Neutral citation [2020] CAT 8

IN THE COMPETITION APPEAL TRIBUNAL

Case No: 1330/3/3/19

Salisbury Square House
8 Salisbury Square
London
EC4Y 8AP

5 March 2020

Before:

PETER FREEMAN CBE QC (HON)
(Chairman)
PROFESSOR JOHN CUBBIN
PROFESSOR ANTHONY NEUBERGER

Sitting as a Tribunal in England and Wales

BETWEEN:

(1) TALKTALK TELECOM GROUP PLC
(2) VODAFONE LIMITED

Appellants

- v -

OFFICE OF COMMUNICATIONS

Respondent

(1) BRITISH TELECOMMUNICATIONS PLC
(2) CITYFIBRE INFRASTRUCTURE HOLDINGS PLC

Interveners

Heard at Salisbury Square House on 13-17 January 2020

JUDGMENT

APPEARANCES

Mr Alan Bates and Ms Imogen Proud (instructed by Towerhouse LLP) appeared for the Appellants.

Mr Josh Holmes QC and Ms Julianne Kerr Morrison (instructed by Ofcom Legal) appeared for the Respondent.

Mr Robert Palmer QC and Ms Ligia Osepciu (instructed by BT Legal) appeared for the Intervener, British Telecommunications plc.

SUMMARY

1. This is an appeal brought by TalkTalk Telecom Group Plc and Vodafone Limited ("the Appellants") against a decision that formed part of a Final Statement in the context of Ofcom's latest "Business Connectivity Market Review" ("BCMR"). This is one of the communications sectors that Ofcom is required to review under sections 48 and 79 of the Communications Act 2003 ("the 2003 Act"), pursuant to its obligations under the European Common Regulatory Framework, established by a series of EU Directives.

2. A particular aspect of business communications covered in the BCMR was "Contemporary Interface (CI) Access Services", essentially the transmission of large volumes of data through fibre optic cables, enclosed in tubes carried in ducts or on poles, as distinguished from so called "legacy" systems relying on copper wire. In particular, the review focused on "leased lines", which are the high-quality fixed connection facilities offered at the wholesale level by retailers of communications services to their business customers. They differ from broadband services offered to domestic customers by employing far greater speeds and capacity. Both types of service require considerable physical infrastructure in the form of cables, ducts and/or poles and connections.

3. The Final Statement contained decisions covering the whole of the UK including a defined area of London known as the Central London Area ("CLA"). Ofcom's decision in relation to the CLA was that no undertaking enjoyed Significant Market Power ("SMP"), (the communications law equivalent to dominance under Art 102), and that in consequence no regulatory measure would, or could in law, be imposed.

4. Ofcom's decision was based on an assessment of the competitive pressure brought by other communications providers ("CPs") on the established position of Openreach, BT Group's wholesale arm, in the provision of leased line services to retailers (which, importantly, included other vertically integrated CPs). It found that, in the defined CLA area, there was sufficient presence of

other networks, and sufficient opportunity during the relevant period for rivals to offer connections to business customers, to prevent Openreach from raising prices or otherwise causing harm to customers. This was despite Openreach still having a volume market share in the relevant market exceeding 50%.

5. The 2019 BCMR followed a period of temporary measures that were imposed or agreed in the light of adverse findings by the Tribunal in relation to the 2016 BCMR. It adopted a review period that was shorter than the usual three years as Ofcom wished to move to a new regulatory regime that would cover both domestic and business connectivity from April 2021.

6. This judgment is directed exclusively at Ofcom's finding that Openreach did not have SMP in the CLA. Other aspects of the Final Statement relating to other parts of the country were also disputed, but those raise price control issues which are properly the province of the CMA to decide. In accordance with the 2003 Act, these issues will be referred to the CMA as soon as possible after this judgment is issued.

7. In the present appeal, the Appellants raised numerous objections to Ofcom's methodology and findings. They said that Openreach's high market share meant it was presumed to have SMP; that Ofcom had placed too much reliance on the proximity of rival networks, based on the results of its network reach model; that it had not examined how competition actually worked on the ground; that it had ignored the inherent advantage that Openreach enjoyed from its legacy position and under-estimated its rivals' costs and difficulties in connecting their infrastructure to business customers.

8. The Appellants also criticised Ofcom's reliance on the effect of extending existing passive infrastructure access ("PIA") measures to all-business use, saying it was too early for any benefits to be felt; and that generally Ofcom had taken a relative approach, relying too much on its finding that the CLA was more competitive than elsewhere.

9. BT intervened in support of Ofcom, providing details of recent PIA orders and take-up and arguing that Openreach was subject to considerable competitive pressure, as evidenced by its pricing behaviour in the CLA.

10. Ofcom denied it had taken a relative approach but said it had decided, as a specialist regulator, adopting a forward-looking view, that SMP was not present in the CLA. This confirmed similar assessments it had made in preceding reviews. Ofcom had examined competition from a number of angles, including the results of economic modelling, the responses to its consultation, other empirical evidence on competitive conditions in the CLA and an assessment of rivals' different business strategies. It said it had been careful not to overstate the impact of the unrestricted PIA remedy, and had also placed some, but not excessive, weight on BT's pricing behaviour.

11. Our unanimous view was that Ofcom's decision should stand, and that the Appellants had not established that it was either wrongly decided, or wrong in itself. Openreach's high market share was an important factor, but only one factor, that needed to be considered alongside other possible indicators of market power, many of which pointed in the opposite direction. Whilst the Appellants criticised Ofcom's methodology, they offered no realistic alternative, and were not able to show any material error.

12. Ofcom's examination showed that there was competitive pressure being applied to Openreach, allowing it to conclude, in the light of its regulatory knowledge and experience, that Openreach did not have significant market power in the CLA. We agreed with that view and unanimously upheld Ofcom's decision.

13. We did not find that the recent legislative change to the applicable standard of review prevented us from conducting an effective appeal in this case, as required by EU law. We paid appropriate respect to Ofcom's position as a specialist regulator but also took our own view on the evidence presented to us.

14. Our full decision and the detailed reasons for it, together with the next steps in the case, are set out in the judgment that follows.

PART I: INTRODUCTION AND BACKGROUND TO THE CASE

A. OVERVIEW

(1) What this appeal concerns

15. This appeal concerns three of the decisions (together, the **"Decisions"**) made by Ofcom in its Statement of 28 June 2019: "Promoting competition and investment in fibre networks: review of the physical infrastructure and business connectivity markets" (the **"2019 Statement"**). The Decisions at issue all form part of Ofcom's periodic review of the UK's business connectivity markets, referred to as the Business Connectivity Market Review 2019 or **"BCMR 2019"**. They are as follows:

    (1) **Decision 1:** The decision that British Telecommunications plc ("**BT**") does not have significant market power (**"SMP"**) in the market for "contemporary interface access" (**"CI Access"**) in the "Central London Area" (**"CLA"**) geographic market.

    (2) **Decision 2:** The decision to set a "CPI-CPI" price cap charge control remedy on BT's supplies of contemporary interface (**"CI"**) services in the geographic markets identified as "BT Only" and "BT+1" markets.

    (3) **Decision 3:** The decision to impose a "fair and reasonable" requirement as the price cap remedy in respect of BT's supplies of CI leased lines in "high network reach" (**"HNR"**) markets (save the CLA).

16. The 2019 Statement is a multi-volume document. The Decisions are contained in "Volume 2: market analysis, SMP findings, and remedies for the Business Connectivity Market Review (BCMR)" and "Volume 3: Leased Line Charge

Control (LLCC)". Those are the volumes setting out Ofcom's conclusions and decisions from its review of competition in "business connectivity markets", including specifically markets for the supply of point-to-point "leased lines" and ancillary services.

