(2)(b) of the Act to secure the availability of a wide range of communications services, as well as our duty under sections 4(7) and 4(8) of the Act to encourage the provision of network access (here, PPC services) for the purposes of securing efficiency and sustainable competition, for the benefit of consumers.

14.80 Finally, we consider that requiring BT to make repayments to the Disputing CPs by way of adjustment of the overpayments is in line with Ofcom's duty and regulatory principles to ensure that our regulatory activities are transparent, accountable, evidence-based, proportionate, consistent and targeted.

14.81 We consider that this document clearly sets out BT's and the Disputing CPs' arguments and our reasoning that leads to these Determinations, thereby supporting Ofcom's duty and regulatory principle to ensure that our decision making process is evidence-based, proportionate and consistent. We consider that our Determinations are proportionate, in that they strike a fair balance between the Parties to the Disputes, and targeted in that they are limited to the matters in dispute and binding on the Parties.

Summary of our resolution of the disputes

14.82 Based on the analysis set out in **Section 13**, Ofcom determines that:

14.82.1 BT has overcharged for the services which are the subject of these Disputes;

14.82.2 BT has overcharged the Disputing CPs a total of £2,896,800 million during the Relevant Period; and

14.82.3 BT should refund the Disputing CPs the amounts overpaid:

a) CWW: £[✂]

b) Level 3: £[✂]

c) Virgin: £[✂]

d) Verizon: £[✂]

e) COLT: £[✂]

14.83 If other BT customers approach BT seeking similar repayment of any overcharge for the PPC services which are the subject of these Disputes, we would expect BT to take account of our conclusions in these Determinations.

Annex 1

Determination to resolve the dispute between BT and CWW

Determination under sections 188 and 190 of the Communications Act 2003 ("2003 Act") for resolving a dispute between Cable & Wireless Worldwide plc group ("CWW")[1] and British Telecommunications Plc ("BT") concerning BT's charges for partial private circuits ("PPCs").

WHEREAS—

(A) Section 188(2) of the 2003 Act provides that, where Ofcom has decided pursuant to section 186(2) of the 2003 Act that it is appropriate for it to handle a dispute, Ofcom must consider the dispute and make a determination for resolving it. The determination that Ofcom makes for resolving the dispute must be notified to the parties in accordance with section 188(7) of the 2003 Act, together with a full statement of the reasons on which the determination is based. Ofcom must publish so much of its determination as (having regard, in particular, to the need to preserve commercial confidentiality) it considers appropriate to publish for bringing it to the attention of the members of the public, including to the extent that Ofcom considers pursuant to section 393(2)(a) of the 2003 Act that any such disclosure is made for the purpose of facilitating the carrying out by Ofcom of any of its functions;

(B) Section 190 of the 2003 Act sets out the scope of Ofcom's powers on resolving a dispute which may include, in accordance with section 190(2) of the 2003 Act;

a) making a declaration setting out the rights and obligations of the parties to the dispute;

b) giving a direction fixing the terms or conditions of transactions between the parties to the dispute;

c) giving a direction imposing an obligation, enforceable by the parties to the dispute, to enter into a transaction between themselves on the terms and conditions fixed by Ofcom; and

d) for the purpose of giving effect to a determination by Ofcom of the proper amount of a charge in respect of which amounts have been paid by one of the parties to the dispute to the other, giving a direction, enforceable by the party to whom sums are to be paid, requiring the payment of sums by way of adjustment of an underpayment or overpayment;

(C) On 24 June 2004, Ofcom published a statement called *Review of the retail leased lines, symmetric broadband origination and wholesale trunk segments markets*[2] (the "2004 LLMR Statement") which found that BT held significant market power ("SMP") in a number of markets, including those for:

[1] Including the following CWW companies: Cable & Wireless UK; Thus Group Holdings Limited; Energis Communications Limited and Your Communications Group Limited.
[2] http://www.ofcom.org.uk/consult/condocs/llmr/statement/state_note.pdf.

a) the provision of wholesale traditional interface symmetric broadband origination ("TISBO") with a bandwidth capacity up to and including 8 Mbit/s within the United Kingdom but not including the Hull Area ("the low bandwidth TISBO market");

b) the provision of wholesale TISBO with a bandwidth capacity above 8 Mbit/s and up to and including 155 Mbit/s within the United Kingdom but not including the Hull Area ("the high bandwidth TISBO market"); and

c) the provision of wholesale trunk segments at all bandwidths within the United Kingdom ("the trunk segment market");

(D) In the 2004 LLMR Statement, Ofcom imposed a series of SMP conditions on BT in these markets under section 45 of the Act, including a basis of charges obligation, which:

a) in the low bandwidth TISBO and high bandwidth TISBO markets requires:

> "*[G/GG]3.1 Unless Ofcom directs otherwise from time to time, the Dominant Provider shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that each and every charge offered, payable or proposed for Network Access covered by Condition [G/GG]1 [the requirement to provide network access on reasonable request] is reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs including an appropriate return on capital employed.*
>
> *[G/GG]3.2 For the avoidance of any doubt, where the charge offered, payable or proposed for Network Access covered by Condition [G/GG]1 is for a service which is subject to a charge control under Condition [G/GG]4 [the charge control condition], the Dominant Provider shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that such a charge satisfies the requirement of Condition [G/GG]3.1.*
>
> *[G/GG]3.3 The Dominant Provider shall comply with any direction Ofcom may from time to time direct under this Condition.*"; and

b) in the trunk segment market requires:

> "*H3.1 Unless Ofcom directs otherwise from time to time, the Dominant Provider shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that each and every charge offered, payable or proposed for Network Access covered by Condition H1 [the requirement to provide network access on reasonable request] is reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs and an appropriate return on capital employed.*
>
> *H3.2 The Dominant Provider shall comply with any direction Ofcom may from time to time direct under this Condition.*";

(E) On 25 June 2008, Cable & Wireless UK ("C&W"), THUS plc ("THUS"),[3] Level 3 Communications UK Limited ("Level 3"),[4] Verizon UK Limited ("Verizon") and Virgin Media

[3] In 2008 Cable & Wireless Worldwide plc completed the purchase of THUS.
[4] Until August 2012, Level 3 was known as Global Crossing (UK) Telecommunications Limited.

Limited ("Virgin") jointly referred disputes with BT to Ofcom for dispute resolution requesting a determination that:

a) BT has overcharged them for PPC services provided to them from 24 June 2004 to 25 June 2008 (which depends on whether or not BT's charges for the underlying trunk and terminating elements of those PPCs were cost orientated during that time); and

b) if so, by how much they have been overcharged; and

c) they should therefore be reimbursed;

(F) Having considered the submissions of all the parties to the disputes referred by C&W, THUS, Level 3, Verizon and Virgin, Ofcom set the scope of the issues in dispute to be resolved as follows-

> "*The finalised scope is therefore to determine whether, in the period from 24 June 2004 to 30 September 2008:*
>
> *i. BT has or will have overcharged the Parties for PPCs (based on whether or not BT's charges for the underlying trunk and terminating elements of those PPCs were, during that time, reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs including an appropriate return on capital employed) and, if so;*
>
> *ii. by how much the Parties will have been overcharged; and*
>
> *iii. whether and by how much BT should reimburse the Parties.";*

(G) On 20 October 2008 Colt Technology Services ("COLT")[5] referred a similarly worded dispute with BT to Ofcom for dispute resolution requesting a determination that BT has overcharged them for PPC services provided to them from 24 June 2004 to the date of any such determination. In its submission, COLT stated that it had no specific evidence or unique issues in its dispute with BT that would warrant any different treatment of its case to that of the other operators that had submitted similar disputes on 25 June 2008. Ofcom set the scope of the issues in dispute to be resolved in identical terms save for the identity of the parties;

(H) On 14 October 2009 Ofcom published determinations to resolve the disputes referred to it by C&W, THUS, Level 3, Verizon, Virgin and COLT in relation to most of the PPC services in dispute, determining that BT had overcharged the other parties to the disputes approximately £42 million for 2 Mbit/s PPC trunk services in the period 1 April 2005 to 30 September 2008 and that BT should refund this overcharge with interest. Ofcom stated that it was not at that time able to resolve the disputes in relation to BT's charges for 140/155 Mbit/s PPC terminating segment services and for 34/45 Mbit/s PPC trunk services. Ofcom stated that it would issue separate determinations for these PPC services having first obtained and assessed further data from BT and it is these services to which this Determination relates;

(I) On 8 February 2012, Ofcom issued draft determinations for resolving these disputes;

(J) In order to resolve these disputes, Ofcom has considered (among other things) the information provided by the parties and Ofcom has further acted in accordance with its

[5] Until March 2010, Colt was known as COLT Telecommunications.

general duties set out in section 3 and the Community requirements set out in sections 4 and 4A of the 2003 Act; and

(K) A fuller explanation of the background to the dispute and Ofcom's reasons for making this Determination is set out in the explanatory statement accompanying this Determination.