17. Ofcom describes "leased lines" as high-quality, dedicated, point-to-point data transmission services used by businesses and providers of communications services. Leased lines are integral to the connectivity of digital communications services. They are used, *inter alia*: (a) by businesses to transfer data between sites and to access internet and cloud computing services, (b) by mobile networks to connect to their base stations (referred to as **"mobile backhaul"**), by residential broadband providers to interconnect their networks (referred to as **"fixed broadband backhaul"**) and to interconnect networks up and down the UK.

18. More specifically, the leased lines in question are referred to in the 2019 Statement as CI Access services. The designation CI means that these lines are provided using modern (contemporary) technology such as Ethernet, typically over optical fibre, distinct from legacy transmission technology (now fully deregulated Traditional Interface or **"TI"** services) which is dwindling in usage.

19. CI Access services are provided at different bandwidths. Lower bandwidth services are provided at 1 Gbit/s and below. Very High Bandwidth services, those above 1 Gbit/s, are referred to as **"VHB"** services.[1]

20. The Decisions are taken by Ofcom under sections 45 and 87 of the 2003 Act.[5] They concern the degree of market power enjoyed by BT in leased lines markets, and the specific regulatory conditions to which BT should be subject, in relation to those markets, during a 20-month period commencing on 1 August 2019 and ending on 31 March 2021 ("**the Relevant Period**").

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[1] For further detail see the Appendix to this Judgment.

(2) The parties

21. The Appellants are major wholesale buyers of CI services from BT, which they require for providing leased line services to their retail customers' business sites. Vodafone also operates its own fibre network which it uses to provide retail and wholesale leased line services. Vodafone is also a mobile network operator ("**MNO**") and purchases BT leased lines for mobile backhaul.

22. The First Intervener, BT, is the former statutory monopolist. At the heart of BT's market power is its ownership of infrastructure that reaches across the UK. Openreach is a division of BT involved in the wholesale supply of leased lines. Arrangements exist to ensure that Openreach supplies BT's retail division and other Communications Providers' ("**CPs**") retail divisions on a non-discriminatory basis. In the remainder of this judgment we do not distinguish between Openreach and BT unless the context requires it.

23. The Second Intervener, CityFibre Infrastructure Holdings Limited ("**CityFibre**"), is the UK's leading alternative provider of wholesale full-fibre network infrastructure. It is a key competitor to BT in the provision of CI Services.

24. Both Interveners intervened in support of Ofcom.

25. One of Ofcom's roles as the economic regulator in this sector is to regulate the exercise of BT's market power where its economic strength affords it a position equivalent to dominance, i.e. it is able to behave to an appreciable extent independently of competitors, customers and ultimately consumers.

(3) The Market Review process and the BCMR 2019

26. Ofcom's approach to regulation has evolved in response to developments in business connectivity and other regulated markets in order to secure greater competition to the benefit of consumers. Ofcom has sought to encourage investment in fibre by both BT and other providers in order to meet consumer

needs for ultrafast broadband and improved digital connectivity. BT does not have fibre connections to all customers as its ubiquitous network across the UK was developed originally using copper access connections.

27. The 2019 Statement makes clear that there is significant scope for investment in fibre networks. Ofcom considers that there is significant scope for such investment in up to 70% of the UK, and that there is a commercial appetite to invest in such networks.

28. Previously, Ofcom's approach to the UK telecommunications market was to regulate separately two types of markets: (a) business connectivity markets / leased lines; and (b) residential / local access markets. Ofcom required BT, through Openreach, to provide wholesale products that are unique to each of these markets, i.e. this promoted "access-based competition". As it was expected that BT would face limited competition in both the residential and business markets, where it had SMP, Ofcom focused its interventions on the wholesale market in order to promote competition in the retail markets.

29. According to the 2019 Statement, this approach has been very successful and has allowed for regulation to be reduced in certain markets as competition has developed over time. As a result of access-based competition, consumers have also benefitted from better value for money, with the standard broadband and land-line bundle prices falling by 18% between 2015 and 2018.[2]

30. The 2019 Statement states that access-based competition drives shorter term benefits through retail competition. But this type of regulation still means that BT's competitors are reliant on access to the Openreach network in order to deliver a service to consumers. Ofcom is of the view that this should not be the end goal, especially in circumstances where significant investment is needed in high quality, future-proofed, fibre networks by BT and other operators to provide the connectivity required by consumers.

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[2] 2019 Statement, paragraph 1.6.

31. As it is BT's infrastructure which lies at the heart of its market power, Ofcom has changed its strategic regulatory focus from focusing on access-based regulation to instead promoting competition and investment through network-based competition where feasible. Network-based competition is expected to drive investment and lead to further deregulation which is not achievable under the access-based regulatory model. This shift in focus was set out in Ofcom's: (i) 2016 Digital Communications Review, Initial Conclusions; (ii) Strategic policy position entitled *Regulatory certainty to support investment in full-fibre broadband: Ofcom's approach to future regulation,* which was published on 24 July 2018; and (iii) Consultation entitled *Promoting competition and investment in fibre networks: Wholesale Fixed Telecoms Market Review 2021-26*, which was published on 8 January 2020 ("**the Access Review Announcement**").

32. Ofcom's focus on promoting network-based competition underlies a number of aspects of this appeal. In particular, Ofcom has introduced an unrestricted Physical Infrastructure Access remedy (**"unrestricted PIA"**) in the Physical Infrastructure Access Market Review (Volume 1 of the 2019 Statement). This remedy was previously available in the local access market where the primary purpose was to serve residential consumers. Unrestricted PIA now allows competitors access to BT's ducts and poles, even if the primary purpose is to serve business customers or MNOs.

(4) The 2019 Statement

33. The decisions reached in Volume 1 in relation to the outcomes of Ofcom's Physical Infrastructure Access Market Review were, in summary:

    (1) Ofcom defined a single product market for the supply of wholesale access to telecoms physical infrastructure (for example, underground ducts or telegraph poles) for deploying a telecoms network.

    (2) Ofcom identified four separate geographic markets, based on physical infrastructure network competition.

(3) Ofcom decided that BT has SMP in physical infrastructure access services in each of the geographic markets Ofcom had identified across the UK, including in the CLA.

(4) Ofcom imposed an unrestricted PIA remedy on BT in all of the geographic markets. This obligation required BT to allow other telecoms providers access to deploy their own networks in BT's physical infrastructure. The term "unrestricted" refers to the fact that use of the product is not subject to restrictions as to either geographic scope, or the technical uses that may be made of the installed fibre.

(5) Ofcom decided to set price regulation on the unrestricted PIA rental services, imposing a level of maximum charges using a cost-based price cap which was identical to those set in Ofcom's 2018 Wholesale Local Access ("**WLA**") market review for mixed usage PIA.

34. The decisions reached in Volume 2 in relation to Ofcom's BCMR were, in summary:

(1) Ofcom defined two product markets for CI services: CI Access services and CI Inter-exchange connectivity services. For each of these, Ofcom identified a single product market covering all bandwidths.

(2) In the CI Access services market, Ofcom identified separate geographic markets, based on network competition. Ofcom concluded that BT had SMP in CI Access services in each of the geographic markets it identified across the UK, except in the CLA and the Hull area.

(3) In the CI Inter-exchange connectivity services markets, Ofcom decided that BT has SMP at its exchanges where Ofcom considered that BT faced competition from fewer than two other operators.

(4) Ofcom decided to remove all regulation from legacy TI services.