NOW, THEREFORE, OFCOM MAKES, FOR THE REASONS SET OUT IN THE ACCOMPANYING EXPLANATORY STATEMENT, THE FOLLOWING DETERMINATION FOR RESOLVING THE DISPUTE:

I Declaration of rights and obligations

1. BT has overcharged CWW for the provision of:

    a) 34/45 Mbit/s PPC trunk services;

    b) 140/155 Mbit/s PPC terminating segment main link services;

    c) 140/155 Mbit/s PPC terminating segment distribution services; and

    d) 140/155 Mbit/s PPC terminating segment local end services,

    in the Relevant Period for the years specified in the explanatory statement.

2. The level of that overcharge is determined at £[✂].

3. Ofcom gives a direction to BT to pay to CWW, by way of adjustment of an overpayment for those services, the sum of £[✂].

II Binding nature and effective date

4. This Determination is binding on BT and CWW in accordance with section 190(8) of the 2003 Act.

5. This Determination shall take effect on the day it is published.

III Interpretation

6. For the purpose of interpreting this Determination—

    a) except as otherwise defined in this Determination, words or expressions used in this Determination (and in the recitals hereto) shall have the same meaning as they have been ascribed in the 2003 Act;

    b) headings and titles shall be disregarded; and

    c) the Interpretation Act 1978 shall apply as if this Determination were an Act of Parliament.

7. In this Determination—

    a) "2003 Act" means the Communications Act 2003 (c.21);

b) "BT" means British Telecommunications plc, whose registered company number is 01800000, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, as defined by section 1159 of the Companies Act 2006;

c) "CWW" means Cable & Wireless Worldwide plc (whose registered company number is 07029206) group, including the following C&W companies: Cable & Wireless UK (registered company number 01541957), Thus Group Holdings Limited (registered company number SC192666), Energis Communications Limited (registered company number 02630471) and Your Communications Group Limited (registered company number 04171876);

d) "Ofcom" means the Office of Communications;

e) "PPC" means Partial Private Circuit; and

f) "Relevant Period" means the period from 24 June 2004 to 30 September 2008.

Neil Buckley
Director of Investigations

A person duly authorised in accordance with paragraph 18 of the Schedule to the Office of Communications Act 2002

8 February 2013

Annex 2

Determination to resolve the dispute between BT and Level 3

Determination under sections 188 and 190 of the Communications Act 2003 ("2003 Act") for resolving a dispute between Level 3 Communications UK Limited ("Level 3")[1] and British Telecommunications Plc ("BT") concerning BT's charges for partial private circuits ("PPCs").

WHEREAS—

(A) Section 188(2) of the 2003 Act provides that, where Ofcom has decided pursuant to section 186(2) of the 2003 Act that it is appropriate for it to handle a dispute, Ofcom must consider the dispute and make a determination for resolving it. The determination that Ofcom makes for resolving the dispute must be notified to the parties in accordance with section 188(7) of the 2003 Act, together with a full statement of the reasons on which the determination is based. Ofcom must publish so much of its determination as (having regard, in particular, to the need to preserve commercial confidentiality) it considers appropriate to publish for bringing it to the attention of the members of the public, including to the extent that Ofcom considers pursuant to section 393(2)(a) of the 2003 Act that any such disclosure is made for the purpose of facilitating the carrying out by Ofcom of any of its functions;

(B) Section 190 of the 2003 Act sets out the scope of Ofcom's powers on resolving a dispute which may include, in accordance with section 190(2) of the 2003 Act;

e) making a declaration setting out the rights and obligations of the parties to the dispute;

f) giving a direction fixing the terms or conditions of transactions between the parties to the dispute;

g) giving a direction imposing an obligation, enforceable by the parties to the dispute, to enter into a transaction between themselves on the terms and conditions fixed by Ofcom; and

h) for the purpose of giving effect to a determination by Ofcom of the proper amount of a charge in respect of which amounts have been paid by one of the parties to the dispute to the other, giving a direction, enforceable by the party to whom sums are to be paid, requiring the payment of sums by way of adjustment of an underpayment or overpayment;

(C) On 24 June 2004, Ofcom published a statement called *Review of the retail leased lines, symmetric broadband origination and wholesale trunk segments markets*[2] (the "2004 LLMR Statement") which found that BT held significant market power ("SMP") in a number of markets, including those for:

[1] Until August 2012, Level 3 was known as Global Crossing (UK) Telecommunications Limited.
[2] http://www.ofcom.org.uk/consult/condocs/llmr/statement/state_note.pdf.

a) the provision of wholesale traditional interface symmetric broadband origination ("TISBO") with a bandwidth capacity up to and including 8 Mbit/s within the United Kingdom but not including the Hull Area ("the low bandwidth TISBO market");

b) the provision of wholesale TISBO with a bandwidth capacity above 8 Mbit/s and up to and including 155 Mbit/s within the United Kingdom but not including the Hull Area ("the high bandwidth TISBO market"); and

c) the provision of wholesale trunk segments at all bandwidths within the United Kingdom ("the trunk segment market");

(D) In the 2004 LLMR Statement, Ofcom imposed a series of SMP conditions on BT in these markets under section 45 of the Act, including a basis of charges obligation, which:

a) in the low bandwidth TISBO and high bandwidth TISBO markets requires:

> "*[G/GG]3.1 Unless Ofcom directs otherwise from time to time, the Dominant Provider shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that each and every charge offered, payable or proposed for Network Access covered by Condition [G/GG]1 [the requirement to provide network access on reasonable request] is reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs including an appropriate return on capital employed.*
>
> *[G/GG]3.2 For the avoidance of any doubt, where the charge offered, payable or proposed for Network Access covered by Condition [G/GG]1 is for a service which is subject to a charge control under Condition [G/GG]4 [the charge control condition], the Dominant Provider shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that such a charge satisfies the requirement of Condition [G/GG]3.1.*
>
> *[G/GG]3.3 The Dominant Provider shall comply with any direction Ofcom may from time to time direct under this Condition.*"; and

b) in the trunk segment market requires:

> "*H3.1 Unless Ofcom directs otherwise from time to time, the Dominant Provider shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that each and every charge offered, payable or proposed for Network Access covered by Condition H1 [the requirement to provide network access on reasonable request] is reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs and an appropriate return on capital employed.*
>
> *H3.2 The Dominant Provider shall comply with any direction Ofcom may from time to time direct under this Condition.*";

(E) On 25 June 2008, Cable & Wireless UK ("C&W"), THUS plc ("THUS"),[3] Level 3, Verizon UK Limited ("Verizon") and Virgin Media Limited ("Virgin") jointly referred disputes with BT to Ofcom for dispute resolution requesting a determination that:

[3] In 2008 Cable & Wireless Worldwide plc completed the purchase of THUS.