(5) In relation to CI Access services, in areas Ofcom categorised as "BT+2" it imposed minimal price controls and removed standards for quality of service. In areas it categorised as "BT Only" or "BT+1", Ofcom decided to keep prices flat and to have strict standards for quality of service at all bandwidths. These categorisations are explained in paragraph 38 below.

(6) In relation to CI Inter-exchange connectivity market, at exchanges where Ofcom considered that BT faced competition from fewer than two competitors, Ofcom decided to keep prices flat and to have strict standards for quality of service at all bandwidths. At exchanges where BT faced no competition and there were no rival networks close by, Ofcom required BT to provide access to dark fibre at cost.

35. The decisions reached in Volume 3 in relation to charge controls on BT were, in summary:

(1) Ofcom imposed charge controls on a basket of active services at 1 Gbit/s and below, covering both the CI Access services and CI Inter-exchange connectivity services markets, where BT faced limited competition, with charges based on the average prices of services in the basket for the prior year and capped at CPI-CPI.

(2) Ofcom imposed charge controls on a basket of active VHB services at above 1 Gbit/s, covering both the CI Access services and CI Inter-exchange connectivity services markets, where BT faced limited competition, with charges as at 1 October 2018 capped at CPI-CPI.

(3) Ofcom imposed charge controls on dark fibre services in the CI Inter-exchange connectivity services markets for connections from certain BT Only exchanges, with charges calculated on the latest available cost information and kept constant in nominal terms over the review period.

(4) Ofcom also imposed controls on sub-baskets and ancillary services.

36. Of particular relevance to this appeal is Ofcom's approach to defining geographic markets for CI Access services.

37. Ofcom did this by grouping together postcode sectors which it assessed as being broadly similar in terms of the extent to which BT faced actual or potential competition. The extent to which BT faced competition was assessed using a "network reach" methodology.

38. In simplified terms, this involved assessing whether more than 65% of large business sites and mobile base stations (together, "**business sites**") within the postcode sector were located within 50 metres of fibre network infrastructure of any "rival network" to BT. On the basis of this approach, Ofcom assigned postcode sectors to the following categories:

(1) "BT Only" areas: these were postcode sectors where less than 65% of business sites were situated within 50m of a rival network;

(2) "BT+1" areas: these were postcode sectors where more than 65% of business sites were within 50m of at least one rival network; and

(3) "BT+2" (or what Ofcom called "high network reach") areas: these were postcode sectors where more than 65% of business sites were within 50m of at least two rival networks.

39. Ofcom decided that "BT Only" areas, and "BT+1" areas, each constituted a distinct geographic market.

40. The "high network reach" postcode areas were divided into a number of different geographic markets, namely the CLA Market, certain HNR markets each covering a particular metropolitan area, and a further 'sweep up' HNR market to which were assigned the rest of the postcode sectors.

(5) The present appeal

41. This appeal is brought under section 192 of the 2003 Act and is subject to the procedure set out in section 193 of that Act. That procedure requires the Tribunal to identify whether an appeal raises any "specified price control matters". The price control matters to which the procedure applies have been specified in Rule 116 of the Competition Appeal Tribunal Rules 2015 (SI 2015 No. 1648) (**"the Tribunal Rules"**). If an appeal does raise specified price control matters, then those matters must be referred by the Tribunal to the Competition and Markets Authority (**"CMA"**) for determination. Matters raised by the appeal which are not specified price control matters are to be decided by the Tribunal. In broad terms, a specified price control matter is a matter which relates to the design of a price control, as opposed to the question as to whether or not to impose a price control at all.

42. Once the CMA has notified the Tribunal of its determination of a price control matter referred to it, the Tribunal must decide an appeal in relation to that matter in accordance with the determination of the CMA, unless the Tribunal decides, applying the principles applicable on an application for judicial review, that the CMA's determination would fall to be set aside on such an application.

(6) The Appellants' grounds of appeal

43. In summary, the principal grounds on which the Appellants rely are that:

44. In relation to Decision 1:

(1) Ofcom adopted an erroneous approach, and/or its analysis by which it reached its SMP finding was legally inadequate. In particular:

(a) Ofcom failed to pay proper regard to the presumption of dominance which applied in circumstances where BT's market share was in excess of 50%. Ofcom did not identify the existence

of "exceptional circumstances" to justify failing to apply the presumption.

(b) Ofcom relied inappropriately on a "relative" approach, reasoning that BT did not have SMP in the CLA because network infrastructure was denser in the CLA than in the other geographic markets for CI Access. Ofcom thus failed properly to focus on the legally relevant question, which was whether the presumption was displaced by reason of persuasive evidence that BT would in fact be adequately constrained by competition over the Relevant Period.

(2) Ofcom failed to give adequate reasons for its SMP Finding. Its "relative" approach was not a legally sound or sufficient reason; and its reasoning was not sufficient to explain the basis on which the presumption of dominance was displaced.

(3) Further and in any event, the SMP Finding was wrong and/or not one that was properly open to Ofcom on the basis of the available evidence. On the basis of a proper and diligent consideration of the relevant market circumstances, the only correct conclusion was that BT had SMP in the CLA Market.

45. In relation to Decision 2:

(1) Ofcom's reasons for the Decision are legally inadequate (having regard, inter alia, to Ofcom's relevant statutory duties) and/or irrational. That is in particular because:

(a) Ofcom's assessment that capping BT's prices at the current levels would, as compared with maintaining a cost-based approach, increase certainty and would, for that reason, be more

conducive to network investment is misconceived and manifestly unsound; and/or

(b) Ofcom had no realistic basis for concluding that capping BT's prices at the current levels would, by allowing BT to charge higher prices than it would have been entitled to charge under the standard approach, materially increase the likelihood of network investments being made.

(2) The Decision was not taken consistently with Ofcom's relevant duties under the 2003 Act, in that Ofcom failed to assess whether such competition and/or customer benefits (if any) as were likely to arise from capping BT's prices at the current levels were likely to be sufficient, in aggregate, to outweigh the costs of that Decision.

46. In relation to Decision 3:

(1) Ofcom's decision that the appropriate price control remedy to impose in relation to the HNR markets was limited to the "fair and reasonable charges" requirement, and that no stronger remedy (such as, for example, a charge control) was appropriate, was vitiated by error, on each and all of the following grounds:

(a) The decision was not based on any analysis of conditions of competition in those markets which was properly (having regard inter alia to Ofcom's statutory duties in sections 3 and 4 of the 2003 Act) capable of constituting the basis for it.

(b) Further or alternatively, the decision was inadequately reasoned.

47. At a case management conference which took place on 10 October 2019, the parties were in agreement that the Appellants' appeal in relation to Decisions 2 and 3 are specified price control matters which should be referred to the CMA

for determination. By way of an Order dated 16 October 2019, the Tribunal ordered that the appeals against those Decisions be referred to the CMA. Accordingly, this judgment concerns the Appellants' appeal in relation to Decision 1 only (hereafter "**the Decision**").

48. The Appellants do not appeal against Ofcom's conclusion on the appropriate market definitions to be used in the BCMR 2019. However, a core component of the challenges brought against Decisions 1 and 3 is that Ofcom 'recycled' its Network Reach Analysis ("**NRA**"), used to define the relevant geographic markets, in assessing SMP.

49. BT's intervention traverses all three Decisions (i.e. both the specified price control and non-price control matters) whereas CityFibre's intervention is confined to Decisions 2 and 3 (i.e. only the specified price control matters which are to be referred to the CMA for determination). CityFibre did not therefore make oral submissions at the substantive hearing which took place on 13-17 January 2020.