d) BT has overcharged them for PPC services provided to them from 24 June 2004 to 25 June 2008 (which depends on whether or not BT's charges for the underlying trunk and terminating elements of those PPCs were cost orientated during that time); and

e) if so, by how much they have been overcharged; and

f) they should therefore be reimbursed;

(F) Having considered the submissions of all the parties to the disputes referred by C&W, THUS, Level 3, Verizon and Virgin, Ofcom set the scope of the issues in dispute to be resolved as follows-

> "*The finalised scope is therefore to determine whether, in the period from 24 June 2004 to 30 September 2008:*
>
> *i. BT has or will have overcharged the Parties for PPCs (based on whether or not BT's charges for the underlying trunk and terminating elements of those PPCs were, during that time, reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs including an appropriate return on capital employed) and, if so;*
>
> *ii. by how much the Parties will have been overcharged; and*
>
> *iii. whether and by how much BT should reimburse the Parties.";*

(G) On 20 October 2008 Colt Technology Services ("COLT")[4] referred a similarly worded dispute with BT to Ofcom for dispute resolution requesting a determination that BT has overcharged them for PPC services provided to them from 24 June 2004 to the date of any such determination. In its submission, COLT stated that it had no specific evidence or unique issues in its dispute with BT that would warrant any different treatment of its case to that of the other operators that had submitted similar disputes on 25 June 2008. Ofcom set the scope of the issues in dispute to be resolved in identical terms save for the identity of the parties;

(H) On 14 October 2009 Ofcom published determinations to resolve the disputes referred to it by C&W, THUS, Level 3, Verizon, Virgin and COLT in relation to most of the PPC services in dispute, determining that BT had overcharged the other parties to the disputes approximately £42 million for 2 Mbit/s PPC trunk services in the period 1 April 2005 to 30 September 2008 and that BT should refund this overcharge with interest. Ofcom stated that it was not at that time able to resolve the disputes in relation to BT's charges for 140/155 Mbit/s PPC terminating segment services and for 34/45 Mbit/s PPC trunk services. Ofcom stated that it would issue separate determinations for these PPC services having first obtained and assessed further data from BT and it is these services to which this Determination relates;

(I) On 8 February 2012, Ofcom issued draft determinations for resolving these disputes;

(J) In order to resolve these disputes, Ofcom has considered (among other things) the information provided by the parties and Ofcom has further acted in accordance with its general duties set out in section 3 and the Community requirements set out in sections 4 and 4A of the 2003 Act; and

[4] Until March 2010, Colt was known as COLT Telecommunications.

(K) A fuller explanation of the background to the dispute and Ofcom's reasons for making this Determination is set out in the explanatory statement accompanying this Determination.

NOW, THEREFORE, OFCOM MAKES, FOR THE REASONS SET OUT IN THE ACCOMPANYING EXPLANATORY STATEMENT, THE FOLLOWING DETERMINATION FOR RESOLVING THE DISPUTE:

I Declaration of rights and obligations

1. BT has overcharged Level 3 for the provision of:

   a) 34/45 Mbit/s PPC trunk services;

   b) 140/155 Mbit/s PPC terminating segment main link services;

   c) 140/155 Mbit/s PPC terminating segment distribution services; and

   d) 140/155 Mbit/s PPC terminating segment local end services,

   in the Relevant Period for the years specified in the explanatory statement.

2. The level of that overcharge is determined at £[✂].

3. Ofcom gives a direction to BT to pay to Level 3, by way of adjustment of an overpayment for those services, the sum of £[✂].

II Binding nature and effective date

4. This Determination is binding on BT and Level 3 in accordance with section 190(8) of the 2003 Act.

5. This Determination shall take effect on the day it is published.

III Interpretation

6. For the purpose of interpreting this Determination—

   a) except as otherwise defined in this Determination, words or expressions used in this Determination (and in the recitals hereto) shall have the same meaning as they have been ascribed in the 2003 Act;

   b) headings and titles shall be disregarded; and

   c) the Interpretation Act 1978 shall apply as if this Determination were an Act of Parliament.

7. In this Determination—

   a) "2003 Act" means the Communications Act 2003 (c.21);

   b) "BT" means British Telecommunications plc, whose registered company number is 01800000, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, as defined by section 1159of the Companies Act 2006;

c) "Level 3" means Level 3 Communications UK Limited whose registered company number is 02495998, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, as defined by section 1159 of the Companies Act 2006;

d) "Ofcom" means the Office of Communications;

e) "PPC" means Partial Private Circuit; and

f) "Relevant Period" means the period from 24 June 2004 to 30 September 2008.

Neil Buckley
Director of Investigations

A person duly authorised in accordance with paragraph 18 of the Schedule to the Office of Communications Act 2002

8 February 2013

Annex 3

Determination to resolve the dispute between BT and Verizon

Determination under sections 188 and 190 of the Communications Act 2003 ("2003 Act") for resolving a dispute between Verizon UK Limited ("Verizon") and British Telecommunications Plc ("BT") concerning BT's charges for partial private circuits ("PPCs").

WHEREAS—

(A) Section 188(2) of the 2003 Act provides that, where Ofcom has decided pursuant to section 186(2) of the 2003 Act that it is appropriate for it to handle a dispute, Ofcom must consider the dispute and make a determination for resolving it. The determination that Ofcom makes for resolving the dispute must be notified to the parties in accordance with section 188(7) of the 2003 Act, together with a full statement of the reasons on which the determination is based. Ofcom must publish so much of its determination as (having regard, in particular, to the need to preserve commercial confidentiality) it considers appropriate to publish for bringing it to the attention of the members of the public, including to the extent that Ofcom considers pursuant to section 393(2)(a) of the 2003 Act that any such disclosure is made for the purpose of facilitating the carrying out by Ofcom of any of its functions;

(B) Section 190 of the 2003 Act sets out the scope of Ofcom's powers on resolving a dispute which may include, in accordance with section 190(2) of the 2003 Act;

i) making a declaration setting out the rights and obligations of the parties to the dispute;

j) giving a direction fixing the terms or conditions of transactions between the parties to the dispute;

k) giving a direction imposing an obligation, enforceable by the parties to the dispute, to enter into a transaction between themselves on the terms and conditions fixed by Ofcom; and

l) for the purpose of giving effect to a determination by Ofcom of the proper amount of a charge in respect of which amounts have been paid by one of the parties to the dispute to the other, giving a direction, enforceable by the party to whom sums are to be paid, requiring the payment of sums by way of adjustment of an underpayment or overpayment;

(C) On 24 June 2004, Ofcom published a statement called *Review of the retail leased lines, symmetric broadband origination and wholesale trunk segments markets*[1] (the "2004 LLMR Statement") which found that BT held significant market power ("SMP") in a number of markets, including those for:

a) the provision of wholesale traditional interface symmetric broadband origination ("TISBO") with a bandwidth capacity up to and including 8 Mbit/s within the United Kingdom but not including the Hull Area ("the low bandwidth TISBO market");

[1] http://www.ofcom.org.uk/consult/condocs/llmr/statement/state_note.pdf.

b) the provision of wholesale TISBO with a bandwidth capacity above 8 Mbit/s and up to and including 155 Mbit/s within the United Kingdom but not including the Hull Area ("the high bandwidth TISBO market"); and

c) the provision of wholesale trunk segments at all bandwidths within the United Kingdom ("the trunk segment market");

(D) In the 2004 LLMR Statement, Ofcom imposed a series of SMP conditions on BT in these markets under section 45 of the Act, including a basis of charges obligation, which:

a) in the low bandwidth TISBO and high bandwidth TISBO markets requires:

> "*[G/GG]3.1 Unless Ofcom directs otherwise from time to time, the Dominant Provider shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that each and every charge offered, payable or proposed for Network Access covered by Condition [G/GG]1 [the requirement to provide network access on reasonable request] is reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs including an appropriate return on capital employed.*
>
> *[G/GG]3.2 For the avoidance of any doubt, where the charge offered, payable or proposed for Network Access covered by Condition [G/GG]1 is for a service which is subject to a charge control under Condition [G/GG]4 [the charge control condition], the Dominant Provider shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that such a charge satisfies the requirement of Condition [G/GG]3.1.*
>
> *[G/GG]3.3 The Dominant Provider shall comply with any direction Ofcom may from time to time direct under this Condition.*"; and

b) in the trunk segment market requires:

> "*H3.1 Unless Ofcom directs otherwise from time to time, the Dominant Provider shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that each and every charge offered, payable or proposed for Network Access covered by Condition H1 [the requirement to provide network access on reasonable request] is reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs and an appropriate return on capital employed.*
>
> *H3.2 The Dominant Provider shall comply with any direction Ofcom may from time to time direct under this Condition.*";

(E) On 25 June 2008, Cable & Wireless UK ("C&W"), THUS plc ("THUS"),[2] Level 3 Communications UK Limited ("Level 3"),[3] Verizon and Virgin Media Limited ("Virgin") jointly referred disputes with BT to Ofcom for dispute resolution requesting a determination that:

g) BT has overcharged them for PPC services provided to them from 24 June 2004 to 25 June 2008 (which depends on whether or not BT's charges for the underlying trunk and terminating elements of those PPCs were cost orientated during that time); and

[2] In 2008 Cable & Wireless Worldwide plc completed the purchase of THUS.
[3] Until August 2012, Level 3 was known as Global Crossing (UK) Telecommunications Limited.

h) if so, by how much they have been overcharged; and

i) they should therefore be reimbursed;

(F) Having considered the submissions of all the parties to the disputes referred by C&W, THUS, Level 3, Verizon and Virgin, Ofcom set the scope of the issues in dispute to be resolved as follows-

> "*The finalised scope is therefore to determine whether, in the period from 24 June 2004 to 30 September 2008:*
>
> *i. BT has or will have overcharged the Parties for PPCs (based on whether or not BT's charges for the underlying trunk and terminating elements of those PPCs were, during that time, reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs including an appropriate return on capital employed) and, if so;*
>
> *ii. by how much the Parties will have been overcharged; and*
>
> *iii. whether and by how much BT should reimburse the Parties.";*

(G) On 20 October 2008 Colt Technology Services ("COLT")[4] referred a similarly worded dispute with BT to Ofcom for dispute resolution requesting a determination that BT has overcharged them for PPC services provided to them from 24 June 2004 to the date of any such determination. In its submission, COLT stated that it had no specific evidence or unique issues in its dispute with BT that would warrant any different treatment of its case to that of the other operators that had submitted similar disputes on 25 June 2008. Ofcom set the scope of the issues in dispute to be resolved in identical terms save for the identity of the parties;

(H) On 14 October 2009 Ofcom published determinations to resolve the disputes referred to it by C&W, THUS, Level 3, Verizon, Virgin and COLT in relation to most of the PPC services in dispute, determining that BT had overcharged the other parties to the disputes approximately £42 million for 2 Mbit/s PPC trunk services in the period 1 April 2005 to 30 September 2008 and that BT should refund this overcharge with interest. Ofcom stated that it was not at that time able to resolve the disputes in relation to BT's charges for 140/155 Mbit/s PPC terminating segment services and for 34/45 Mbit/s PPC trunk services. Ofcom stated that it would issue separate determinations for these PPC services having first obtained and assessed further data from BT and it is these services to which this Determination relates;

(I) On 8 February 2012, Ofcom issued draft determinations for resolving these disputes;

(J) In order to resolve these disputes, Ofcom has considered (among other things) the information provided by the parties and Ofcom has further acted in accordance with its general duties set out in section 3 and the Community requirements set out in sections 4 and 4A of the 2003 Act; and

(K) A fuller explanation of the background to the dispute and Ofcom's reasons for making this Determination is set out in the explanatory statement accompanying this Determination.

[4] Until March 2010, Colt was known as COLT Telecommunications.

NOW, THEREFORE, OFCOM MAKES, FOR THE REASONS SET OUT IN THE ACCOMPANYING EXPLANATORY STATEMENT, THE FOLLOWING DETERMINATION FOR RESOLVING THE DISPUTE:

I Declaration of rights and obligations

1. BT has overcharged Verizon for the provision of:

    a) 34/45 Mbit/s PPC trunk services;

    b) 140/155 Mbit/s PPC terminating segment main link services;

    c) 140/155 Mbit/s PPC terminating segment distribution services; and

    d) 140/155 Mbit/s PPC terminating segment local end services,

    in the Relevant Period for the years specified in the explanatory statement.

2. The level of that overcharge is determined at £[✂].

3. Ofcom gives a direction to BT to pay to Verizon, by way of adjustment of an overpayment for those services, the sum of £[✂].

II Binding nature and effective date

4. This Determination is binding on BT and Verizon in accordance with section 190(8) of the 2003 Act.

5. This Determination shall take effect on the day it is published.

III Interpretation

6. For the purpose of interpreting this Determination—

    a) except as otherwise defined in this Determination, words or expressions used in this Determination (and in the recitals hereto) shall have the same meaning as they have been ascribed in the 2003 Act;

    b) headings and titles shall be disregarded; and

    c) the Interpretation Act 1978 shall apply as if this Determination were an Act of Parliament.

7. In this Determination—

    a) "2003 Act" means the Communications Act 2003 (c.21);

    b) "BT" means British Telecommunications plc, whose registered company number is 01800000, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, as defined by section 1159 of the Companies Act 2006;

    c) "Ofcom" means the Office of Communications;

    d) "PPC" means Partial Private Circuit;

e) "Relevant Period" means the period from 24 June 2004 to 30 September 2008; and

f) "Verizon" means Verizon UK Limited whose registered company number is 02776038, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, as defined by section 1159 of the Companies Act 2006.

Neil Buckley
Director of Investigations

A person duly authorised in accordance with paragraph 18 of the Schedule to the Office of Communications Act 2002

8 February 2013

Annex 4

Determination to resolve the dispute between BT and Virgin

Determination under sections 188 and 190 of the Communications Act 2003 (“2003 Act”) for resolving a dispute between Virgin Media Limited (“Virgin”) and British Telecommunications Plc (“BT”) concerning BT’s charges for partial private circuits (“PPCs”).

WHEREAS—

(A) Section 188(2) of the 2003 Act provides that, where Ofcom has decided pursuant to section 186(2) of the 2003 Act that it is appropriate for it to handle a dispute, Ofcom must consider the dispute and make a determination for resolving it. The determination that Ofcom makes for resolving the dispute must be notified to the parties in accordance with section 188(7) of the 2003 Act, together with a full statement of the reasons on which the determination is based. Ofcom must publish so much of its determination as (having regard, in particular, to the need to preserve commercial confidentiality) it considers appropriate to publish for bringing it to the attention of the members of the public, including to the extent that Ofcom considers pursuant to section 393(2)(a) of the 2003 Act that any such disclosure is made for the purpose of facilitating the carrying out by Ofcom of any of its functions;

(B) Section 190 of the 2003 Act sets out the scope of Ofcom’s powers on resolving a dispute which may include, in accordance with section 190(2) of the 2003 Act;

a) making a declaration setting out the rights and obligations of the parties to the dispute;

b) giving a direction fixing the terms or conditions of transactions between the parties to the dispute;

c) giving a direction imposing an obligation, enforceable by the parties to the dispute, to enter into a transaction between themselves on the terms and conditions fixed by Ofcom; and

d) for the purpose of giving effect to a determination by Ofcom of the proper amount of a charge in respect of which amounts have been paid by one of the parties to the dispute to the other, giving a direction, enforceable by the party to whom sums are to be paid, requiring the payment of sums by way of adjustment of an underpayment or overpayment;