B. OFCOM'S ADMINISTRATIVE PROCESS AND THE BCMR 2019

(1) Earlier regulation in the CLA

50. The CLA consists of most of zone 1 in central London and the Docklands area. It broadly corresponds to the Central Activities Zone defined by the Greater London Authority as London's business centre, accounting for 1.7m jobs.[3] This small geographic area accounted for 12% of all leased line connections in 2017 and many suppliers have built networks there.

[3] 2019 Statement, paragraph 5.102.

51. The London area was first identified as a separate geographic market in BCMR 2013 for the services at issue in this appeal, which included the area now referred to as the CLA and since then has been progressively deregulated.[4]

(2) 2013 BCMR

52. In BCMR 2013, Ofcom found that no operator had SMP for above 1 Gbit/s services in London. BT was found to have SMP for the other CI services (1 Gbit/s and below) but Ofcom recognised that there were favourable prospects for future competition.[5] These more favourable prospects for competition were reflected in Ofcom's remedies for CI services 1 Gbit/s and below. Instead of applying a cost-based price control, Ofcom opted instead for a safeguard cap, which kept prices flat in nominal terms.

(3) 2016 BCMR

53. In BCMR 2016, Ofcom found that no operator had SMP for all CI services and as a result all CI services were de-regulated in the CLA with effect from 2016.

54. In assessing whether BT had SMP in the lower bandwidth services in the CLA, Ofcom considered a variety of factors that suggested BT could have market power – in particular, its market share; the ubiquity of its network; and its advantages in terms of economies of scale and scope. Ofcom also took into account indicators that BT was subject to competitive constraint. In that latter regard, Ofcom's assessment focussed on the presence and density of rival infrastructure.

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[4] This market was then called the "Western, Eastern and Central London Area" or "WECLA" and was wider than the current CLA.

[5] The services now known as CI services, were referred to in the 2013 BCMR as "Alternative Interface" ("AI" or "AISBO") services; or, in the case of services exceeding 1Gbit/s, as Multiple Interface ("MI" or "MISBO") services. Ofcom identified a product market for AI services; and also identified a product market for MI services (which were at the time relatively new and for which demand was relatively limited / still emerging).

55. Ofcom concluded (as it did later in BCMR 2019) that the presence of rival infrastructure resulted in sufficient constraints on BT such that it had no SMP. This was even though BT's share was above the level where single firm dominance concerns normally arise.

56. Thus, all CI services in the CLA were fully deregulated by 2016 and BT was found to have no SMP. No operators brought an appeal against that conclusion.[6]

C. THE LEGAL FRAMEWORK

57. This section sets out the relevant legal framework at both EU and national level.

(1) The EU Common Regulatory Framework

58. The provision of electronic communications networks and services in the United Kingdom is regulated under the Common Regulatory Framework provided for by Directive (2002/21/EC) ("**the Framework Directive**") and four "specific Directives". One such specific Directive of relevance to this appeal is Directive (2002/19/EC) ("**the Access Directive**").

(a) The Framework Directive

59. Article 8 of the Framework Directive sets out the policy objectives and regulatory principles to be observed by National Regulatory Authorities in carrying out the regulatory tasks specified in it and in the Access Directive. Among other things, National Regulatory Authorities must take reasonable and proportionate measures aimed at achieving objectives which include the promotion of competition, the development of the internal market, and the promotion of the interests of the citizens of the EU.

60. Article 8(5) provides:

[6] The appeal proceedings brought against the BCMR 2016 did not involve any challenge against Ofcom's finding of effective competition in the CLA.

> "5. The national regulatory authorities shall, in pursuit of the policy objectives referred to in paragraphs 2, 3 and 4, apply objective, transparent, non-discriminatory and proportionate regulatory principles by, inter alia:
>
> (a) promoting regulatory predictability by ensuring a consistent regulatory approach over appropriate review periods;
>
> (b) ensuring that, in similar circumstances, there is no discrimination in the treatment of undertakings providing electronic communications networks and services;
>
> (c) safeguarding competition to the benefit of consumers and promoting, where appropriate, infrastructure-based competition;
>
> (d) promoting efficient investment and innovation in new and enhanced infrastructures, including by ensuring that any access obligation takes appropriate account of the risk incurred by the investing undertakings and by permitting various cooperative arrangements between investors and parties seeking access to diversify the risk of investment, whilst ensuring that competition in the market and the principle of non-discrimination are preserved;
>
> (e) taking due account of the variety of conditions relating to competition and consumers that exist in the various geographic areas within a Member State;
>
> (f) imposing *ex-ante* regulatory obligations only where there is no effective and sustainable competition and relaxing or lifting such obligations as soon as that condition is fulfilled."

61. Articles 14-16 concern the identification of markets and SMP.

62. Article 14(2) provides that where the specific Directives require National Regulatory Authorities to determine whether operators have SMP in accordance with the market analysis procedure referred to in Article 16 FD, an undertaking shall be deemed to have SMP if:

> "either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers."

63. Article 16 concerns the market analysis procedure and provides as relevant:

> "1. National regulatory authorities shall carry out an analysis of the relevant markets taking into account the markets identified in the Recommendation, and taking the utmost account of the Guidelines. Member States shall ensure that

this analysis is carried out, where appropriate, in collaboration with the national competition authorities.

2. Where a national regulatory authority is required under paragraphs 3 or 4 of this Article, Article 17 of Directive 2002/22/EC (Universal Service Directive), or Article 8 of Directive 2002/19/EC (Access Directive) to determine whether to impose, maintain, amend or withdraw obligations on undertakings, it shall determine on the basis of its market analysis referred to in paragraph 1 of this Article whether a relevant market is effectively competitive.

3. Where a national regulatory authority concludes that the market is effectively competitive, it shall not impose or maintain any of the specific regulatory obligations referred to in paragraph 2 of this Article. In cases where sector specific regulatory obligations already exist, it shall withdraw such obligations placed on undertakings in that relevant market. An appropriate period of notice shall be given to parties affected by such a withdrawal of obligations.

4. Where a national regulatory authority determines that a relevant market is not effectively competitive, it shall identify undertakings which individually or jointly have a significant market power on that market in accordance with Article 14 and the national regulatory authority shall on such undertakings impose appropriate specific regulatory obligations referred to in paragraph 2 of this Article or maintain or amend such obligations where they already exist.

[…]

6. Measures taken in accordance with the provisions of paragraphs 3 and 4 shall be subject to the procedures referred to in Articles 6 and 7. National regulatory authorities shall carry out an analysis of the relevant market and notify the corresponding draft measure in accordance with Article 7:

(a) within three years from the adoption of a previous measure relating to that market. However, exceptionally, that period may be extended for up to three additional years, where the national regulatory authority has notified a reasoned proposed extension to the Commission and the Commission has not objected within one month of the notified extension;"

(b) The Access Directive

64. The Access Directive harmonises the way in which the Member States regulate access to, and interconnection of, electronic communications networks and associated facilities.

65. Article 1(1) explains:

> "The aim is to establish a regulatory framework, in accordance with internal market principles, for the relationships between suppliers of networks and services that will result in sustainable competition, interoperability of communications services and consumer benefits."

66. Article 5(1) provides that National Regulatory Authorities shall, acting in pursuit of the objectives set out in Article 8 of the Framework Directive:

> "… encourage and where appropriate ensure, in accordance with the provisions of this Directive, adequate access and interconnection, and the interoperability of services, exercising their responsibility in a way that promotes efficiency, sustainable competition, efficient investment and innovation, and gives the maximum benefit to end-users."

67. Article 5(2) provides:

> "Obligations and conditions imposed in accordance with paragraph 1 shall be objective, transparent, proportionate and non-discriminatory [...]."