(C) On 24 June 2004, Ofcom published a statement called *Review of the retail leased lines, symmetric broadband origination and wholesale trunk segments markets*[1] (the “2004 LLMR Statement”) which found that BT held significant market power (“SMP”) in a number of markets, including those for:

a) the provision of wholesale traditional interface symmetric broadband origination (“TISBO”) with a bandwidth capacity up to and including 8 Mbit/s within the United Kingdom but not including the Hull Area (“the low bandwidth TISBO market”);

[1] http://www.ofcom.org.uk/consult/condocs/llmr/statement/state_note.pdf.

b) the provision of wholesale TISBO with a bandwidth capacity above 8 Mbit/s and up to and including 155 Mbit/s within the United Kingdom but not including the Hull Area ("the high bandwidth TISBO market"); and

c) the provision of wholesale trunk segments at all bandwidths within the United Kingdom ("the trunk segment market");

(D) In the 2004 LLMR Statement, Ofcom imposed a series of SMP conditions on BT in these markets under section 45 of the Act, including a basis of charges obligation, which:

a) in the low bandwidth TISBO and high bandwidth TISBO markets requires:

> "*[G/GG]3.1 Unless Ofcom directs otherwise from time to time, the Dominant Provider shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that each and every charge offered, payable or proposed for Network Access covered by Condition [G/GG]1 [the requirement to provide network access on reasonable request] is reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs including an appropriate return on capital employed.*
>
> *[G/GG]3.2 For the avoidance of any doubt, where the charge offered, payable or proposed for Network Access covered by Condition [G/GG]1 is for a service which is subject to a charge control under Condition [G/GG]4 [the charge control condition], the Dominant Provider shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that such a charge satisfies the requirement of Condition [G/GG]3.1.*
>
> *[G/GG]3.3 The Dominant Provider shall comply with any direction Ofcom may from time to time direct under this Condition.*"; and

b) in the trunk segment market requires:

> "*H3.1 Unless Ofcom directs otherwise from time to time, the Dominant Provider shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that each and every charge offered, payable or proposed for Network Access covered by Condition H1 [the requirement to provide network access on reasonable request] is reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs and an appropriate return on capital employed.*
>
> *H3.2 The Dominant Provider shall comply with any direction Ofcom may from time to time direct under this Condition.*";

(E) On 25 June 2008, Cable & Wireless UK ("C&W"), THUS plc ("THUS"),[2] Level 3 Communications UK Limited ("Level 3"),[3] Verizon UK Limited ("Verizon") and Virgin jointly referred disputes with BT to Ofcom for dispute resolution requesting a determination that:

j) BT has overcharged them for PPC services provided to them from 24 June 2004 to 25 June 2008 (which depends on whether or not BT's charges for the underlying trunk and terminating elements of those PPCs were cost orientated during that time); and

[2] In 2008 Cable & Wireless Worldwide plc completed the purchase of THUS.
[3] Until August 2012, Level 3 was known as Global Crossing (UK) Telecommunications Limited.

k) if so, by how much they have been overcharged; and

l) they should therefore be reimbursed;

(F) Having considered the submissions of all the parties to the disputes referred by C&W, THUS, Level 3, Verizon and Virgin, Ofcom set the scope of the issues in dispute to be resolved as follows-

> "*The finalised scope is therefore to determine whether, in the period from 24 June 2004 to 30 September 2008:*
>
> *i. BT has or will have overcharged the Parties for PPCs (based on whether or not BT's charges for the underlying trunk and terminating elements of those PPCs were, during that time, reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs including an appropriate return on capital employed) and, if so;*
>
> *ii. by how much the Parties will have been overcharged; and*
>
> *iii. whether and by how much BT should reimburse the Parties.";*

(G) On 20 October 2008 Colt Technology Services ("COLT")[4] referred a similarly worded dispute with BT to Ofcom for dispute resolution requesting a determination that BT has overcharged them for PPC services provided to them from 24 June 2004 to the date of any such determination. In its submission, COLT stated that it had no specific evidence or unique issues in its dispute with BT that would warrant any different treatment of its case to that of the other operators that had submitted similar disputes on 25 June 2008. Ofcom set the scope of the issues in dispute to be resolved in identical terms save for the identity of the parties;

(H) On 14 October 2009 Ofcom published determinations to resolve the disputes referred to it by C&W, THUS, Level 3, Verizon, Virgin and COLT in relation to most of the PPC services in dispute, determining that BT had overcharged the other parties to the disputes approximately £42 million for 2 Mbit/s PPC trunk services in the period 1 April 2005 to 30 September 2008 and that BT should refund this overcharge with interest. Ofcom stated that it was not at that time able to resolve the disputes in relation to BT's charges for 140/155 Mbit/s PPC terminating segment services and for 34/45 Mbit/s PPC trunk services. Ofcom stated that it would issue separate determinations for these PPC services having first obtained and assessed further data from BT and it is these services to which this Determination relates;

(I) On 8 February 2012, Ofcom issued draft determinations for resolving these disputes;

(J) In order to resolve these disputes, Ofcom has considered (among other things) the information provided by the parties and Ofcom has further acted in accordance with its general duties set out in section 3 and the Community requirements set out in sections 4 and 4A of the 2003 Act; and

(K) A fuller explanation of the background to the dispute and Ofcom's reasons for making this Determination is set out in the explanatory statement accompanying this Determination.

[4] Until March 2010, Colt was known as COLT Telecommunications.

NOW, THEREFORE, OFCOM MAKES, FOR THE REASONS SET OUT IN THE ACCOMPANYING EXPLANATORY STATEMENT, THE FOLLOWING DETERMINATION FOR RESOLVING THE DISPUTE:

I Declaration of rights and obligations

1. BT has overcharged Virgin for the provision of 34/45 Mbit/s PPC trunk services in the Relevant Period for the years specified in the explanatory statement.

2. The level of that overcharge is determined at £[✄].

3. Ofcom gives a direction to BT to pay to Virgin, by way of adjustment of an overpayment for those services, the sum of £[✄].

II Binding nature and effective date

4. This Determination is binding on BT and Virgin in accordance with section 190(8) of the 2003 Act.

5. This Determination shall take effect on the day it is published.

III Interpretation

6. For the purpose of interpreting this Determination—

   a) except as otherwise defined in this Determination, words or expressions used in this Determination (and in the recitals hereto) shall have the same meaning as they have been ascribed in the 2003 Act;

   b) headings and titles shall be disregarded; and

   c) the Interpretation Act 1978 shall apply as if this Determination were an Act of Parliament.

7. In this Determination—

   a) "2003 Act" means the Communications Act 2003 (c.21);

   b) "BT" means British Telecommunications plc, whose registered company number is 01800000, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, as defined by section 1159of the Companies Act 2006;

   c) "Ofcom" means the Office of Communications;

   d) "PPC" means Partial Private Circuit;

   e) "Relevant Period" means the period from 24 June 2004 to 30 September 2008; and

   f) "Virgin" means Virgin Media Limited whose registered company number is 02591237, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, as defined by section 1159 of the Companies Act 2006.

Neil Buckley
Director of Investigations

A person duly authorised in accordance with paragraph 18 of the Schedule to the Office of Communications Act 2002

8 February 2013

Annex 5

Determination to resolve the dispute between BT and COLT

Determination under sections 188 and 190 of the Communications Act 2003 ("2003 Act") for resolving a dispute between Colt Technology Services[1] ("COLT") and British Telecommunications Plc ("BT") concerning BT's charges for partial private circuits ("PPCs").