68. Article 8(2) provides that, where an operator is designated as having SMP on a specific market as a result of a market analysis carried out in accordance with Article 16 of the Framework Directive, National Regulatory Authorities shall impose the obligations set out in Articles 9 to 13 of the Access Directive, as appropriate. Article 8(3) provides that such obligations shall not be imposed on operators which have not been designated as having SMP. Under Article 8(4), any obligations imposed on SMP operators shall be "based on the nature of the problem identified, proportionate and justified in the light of the objectives laid down in Article 8 [of the Framework Directive]".

(2) The 2003 Act

69. Ofcom's general duties are set out in section 3 of the 2003 Act. Ofcom's principal duty, as set out at section 3(1), is:

> "(a) to further the interests of citizens in relation to communications matters; and
>
> (b) to further the interests of consumers in relevant markets, where appropriate by promoting competition."

70. Section 3(3) provides:

> "In performing their duties under subsection (1), Ofcom must have regard, in all cases, to -
>
> (a) the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed; and
>
> (b) any other principles appearing to Ofcom to represent the best regulatory practice."

71. Section 3(4) provides that Ofcom must also have regard to various matters as appear to them to be relevant in the circumstances, including inter alia:

> "(b) the desirability of promoting competition in relevant markets;
>
> […]
>
> (d) the desirability of encouraging investment and innovation in relevant markets;"

72. Section 4(2) requires Ofcom, in carrying out its functions as NRA, to act in accordance with the six "Community requirements", which give effect to the requirements in Article 8 Framework Directive.

73. Section 6 provides:

> "(1) Ofcom must keep the carrying out of their functions under review with a view to securing that regulation by Ofcom does not involve—
>
> (a) the imposition of burdens which are unnecessary; or
>
> (b) the maintenance of burdens which have become unnecessary."

74. Section 79 provides that, before making a market power determination, Ofcom must identify the relevant market and carry out an analysis of the relevant market. The relevant subsections are as follows:

> "(1) Before making a market power determination, Ofcom must -
>
> (a) identify (by reference, in particular, to area and locality) the markets which in their opinion are the ones which in the circumstances of the United Kingdom are the markets in relation to which it is appropriate to consider whether to make the determination; and
>
> (b) carry out an analysis of the identified markets.

(2) In identifying or analysing any services market for the purposes of this Chapter, Ofcom must take due account of all applicable guidelines and recommendations which -

(a) have been issued or made by the European Commission in pursuance of the provisions of an EU instrument; and

(b) relate to market identification and analysis.

(3) In considering whether to make or revise a market power determination in relation to a services market, Ofcom must take due account of all applicable guidelines and recommendations which -

(a) have been issued or made by the European Commission in pursuance of the provisions of an EU instrument; and

(b) relate to market analysis or the determination of what constitutes significant market power."

75. Section 78 provides that a person shall be taken to have SMP in relation to a market if he enjoys a position which amounts to or is equivalent to dominance of the market.

76. Where Ofcom determines that a person has SMP within a particular market then, under sections 45(1) and 45(2)(b)(iv) of the 2003 Act, Ofcom has the power to set an "SMP condition".

77. Section 47 provides, *inter alia*, that:

"(1) Ofcom must not, in exercise or performance of any power or duty under this Chapter -

(a) set a condition under section 45, or

(b) modify such a condition,

unless they are satisfied that the condition or (as the case may be) the modification satisfies the test in subsection (2).

(2) That test is that the condition or modification is -

(a) objectively justifiable in relation to the networks, services, facilities, apparatus or directories to which it relates (but this paragraph is subject to subsection (3));

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

(c) proportionate to what the condition or modification is intended to achieve; and

(d) in relation to what it is intended to achieve, transparent."

(3) Guidance and other documents

78. The following guidance documents were referred to in the course of submissions:

(1) The Communication from the Commission – Guidance on the Commission's enforcement priorities in applying Article [102 TFEU] to abusive exclusionary conduct by dominant undertakings (2009/C 45/02), 24 February 2009 (the "**Article 102 Guidance**").

(2) The Communication from the Commission – Guidelines on market analysis and the assessment of significant market power under the EU regulatory framework for electronic communications networks and services (2018/C 159/01), 7 May 2018 (the "**SMP Guidelines**").

79. The provisions of the SMP Guidelines relevant to the assessment of SMP are as follows (footnotes omitted):

> "53. Single SMP is found based on a number of criteria, the assessment of which, in light of requirements specified in Article 16 of Directive 2002/21/EC as referred to in paragraph 13 of the present Guidelines, is set out below.
>
> 54. When considering the market power of an undertaking it is important to consider the market share of the undertaking and its competitors as well as constraints exercised by potential competitors in the medium term. Market shares can provide a useful first indication for the NRAs of the market structure and of relative importance of the various operators active on the market. However, the Commission will interpret market shares in the light of the relevant market conditions, and in particular of the dynamics of the market and of the extent to which products are differentiated.
>
> 55. According to established case-law, very large market share held by an undertaking for some time — in excess of 50 % — is in itself, save in exceptional circumstances, evidence of the existence of a dominant position. Experience suggests that the higher the market share and the longer the period of time over which it is held, the more likely it is that it constitutes an important preliminary indication of SMP.

56. However, even an undertaking with a high market share may not be able to act to an appreciable extent independently of customers with sufficient bargaining strength. In addition, the fact that an undertaking with a strong position in the market is gradually losing market share may well indicate that the market is becoming more competitive, but does not preclude a finding of SMP. Significant fluctuation of market share over time may be indicative of a lack of market power in the relevant market. The ability of a new entrant to increase its market share quickly may also reflect that the relevant market in question is more competitive and that entry barriers can be over- come within a reasonable timeframe.

57. If the market share is high but below the 50 % threshold, NRAs should rely on other key structural market features to assess SMP. They should carry out a thorough structural evaluation of the economic characteristics of the relevant market before drawing any conclusions on the existence of SMP.

58. The following non-exhaustive criteria are relevant to measure the market power of an undertaking to behave to an appreciable extent independently of its competitors, customers and consumers:

- barriers to entry,
- barriers to expansion,
- absolute and relative size of the undertaking,
- control of infrastructure not easily duplicated,
- technological and commercial advantages or superiority,
- absence of or low countervailing buying power,
- easy or privileged access to capital markets/financial resources,
- product/services diversification (for example, bundled products or services),
- economies of scale,
- economies of scope,
- direct and indirect network effects,
- vertical integration,
- a highly developed distribution and sales network,
- conclusion of long-term and sustainable access agreements,
- engagement in contractual relations with other market players that could lead to market foreclosure,
- absence of potential competition.

If taken separately, the above criteria may not necessarily be determinative of a finding of SMP. Such finding must be based on a combination of factors.

59. An SMP finding depends on an assessment of the ease of market entry. In the electronic communications sector, barriers to entry are often high due to, in particular, the existence of technological barriers such as scarcity of spectrum which may limit the amount of available spectrum or where entry into the relevant market requires large infrastructure investments and the programming of capacities over a long time in order to be profitable.

60. However, high barriers to entry may become less relevant in markets characterised by ongoing technological progress, in particular, due to the emergence of new technologies permitting new entrants to provide qualitatively different services that can challenge the SMP operator. In

> electronic communications markets, competitive constraints may come from innovative threats of potential competitors not currently in the market.
>
> 61. NRAs should therefore take into account the likelihood that undertakings not currently active on the relevant product market may in the medium term decide to enter the market. Undertakings which, in case of a price increase, are in a position to switch or extend their line of production/services and enter the market should be treated by NRAs as potential market participants even if they do not currently produce the relevant product or offer the relevant service.
>
> 62. Market entry is more likely when potential new entrants are already present in neighbouring markets or provide services that are relevant in order to supply or contest the relevant retail services. The ability to achieve the minimum cost-efficient scale of operations may be critical to determine whether entry is likely and sustainable.
>
> 63. NRAs should also carefully take into account the economies of scale and scope, the network effects, the importance accessing to scarce resources and the sunk costs linked to the network roll-out."