WHEREAS—

(A) Section 188(2) of the 2003 Act provides that, where Ofcom has decided pursuant to section 186(2) of the 2003 Act that it is appropriate for it to handle a dispute, Ofcom must consider the dispute and make a determination for resolving it. The determination that Ofcom makes for resolving the dispute must be notified to the parties in accordance with section 188(7) of the 2003 Act, together with a full statement of the reasons on which the determination is based. Ofcom must publish so much of its determination as (having regard, in particular, to the need to preserve commercial confidentiality) it considers appropriate to publish for bringing it to the attention of the members of the public, including to the extent that Ofcom considers pursuant to section 393(2)(a) of the 2003 Act that any such disclosure is made for the purpose of facilitating the carrying out by Ofcom of any of its functions;

(B) Section 190 of the 2003 Act sets out the scope of Ofcom's powers on resolving a dispute which may include, in accordance with section 190(2) of the 2003 Act;

a) making a declaration setting out the rights and obligations of the parties to the dispute;

b) giving a direction fixing the terms or conditions of transactions between the parties to the dispute;

c) giving a direction imposing an obligation, enforceable by the parties to the dispute, to enter into a transaction between themselves on the terms and conditions fixed by Ofcom; and

d) for the purpose of giving effect to a determination by Ofcom of the proper amount of a charge in respect of which amounts have been paid by one of the parties to the dispute to the other, giving a direction, enforceable by the party to whom sums are to be paid, requiring the payment of sums by way of adjustment of an underpayment or overpayment;

(C) On 24 June 2004, Ofcom published a statement called *Review of the retail leased lines, symmetric broadband origination and wholesale trunk segments markets*[2] (the "2004 LLMR Statement") which found that BT held significant market power ("SMP") in a number of markets, including those for:

[1] Until March 2010, Colt was known as COLT Telecommunications.
[2] http://www.ofcom.org.uk/consult/condocs/llmr/statement/state_note.pdf.

a) the provision of wholesale traditional interface symmetric broadband origination ("TISBO") with a bandwidth capacity up to and including 8 Mbit/s within the United Kingdom but not including the Hull Area ("the low bandwidth TISBO market");

b) the provision of wholesale TISBO with a bandwidth capacity above 8 Mbit/s and up to and including 155 Mbit/s within the United Kingdom but not including the Hull Area ("the high bandwidth TISBO market"); and

c) the provision of wholesale trunk segments at all bandwidths within the United Kingdom ("the trunk segment market");

(D) In the 2004 LLMR Statement, Ofcom imposed a series of SMP conditions on BT in these markets under section 45 of the Act, including a basis of charges obligation, which:

a) in the low bandwidth TISBO and high bandwidth TISBO markets requires:

> "*[G/GG]3.1 Unless Ofcom directs otherwise from time to time, the Dominant Provider shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that each and every charge offered, payable or proposed for Network Access covered by Condition [G/GG]1 [the requirement to provide network access on reasonable request] is reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs including an appropriate return on capital employed.*
>
> *[G/GG]3.2 For the avoidance of any doubt, where the charge offered, payable or proposed for Network Access covered by Condition [G/GG]1 is for a service which is subject to a charge control under Condition [G/GG]4 [the charge control condition], the Dominant Provider shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that such a charge satisfies the requirement of Condition [G/GG]3.1.*
>
> *[G/GG]3.3 The Dominant Provider shall comply with any direction Ofcom may from time to time direct under this Condition.*"; and

b) in the trunk segment market requires:

> "*H3.1 Unless Ofcom directs otherwise from time to time, the Dominant Provider shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that each and every charge offered, payable or proposed for Network Access covered by Condition H1 [the requirement to provide network access on reasonable request] is reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs and an appropriate return on capital employed.*
>
> *H3.2 The Dominant Provider shall comply with any direction Ofcom may from time to time direct under this Condition.*";

(E) On 25 June 2008, Cable & Wireless UK ("C&W"), THUS plc ("THUS"),[3] Level 3 Communications UK Limited ("Level 3"),[4] Verizon UK Limited ("Verizon") and Virgin Media

[3] In 2008 Cable & Wireless Worldwide plc completed the purchase of THUS.
[4] Until August 2012, Level 3 was known as Global Crossing (UK) Telecommunications Limited.

Limited ("Virgin") jointly referred disputes with BT to Ofcom for dispute resolution requesting a determination that:

a) BT has overcharged them for PPC services provided to them from 24 June 2004 to 25 June 2008 (which depends on whether or not BT's charges for the underlying trunk and terminating elements of those PPCs were cost orientated during that time); and

b) if so, by how much they have been overcharged; and

c) they should therefore be reimbursed;

(F) Having considered the submissions of all the parties to the disputes referred by C&W, THUS, Level 3, Verizon and Virgin, Ofcom set the scope of the issues in dispute to be resolved as follows-

> "*The finalised scope is therefore to determine whether, in the period from 24 June 2004 to 30 September 2008:*
>
> *i. BT has or will have overcharged the Parties for PPCs (based on whether or not BT's charges for the underlying trunk and terminating elements of those PPCs were, during that time, reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs including an appropriate return on capital employed) and, if so;*
>
> *ii. by how much the Parties will have been overcharged; and*
>
> *iii. whether and by how much BT should reimburse the Parties.";*

(G) On 20 October 2008 COLT referred a similarly worded dispute with BT to Ofcom for dispute resolution requesting a determination that BT has overcharged them for PPC services provided to them from 24 June 2004 to the date of any such determination. In its submission, COLT stated that it had no specific evidence or unique issues in its dispute with BT that would warrant any different treatment of its case to that of the other operators that had submitted similar disputes on 25 June 2008. Ofcom set the scope of the issues in dispute to be resolved in identical terms save for the identity of the parties;

(H) On 14 October 2009 Ofcom published determinations to resolve the disputes referred to it by C&W, THUS, Level 3, Verizon, Virgin and COLT in relation to most of the PPC services in dispute, determining that BT had overcharged the other parties to the disputes approximately £42 million for 2 Mbit/s PPC trunk services in the period 1 April 2005 to 30 September 2008 and that BT should refund this overcharge with interest. Ofcom stated that it was not at that time able to resolve the disputes in relation to BT's charges for 140/155 Mbit/s PPC terminating segment services and for 34/45 Mbit/s PPC trunk services. Ofcom stated that it would issue separate determinations for these PPC services having first obtained and assessed further data from BT and it is these services to which this Determination relates;

(I) On 8 February 2012, Ofcom issued draft determinations for resolving these disputes;

(J) In order to resolve these disputes, Ofcom has considered (among other things) the information provided by the parties and Ofcom has further acted in accordance with its general duties set out in section 3 and the Community requirements set out in sections 4 and 4A of the 2003 Act; and

(K) A fuller explanation of the background to the dispute and Ofcom's reasons for making this Determination is set out in the explanatory statement accompanying this Determination.

NOW, THEREFORE, OFCOM MAKES, FOR THE REASONS SET OUT IN THE ACCOMPANYING EXPLANATORY STATEMENT, THE FOLLOWING DETERMINATION FOR RESOLVING THE DISPUTE:

I Declaration of rights and obligations

1. BT has overcharged COLT for the provision of:

   a) 34/45 Mbit/s PPC trunk services;

   b) 140/155 Mbit/s PPC terminating segment main link services;

   c) 140/155 Mbit/s PPC terminating segment distribution services; and

   d) 140/155 Mbit/s PPC terminating segment local end services,

   in the Relevant Period for the years specified in the explanatory statement.

2. The level of that overcharge is determined at £[✂].

3. Ofcom gives a direction to BT to pay to COLT, by way of adjustment of an overpayment for those services, the sum of £[✂].

II Binding nature and effective date

4. This Determination is binding on BT and COLT in accordance with section 190(8) of the 2003 Act.

5. This Determination shall take effect on the day it is published.

III Interpretation

6. For the purpose of interpreting this Determination—

   a) except as otherwise defined in this Determination, words or expressions used in this Determination (and in the recitals hereto) shall have the same meaning as they have been ascribed in the 2003 Act;

   b) headings and titles shall be disregarded; and

   c) the Interpretation Act 1978 shall apply as if this Determination were an Act of Parliament.

7. In this Determination—

   a) "2003 Act" means the Communications Act 2003 (c.21);

   b) "BT" means British Telecommunications plc, whose registered company number is 01800000, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, as defined by section 1159 of the Companies Act 2006;

c) "COLT" means COLT Technology Services whose registered company number is 02452736, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, as defined by section 1159 of the Companies Act 2006;

d) "Ofcom" means the Office of Communications;

e) "PPC" means Partial Private Circuit; and

f) "Relevant Period" means the period from 24 June 2004 and 30 September 2008.