80. We shall refer to other relevant parts of these documents as appropriate in this judgment.

(4) Review in the Tribunal

(a) Burden and standard of proof

81. In a regulatory appeal, the burden of proof is borne by the appellant who seeks to establish that the regulator has erred in its decision. The Tribunal applies the usual civil standard when assessing evidence and finding facts, namely the balance of probabilities.

(b) The role of the Tribunal

82. The role of the Tribunal in appeals of this kind is considered in section F below.

D. WITNESSES AND EVIDENCE

(1) Witnesses of fact

83. The Appellants put forward three witnesses of fact, Mr Andrew May and Mr Vishal Dixit from Vodafone and Mr Simon Pilsbury from TalkTalk. None of the witnesses were called to give oral evidence or offered for cross-examination. Their Witness Statements therefore were the sole basis on which we could assess the strength of their evidence.

84. Mr May, who offered two witness statements, setting out Vodafone's own strategy in relation to leased lines for business connectivity in the CLA and its experience of dealing with customers and with Openreach within the CLA. He stressed the importance Vodafone's customers attached to speed of connection and the difficulties Vodafone found in connecting different parts of its own infrastructure and the costs and inconvenience associated with gaining access to Openreach's ducts and tubes now and under the unrestricted PIA remedy.

85. Mr Dixit's evidence was directed mainly at matters outside the CLA.

86. Mr Pilsbury's evidence explained TalkTalk's strategy as regards the use of leased lines for business purposes and its behaviour on pricing, switching, customers, and stability of business conditions, including TalkTalk's reliance in the CLA on Openreach's infrastructure network.

87. Ofcom put forward Ms Ciara Kalmus, an Economics Director in Ofcom, both as an expert and as a factual witness, as she had been involved in the process leading up to the decision. We consider her evidence below.

88. BT offered three factual witnesses, Mr Christopher Bailey, Mr Darren Wallington and Mr Liam Nicholson.

89. Mr Bailey and Mr Nicholson gave evidence on BT's prices and profitability as well as market shares and customer churn. Mr Bailey gave further evidence on uptake of the unrestricted PIA remedy, on which Mr Wallington provided specific and detailed information.

90. Although BT offered Mr Bailey for cross examination, he was not called to give oral evidence and nor was either of the other BT witnesses.

(2) Expert Witnesses

91. The Appellants put forward Mr Martin Duckworth, a consultant from Frontier Economics, as an expert witness. Mr Duckworth provided two written reports, the first one being of considerable length but covering the whole of Ofcom's BCMR Statement. He also contributed to the Joint Expert Statement with Ms Kalmus, and gave contemporaneous expert evidence with Ms Kalmus, as part of the Tribunal's so called 'hot tub' procedure. He was not subject to individual cross-examination. Mr Duckworth's main contribution was to criticise the approach taken by Ofcom in general and Ms Kalmus in particular to the economic assessment of competitive conditions in the CLA. He considered that the Ofcom NRA model contained too many inaccuracies and was an insufficient basis for finding that Openreach did not have SMP in the CLA.

92. We found Mr Duckworth to be a useful and informed witness who was not afraid to express his own view even if this did not always fully accord with the arguments advanced by the Appellants.

93. Ofcom put forward Ms Kalmus both as a factual and as an expert witness. Ms Kalmus also provided a lengthy first written report, covering the whole of Ofcom's Statement, and a second report responding to some specific aspects of Mr Duckworth's report. She contributed to the Joint Expert Statement and participated in the hot tub process with Mr Duckworth. Ms Kalmus was also put to extended cross examination by Mr Bates for the Appellants.

94. We are aware of Ofcom's practice of offering its own employees as expert witnesses, rather than retaining outside consultants to do so, and consider this below. Ms Kalmus was at pains in her written evidence, and also in her oral evidence, to make clear when she was opining as an expert and when she was providing factual evidence. We found that it was not always possible to draw a clear distinction. Subject to that reservation, we found Ms Kalmus gave useful evidence and was open and honest in her responses.

95. BT put forward two expert witnesses, Mr Greg Harman of the Berkeley Research Group, and Mr Matthew Hunt of Alix Partners. Their evidence was mainly directed to the pricing aspects of the 2019 Statement, but each contained some material of relevance to this case.

96. Mr Harman's written report included an assessment of customer churn and its effect on the view that a comparison of new connections data with inventory data could show an increase in market share. He was not called for cross-examination and was not required to participate in the joint exercises.

97. Mr Hunt's evidence included reference to the credibility of the unrestricted PIA remedy having effects within the Control Period. He was cross-examined by Mr Bates for the Appellants. We found his answers to be helpful and objective. He was not required to participate in the joint exercises.

(3) The Joint Expert Statement and Contemporaneous Examination by the Tribunal

98. As is the Tribunal's practice, the economic experts for the Appellants and for Ofcom were invited to co-operate to produce a report containing those issues on which they agreed and those on which they did not, giving wherever possible an appropriate explanation. We did not involve experts offered by the Intervener BT in this instance as the evidence they had provided had only limited bearing on the Decision, as opposed to the other, specified price control aspects.

99. The two experts, Mr Duckworth and Ms Kalmus produced a Joint Expert Statement on 8 January 2020.

100. The Tribunal also conducted a contemporaneous examination of the two main expert witnesses (referred to as a "hot tub session") in which Professor Cubbin led the Tribunal's questioning of the two experts. A list of relevant topics was provided in advance to the parties, as was a protocol of procedure in the normal form.

(4) The provision of evidence in this appeal

101. As this is one of the first cases in the Tribunal under the standard of review recently introduced by the Digital Economy Act 2017 ("**the DEA17**"), we noted several features of the provision of evidence in this appeal.

102. First, a considerable volume of written factual and expert evidence was submitted by the Appellants and the Intervener BT. Ofcom, as the defending authority restricted itself to a single witness, who nonetheless submitted a lengthy statement, although not all of this was directed to the present case. We do not see this as out of line with previous practice.

103. Secondly, the Tribunal took its normal approach to seeking common ground between the respective experts. Obtaining a joint expert report and holding a hot tub session were of considerable assistance to the Tribunal. Again, we see no great change in practice here.

104. Thirdly, however, only two witnesses (Mr Hunt and Ms Kalmus) were subject to cross-examination. Whether this was because the evidence of the other witnesses was thought to be uncontroversial or whether the changed standard of review has given rise to a reluctance amongst the parties to engage in extended oral procedure is difficult to judge on the basis of one case alone. We would be concerned if this were to be so and that, as a result, evidence that ought to be properly tested in cross examination was not so tested.

105. On the question of Ms Kalmus' position, there are two issues for us. First is the extent to which an employed economist, however expert, on Ofcom's staff can give a truly objective, dispassionate, opinion and second, how we may know when Ms Kalmus was giving direct factual evidence and when she was speaking as an expert.

106. On the first issue, whilst we understand the reasons for Ofcom's practice in this respect, it may in some circumstances reduce the weight we can attach to the expert opinion given. How much will be this reduction depends on the question at issue. In the present case, we paid greater attention to Ms Kalmus' explanations of what Ofcom had done and what the decision was trying to achieve than on her expert opinion as to whether it had achieved it.

107. On the second issue, we think Ms Kalmus was placed in an unenviable position. It is extremely hard to make clear in each instance whether a particular response is given as an executive or as an expert, and we found that Ms Kalmus was not able to do this in every case. In some cases, this confusion of roles could give rise to real difficulty. However, in the present case the Appellants' cross examination in particular concentrated on what Ms Kalmus could tell them about what Ofcom had done, so the risk of injustice was correspondingly reduced.

(5) The Technical Briefing

108. The parties offered, at the Tribunal's request, an agreed technical primer (see the Appendix to this Judgment) and an oral technical briefing accompanied by presentation slides on the products, services and technology underlying the dispute. We found this interesting and helpful and would not wish to discourage this practice.

109. However, we were obliged to state at the start of the hearing that we felt that on occasions the briefing may have strayed into matters of contention, for example

as to the take-up of the unrestricted PIA remedy, the costs of connections and the commercial expectations of customers.

110. It is essential that all contested matters be subject to the formal, evidential, processes of the Tribunal and we repeat our warning that technical briefings must not be used as an additional opportunity to submit evidence outside that formal process. The Tribunal has been scrupulous to consider, in forming its judgment in this case, only evidence that has been formally submitted as part of the case process and to put out of its mind any other matter.

E. SUMMARY OF THE PARTIES' CONTENTIONS

(1) The Appellants

111. The Appellants' grounds of appeal that are relevant to this Judgment are set out at paragraph 44 above.

112. In their skeleton argument, the Appellants set out what they said were seven "principal errors" in Ofcom's analysis. In summary the Appellants contended that (Appellants' skeleton argument, paragraphs 34-71):

(1) Ofcom's NRA provided no real insight into the actual competitive constraints on BT;

(2) Ofcom was wrong to take a "relative" approach to SMP;

(3) Ofcom underestimated the costs of network extensions;

(4) Ofcom failed to properly assess how competition operated in the CLA, including the competition dynamics, the distribution of demand within the CLA, and BT's ability to engage in price discrimination;

(5) Ofcom placed unjustified reliance on the unrestricted PIA remedy;

(6) Ofcom erred in relying on BT's pricing behaviour as evidence that it is constrained in the CLA;

(7) Ofcom erred in assuming that BT could not raise prices at locations within the CLA where it faces relatively little actual competition.

(2) Ofcom

113. In response, Ofcom argued that the challenge to Decision should be rejected for the following reasons (Defence, paragraphs 61-75):

(1) the Appellants did not refer directly to the fact that the CLA has been fully deregulated since 2016. Therefore, in assessing whether there was SMP in the CLA, Ofcom was considering evidence and data in respect of an unregulated market.

(2) Ofcom did not fail to have regard to BT's high market shares in the CLA. Ofcom recognised that BT had high market shares in the CLA but went on to consider other relevant factors in accordance with, in particular, point 58 of the SMP Guidelines. The evidence taken as a whole supported Ofcom's conclusion that BT had no SMP in the CLA.

(3) Ofcom did not merely "recycle" or rely "almost exclusively" on its NRA in assessing whether BT had SMP in the CLA. Ofcom started its SMP analysis by considering the findings which flowed from its NRA but went on to assess, *inter alia*, whether rivals used their infrastructure to serve new customers and the extent to which rivals were already duct connected to such customers.

(4) the Appellants' criticisms of Ofcom's SMP analysis were based on a flawed understanding of the NRA conducted by Ofcom in defining the relevant geographic markets.

(5) Ofcom did not err in law by adopting a flawed 'relative approach'. In reaching its overall decision on SMP in the CLA, Ofcom asked and answered the right question. Ofcom asked itself whether BT has a position of such economic strength in the CLA that it would be able to behave to an appreciable extent independently of competitors, customers and consumers. Ofcom's conclusion was that BT could not do so in the CLA.

(6) Ofcom had evidence that operators had plans to expand their services in London, which would be assisted in part by the introduction of unrestricted PIA. The position of the Appellants did not reflect the practice of all rivals in the market.

(7) there is no evidence available to support the claim put forward by the Appellants that BT would engage in targeted discounting where it faced competition from rival networks.

114. Further, in its skeleton argument Ofcom rejected the criticisms put forward by the Appellants as mistaken and asserted that none of the seven alleged principal errors show any flaw in the Decision (Ofcom skeleton argument, paragraphs 28-50).

(3) BT

115. BT intervened in support of Ofcom. It argued that Ofcom's conclusion (that BT lacks SMP in the supply of CI Access services in the CLA) was:

(1) well-evidenced and soundly reasoned; and

(2) entirely consistent with the competitive conditions that BT sees "on the ground" in the CLA.[7]

[7] See paragraph 4a. See also paragraphs 5 to 14 of BT's Statement of Intervention.

116. BT further submitted in its skeleton argument that Ofcom's assessment of competitive conditions in the CLA was not only unimpeachable as a matter of reasoning but reflected the market reality (BT skeleton argument, paragraphs 24-44).

PART II: THE TRIBUNAL'S DECISION

F. THE STANDARD OF REVIEW AND THE TRIBUNAL'S ROLE

(1) Legislative provisions

117. We look first at how we should approach this appeal from the point of view of the law. The overall legal framework is set out in section C. Of particular relevance to how the Tribunal should approach this appeal are Article 4 (1) of the Framework Directive and section 194A of the 2003 Act, as amended by the DEA17.

118. Article 4(1) provides:

> "Member States shall ensure that effective mechanisms exist at national level under which any user or undertaking providing electronic communications networks and/or services who is affected by a decision of a national regulatory authority has the right of appeal against the decision to an appeal body that is independent of the parties involved. This body, which may be a court, shall have the appropriate expertise available to it to enable it to carry out its functions. Member States shall ensure that the merits of the case are duly taken into account and that there is an effective appeal mechanism…" (Our emphasis).

119. Section 194A provides:

> "The Tribunal must decide the appeal, by reference to the grounds of appeal set out in the notice of appeal, by applying the same principles as would be applied by a court on an application for judicial review."

120. The combined effect of these provisions is to require the Tribunal to apply the same principles as would apply in a judicial review case but also to ensure that the merits of the case are duly taken into account so that there is an effective appeal. This represents a change from the position prior to the amendment made

by the DEA17 when appeals such as this were made on the basis of a full merits review. The effect of the amendment was the subject of some discussion in this case, which is one of the first to be heard under the new regime, but we should first note the reasons for the change to the standard of review.

(2) The 2017 amendment

121. The change to the standard of review followed an extensive consultation by the government in 2013, known as the Regulatory Appeals Review, the purpose of which was to 'streamline' the process of appeal from decisions of regulators.[8] Ofcom's response to this consultation[9] welcomed the government's proposal to replace full merits appeals either by judicial review or a specific statutory appeal, saying that this would "have a material impact on the nature of the review conducted in any given case" (the Response, paragraph 20).

122. Ofcom nevertheless recognised the continuing effect of the Framework Directive and said that "It would be for the appeal body to determine the extent to which it was appropriate for it to adapt the standard domestic principles of judicial review…*duly* to take account of the merits in any individual case." (original emphasis) (the Response, paragraph 21).

123. Although the government never published any formal response to the consultation, it nonetheless proceeded to change the basis of appeals in 2003 Act cases that were previously subject to full merits review to the formulation we have described. So far, only two other cases have been decided by the Tribunal under the new regime (and only in one case, to which we refer below, was there any detailed consideration of the issue). It is therefore necessary for us to be as clear and transparent as possible on the approach to be adopted by the Tribunal.

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[8] *Streamlining Regulatory and Competition Appeals, Consultation of Options for Reform* (19 June 2013).

[9] *Ofcom Response to BIS Consultation on regulatory appeals reform* ("**the Response**").