Neil Buckley
Director of Investigations

A person duly authorised in accordance with paragraph 18 of the Schedule to the Office of Communications Act 2002

8 February 2013

Annex 6

Tables 2 to 10 from BT's response to our Draft Determinations

A1.1 This annex reproduces Tables 2 to 10 from BT's response to our Draft Determinations, which we refer to in Section 13.

34/45 Mbit/s Trunk

A1.2 Table 2 shows the main cost categories for 34/45 Mbit/s Trunk.

Table 2: Analysis of cost categories for 34 / 45 Mbit/s trunk for 2006-07 to 2008-09, source ASPIRE

[✂]

A1.3 Table 3 identifies the main cost categories contributing to the change in unit costs between 2006/7 and 2007/8 and between 2007/8 and 2008/9.

Table 3: Movements in costs for 34/45 Mbit/s trunk between 2006/7 and 2007/8 and 2007/8 and 2008/9

[✂]

A1.4 Table 4 provides an explanation for the movements in the largest cost categories from 2006/07 to 2007/08 and 2007/08 to 2008/09 and whether they were reasonably foreseeable.

Table 4: Analysis of the underlying reasons for cost changes for 34/45 Mbit/s Trunk

Category	2006/07 to 2007/08	2007/08 to 2008/09
CCA Adjustments	Largest movement and not available until final month of year.	Largest movement and not available until final month of year. Went from £4m credit to £1m debit in following period.
SDH Depreciation	21CN migration completion date extended to 3/2012. Asset life increased by a year.	Further slippage of 21CN completion date resulted in extension of SDH Assets by another 2 years until 2014. Write out of 200m of FDA. Offset by an increased allocation of SDH costs from 3.6% of total to 4.4%.
PCS:SUP PROV REP MTCE OF C/SVC[26] SA:PROV CORP & DIVSNL GEN MGMT[27]	Cost allocation changes from 0.22% to 0.06% as a result of Reorganisation and increase in Broadband volumes.	
R&D CONTRACTS - UNI / UK CO[28]. SOFTWARE P&L CR ADJMT -NON PAY[29]	Cost increase due to move from Agency staff to External Contractors. Cost reduction due to Reorganisation and 21CN which also reduced size of P&L adjustment for capitalisation of software developments	
Network Support Contract Costs	Less spend on TDM and more on PSTN and Broadband	
NEWSTART LEAVER PAYMENTS (PAY)	Increased leaver payments as result of Reorganisation	
TELEREAL RENT (INCLUDING CORE)	Rental reduction due to installation of 21CN equipment increasing Base.	
RATES ON INSTALLATIONS		Cumulo Rate rebate
Cost movements < 300K	Movements in the 500 small cost contributors cause a net reduction of £3.5m in charges, largely as a result of the Reorganisation. It is clearly not feasible to predict cost changes at this level of granularity	Movements of costs largely cancel each other out.

[26] Support to customer service provision and repair field staff and their manager

[27] Pay for general management (including Group and Business Unit Board Members and other senior managers)

[28] R&D contracts with Universities relating to acquisition of capital equipment and non-trading items

[29] Direct costs on internally developed software is capitalised when certain criteria are met. This captures this credit adjustment in respect of non-pay costs

140/155 Mbit/s main link

A1.5 Table 5 shows the main cost categories for this service (excluding CCA adjustments).

Table 5: Analysis of cost categories for 140/155 Mbit/s main link for 2005/6 to 2006/7 from ASPIRE

[✂]

A1.6 Table 6 shows the most significant cost movements between the 2005/6 and 2006/7. Table 7 goes on to provide an explanation for the movements in the largest cost categories from 2005/6 to 2006/7 and whether they were reasonably foreseeable.

Table 6: Movements in costs for 140/155 Mbit/s main link between 2005/6 and 2006/7

[✄]

Table 7: Analysis of the underlying reasons for cost changes for 140/155 Mbit/s main link between 2005/6 and 2006/7

[✄]

140/155 Mbit/s Distribution

A1.7 Table 8 shows major cost items for this service (excluding CCA adjustments).

Table 8: Analysis of the cost lines for 140/155 Mbit/s Distribution for 2006/7 to 2008/9 from ASPIRE

[✂]

A1.8 Table 9 shows the most significant cost movements between 2006/07 and 2008/9. Table 10 goes on to provide an explanation for the movements.

Table 9: Cost Movements for 140/155 Mbit/s Distribution between 2006/7 & 2008/9

[✂]

Table 10: Analysis of the underlying reasons for cost changes for 140/155 Mbit/s Distribution Services

[✂]

Annex 7

Relevant cost measures and terminology for Ofcom's analysis

As set out at paragraph 2.10, the cost orientation obligations imposed on BT in the TISBO and trunk markets require BT to secure that:

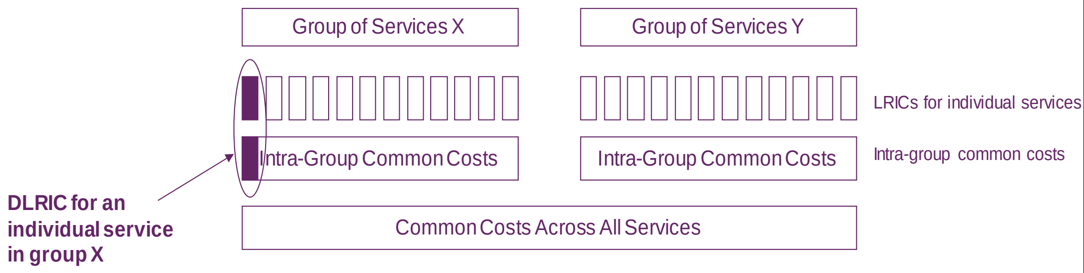
> *"each and every charge offered, payable or proposed for Network Access covered by Conditions [G/GG/H]1 is reasonably derived from the costs of provision <u>based on a forward looking long run incremental cost approach</u> and allowing an appropriate mark up for the recovery of common costs including[1] an appropriate return on capital employed" (emphasis added).*

This obligation requires PPC charges to be LRIC-based and to provide for the recovery of an appropriate share of common costs. The key cost measures relevant to these Disputes and the common terminology used are summarised in the table below.

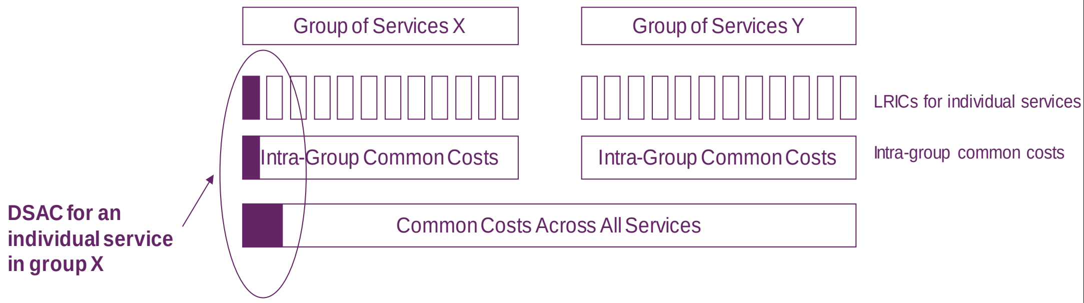
Incremental cost is the cost of producing a specified additional product, service or increment of output over a specified time period. In many cases, the relevant increment may be the entire output of a particular service or group of services. The incremental costs of a service are then those costs which are directly caused by the provision of that service in addition to the other services which the firm also produces. Another way of expressing this is that the incremental costs of a service are the difference between the total costs in a situation where the service is provided and the costs in another situation where the service is not provided.
Long Run Incremental Cost ("LRIC") is the incremental cost over the long run, i.e. the period over which all costs can, if necessary, be varied.
Common costs are those costs which arise from the provision of a group of services but which are not incremental to the provision of any individual service. Common costs may be identified in the following way: if the incremental costs of each service are removed from the total cost of providing all services, what are left are the common costs (i.e. those costs which are shared). Where there are no common costs, incremental cost and SAC are the same. Where there are common costs, the firm's SAC of a service is the sum of the incremental cost of the service plus all of the costs which are common between that service and other services.
Stand Alone Cost ("SAC") is the cost of providing that particular service on its own, i.e. on a stand-alone basis.
Distributed Long Run Incremental Cost ("DLRIC") is a cost measure related to the LRIC of a component. Within BT's network, groups of components are combined together to form what is known as a "broad increment". Two of these "broad increments" are the core network (the "Core") and the access network ("Access"). The DLRIC of a component is equal to the LRIC of a component plus a share of the costs that are common between the components within the "broad increment" (which are known as "intra-group" common costs). The common costs are shared between the components by distributing them on an equi-proportionate mark up (EPMU) basis. The sum of the DLRICs of all the components in

[1] In Condition H3.1, 'and' is used instead of 'including'.

the Core is equal to the LRIC of the Core itself. This is represented in the diagram below:



Distributed Stand Alone Cost ("DSAC") is a cost measure related to the SAC of a component. As described above, there are components within the "broad increment" of the Core. As an example the DSAC of a core component is calculated by distributing the SAC of the Core between all the components that lie within the Core. Each core component therefore takes a share of the intra-group common costs, and the costs that are common to the provision of all services. The sum of the core components DSACs is equal to the SAC of the Core. This is demonstrated in the diagram below:



Fully allocated cost ("FAC") is an accounting approach under which all the costs of the company are distributed between its various products and services.

Fixed and variable costs: when considering which costs are fixed and which are variable the time period is key. In the short-run some costs (particularly capital costs) are fixed. The shorter the time period considered, the more costs are likely to be fixed. In the long-run, all costs are (by definition) considered variable.

Current Cost Accounting ("CCA") is 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.

Weighted average cost of capital ("WACC"): a company's WACC measures the minimum rate of return that a firm needs to earn in order to reward its investors. It is an average representing the expected return on all of its securities, including both equity and debt.

Annex 8

Glossary

2004 LLMR Statement Leased Lines Market Review Statement, published on 24 June 2004.

2008 BCMR Statement Business Connectivity Market Review Statement, published on 8 December 2008.

2009 Final Determinations Ofcom's determinations published on 14 October 2009, resolving certain elements of the Disputes.

2009 LLCC Statement Leased Lines Charge Control Statement, published on 2 July 2009.

21st Century Network (21CN) BT's network programme which aims to provide a new simplified and higher capacity UK core network to manage the growing volumes of digital media traffic being consumed by end users.

The Act The Communications Act 2003.

Additional Financial Statements (AFS) Financial statements which BT produces in addition to the RFS, provided to Ofcom on a confidential basis. They give a breakdown of the published accounts information by individual service.

Alternative interface symmetric broadband origination (AISBO) A form of symmetric broadband origination service providing symmetric capacity between two sites, generally using an Ethernet IEEE 802.3 interface.

Bandwidth The physical characteristic of a telecommunications system that indicates the speed at which information can be transferred. In analogue systems, it is measured in cycles per second (Hertz) and in digital systems in bits per second (Bit/s).

Common Costs See Annex 7.

Communications Provider (CP) A person who provides an Electronic Communications Network or provides an Electronic Communications Service (as defined by section 32 of the Communications Act 2003).

Cost Volume Relationships (CVR) LRICs in a cost category are derived using a CVR. A CVR is a curve which describes how costs change as the volume of the cost driver changes. The costs associated with an increment can be of several types:

- Variable with respect to the increment being measured;
- Fixed but increment specific; and
- Fixed but spanning several increments.

CPL BT's Wholesale Carrier Price List.

CRF Common Regulatory Framework.

Current Cost Accounting (CCA) See Annex 7.

Disputing CPs C&W, THUS, Level 3, Verizon, Virgin and COLT.

Distributed LRIC (DLRIC) See Annex 7.

Distributed SAC (DSAC) See Annex 7.

Equi-Proportionate Mark Up (EPMU) A method of allocating Fixed Common Costs in proportion to the LRICs.

Ethernet Backhaul Direct (EBD) A wholesale Ethernet product which offers permanently connected, point-to-point high speed data circuits that provide a secure and un-contended backhaul service for Communications Providers.

Fixed common costs (FCC) See Common costs.

Fully allocated cost (FAC) See Annex 7.

HCA (historical cost accounting) depreciation The measure of the cost in terms of its original purchase price of tangible fixed assets that have been consumed during a period. Consumption includes the wearing out, using up or other reduction in the useful economic life of a tangible fixed asset whether arising from use, effluxion of time or obsolescence through either changes in technology or demand for the goods and services produced by the asset.

Kbit/s kilobits per second. A measure of speed of transfer of digital information – one thousand Kbit/s is equal to one Mbit/s.

Leased line A permanently connected communications link between two customer premises, or between a customer's premises and the CP's network, dedicated to the customers' exclusive use.

Long Run Incremental Cost (LRIC) See Annex 7.

Mbit/s Megabits per second. A measure of speed of transfer of digital information.

MCE Mean capital employed.

NCC Guidelines Network Charge Control Guidelines.

PAD BT's Primary Accounting Documents – the accounting policies and principles used in the preparation of BT's RFS, including transfer charging policies and attribution methodologies.

Partial Private Circuit (PPC) A generic term used to describe a category of private circuits that terminate at a point of connection between two communications providers' networks. It is therefore the provision of transmission capacity between a customer's premises and a point of connection between the two communications providers' networks. It may also be termed a part leased line.

Parties BT and the Disputing CPs.

PDH Plesiochronous Digital Hierarchy – a transmission technology that supports the transmission of various bandwidths of data over fibre optic networks and is used extensively in the provision of leased lines services.

Point of Handover (POH) A high capacity link, which connects a CP's network with that of BT and comprises the physical infrastructure (duct and fibre) as well as electronics at both or one end of the link.

PPC appeal BT's appeal of the 2009 Final Determinations.

PPC Court of Appeal Judgment The Court of Appeal's judgment in BT's appeal of the PPC Judgment and the PPC Preliminary Issues Judgment: *British Telecommunications plc v Office of Communications* [2012] EWCA Civ 1051.

PPC Judgment The CAT's judgment disposing of the PPC appeal: *British Telecommunications plc v Office of Communication* [2011] CAT 5.

PPC Preliminary Issues Judgment The CAT's judgment on preliminary issues in the PPC appeal: *British Telecommunications plc v Office of Communications* [2010] CAT 15.

Regulatory Financial Statements (RFS) The annual financial statements that BT is required to prepare and publish in order to demonstrate compliance with its regulatory obligations.

Relevant Period The period covered by these Disputes: 24 June 2004 and 30 September 2008.

ROCE Return on Capital Employed.

SDH Synchronous Digital Hierarchy – a transmission technology that supports the transmission of various bandwidths of data over fibre optic networks and is used extensively in the provision of leased lines services.

SG&A costs Sales, General and Administration costs

SMP Significant Market Power.

Stand Alone Cost (SAC) See Annex 7.

Symmetric broadband origination (SBO) A symmetric broadband origination service provides symmetric capacity from a customer's premises to an appropriate point of aggregation, generally referred to as a node, in the network hierarchy. In this context, a "customer" refers to any public electronic communications network provider or end user.

Traditional interface symmetric broadband origination (TISBO) A form of symmetric broadband origination service providing symmetric capacity from a customer's premises to an appropriate point of aggregation in the network hierarchy. PPCs are based on TISBO, whereas Ethernet services are based on AISBO (not TISBO).

Weighted Average Cost of Capital (WACC) See Annex 7.