(3) The jurisprudence

124. As may be expected, given the recent nature of the change, there is not a great deal of prior judicial guidance. However, earlier cases, including some in the Court of Appeal and Supreme Court, have involved applications for judicial review in circumstances where the requirements of Article 4(1) of the Framework Directive applied.

125. On the correct standard to be applied in a judicial review context, in *T-Mobile (UK) Ltd and another v Ofcom* [2008] EWCA Civ 1373 ("*T-Mobile*"), Jacob LJ said as follows:

> "29… I think there can be no doubt that just as JR was adapted because the Human Rights Act so required, so it can and must be adapted to comply with EU law and in particular Art. 4 of the Directive. If the CAT did not exist JR would have to and could do the job. The CAT's existence does not mean that JR is incapable of doing it.
>
> 30. I would add this: it seems to me to be evident that whether the "appeal" went to the CAT or by way of JR, the same standard for success would have to be shown…
>
> 31. After all it is inconceivable that Art. 4, in requiring an appeal which can duly take into account the merits, requires Member States to have in effect a fully equipped duplicate regulatory body waiting in the wings just for appeals. What is called for is an appeal body and no more, a body which can look into whether the regulator had got something material wrong. That may be very difficult if all that is impugned is an overall value judgment based upon competing commercial considerations in the context of a public policy decision."

126. In *Vodafone Limited v Ofcom* [2008] CAT 22 the Tribunal stated:

> "44. In *H3G MCT*, the Tribunal considered an appeal by H3G against certain aspects of decisions taken by OFCOM concerning the prices that mobile network operators charge for mobile call termination. In determining the test to be applied, the Tribunal (at paragraph [164]) held:
>
> > "…this is an appeal on the merits and the Tribunal is not concerned solely with whether the [decision of OFCOM] is adequately reasoned but also whether those reasons are correct. The Tribunal accepts the point made by H3G […] that this is a specialist court designed to be able to scrutinise the detail of regulatory decisions in a profound and rigorous manner. The question for the Tribunal is not whether the decision to impose a price

> control was within the range of reasonable responses but whether the decision was the right one.""

127. On the issue of allowing fresh evidence, in *British Telecommunications plc v Ofcom* [2011] EWCA Civ 245, an appeal from the CAT decision in the *08 Admissibility* case, Toulson LJ said as follows:

> "60. The task of the appeal body referred to in Article 4 of the Framework Directive is to consider whether the decision of the national regulatory authority is right on "the merits of the case". In order to be able to make that decision the Framework Directive requires that the appeal body "shall have the appropriate expertise available to it". There is nothing in Article 4 which confines the function of the appeal body to judgment of the merits as they appeared at the time of the decision under appeal. The expression "merits of the case" is not synonymous with the merits of the decision of the national regulatory authority. The omission from Article 4 of words limiting the material which the appeal body may consider is unsurprising. When an appeal body is given responsibility for considering the merits of the case, it is not typically limited to considering the material which was available at the moment when the decision was made. There may be powerful reasons why an appeal body should decline to admit fresh evidence which was available at the time of the original decision to the party seeking to rely on it at the appeal stage, but that is a different matter.
>
> …
>
> 70. Under Article 4 of the Framework Directive, the appeal body is concerned not merely with Ofcom's process of determination but with the merits. Ofcom is not only an adjudicative but an investigative body, and the Appellant may wish to produce material, or further material, to rebut Ofcom's conclusions from its investigation. It is unsurprising that the CAT should adopt a more permissive approach towards the reception of fresh evidence than a court hearing an appeal from a judgment following the trial of a civil action. Indeed, as Sullivan LJ observed, the appeal body might in some cases expect an Appellant to produce further material to address criticisms or weaknesses identified by Ofcom."

128. Again, on the correct standard of review to be applied, in *Everything Everywhere Limited v Competition Commission* [2013] EWCA Civ 154, ("*EE*"), Moses LJ said as follows:

> "24. The appeal is against the decision, not the reasons for the decision. It is not enough to identify some error in reasoning; the appeal can only succeed if the decision cannot stand in the light of that error. If it is to succeed, the Appellant must vault two hurdles: first, it must demonstrate that the facts, reasoning or value judgments on which the ultimate decision is based are wrong, and second, it must show that its proposed alternative price control measure should be adopted by the Commission. If the Commission (or

> Tribunal in a matter unrelated to price control) concludes that the original decision can be supported on a basis other than that on which Ofcom relied, then the Appellant will not have shown that the original decision is wrong and will fail."

129. We note also the comment by Lord Sumption in *British Telecommunications PLC v Telefonica 02 UK Ltd and others* [2014] UKSC 42, that:

> "13. Article 4 of the Framework Directive requires that there should be a right of appeal from any decision of a national regulatory authority, whether under its regulatory or its adjudicatory powers. This is not just a right of judicial review. The appeal must "ensure that the merits of the case are duly taken into account.""

130. In *Hutchison 3G UK Ltd and British Telecommunications PLC and others v Ofcom* [2017] EWHC 3376 (Admin) ("*Hutchison 3G*") Green J (now LJ) explained the correct approach at paragraphs 35-45 of the judgment. The salient passages for present purposes are these:

> 40. The first point is that, as set out in case law (*T-Mobile* paragraphs [28] and [31]; and *EE* paragraph [109]), this is not a de novo hearing on the merits; it is a challenge to Ofcom's Decision. It is for this reasons that the test set out in case law focuses upon the negative ie whether the Decision is materially wrong. The Decision is the centre point of the challenge and must be the target of any challenge; there is no blank canvas upon which the parties can paint a new picture which fails to heed the reasoning in the decision under challenge.
>
> 41. The second point concerns the task confronting the court. This will depend upon factors such as: (i) the nature of the decision being challenged; (ii) the nature of the ground of challenge; and (iii), the nature of the evidence needed and relied upon to advance the challenge. Each of these points warrants additional consideration.
>
> 42. Nature of Decision: All decisions subject to judicial review are different: Some may turn upon a narrow category of clear and certain facts and involve little by way of a judgment call. The determination of a tax or customs charge might be an illustration (eg *Walapu v HMRC* [2016] EWHC 658 (Admin) at paragraphs [168]- [170]). But other decisions might require the decision maker to take into account a very wide range of facts or predictions about facts which may themselves be characterised by uncertainty leading to the exercise of a judgment call involving the balancing of many conflicting and possibly ephemeral considerations. The present Decision sits at the extreme end of the uncertainty scale. It is characterised by its predictive (*ex ante*) nature and the very large number of imponderables that Ofcom had to form a specialist and technical judgment about. Ofcom's difficult task was to come to conclusions about those uncertainties and then translate them into a single, fixed, threshold figure for the purposes of drafting a suitable Regulation. The uncertainties were legion and included: who would win what during the Auction; how the market

would evolve in the future (which itself was an exercise replete with assessments about future uncertain events, such as when consumer devices would be capable of using particular types of spectrum, when 5G would be rolled out, the rate at which demand would increase, etc); the extent to which smaller MNOs could circumvent problems associated with being deprived of spectrum; the sorts of commercial practice that would be feasible in the market in the future on the part of a very large MNO and what the impact of such practices might be; when new spectrum would become useable, etc. The nature of the exercise is important because it highlights the extent to which Ofcom was compelled to rely upon expert judgment to arrive at the Decision. It also highlights that Ofcom could have selected a number of different solutions, all of which would be equally consistent with the proper exercise of judgment on its part.

43. The grounds of challenge: In this case the Grounds (see above at paragraph [19]) vary in their nature. Grounds I – III have been advanced as traditional judicial review arguments focusing upon the logic and reasoning of the Decision, and whether Ofcom failed to take account of relevant considerations (though both Mr Turner QC and Mr Beard QC at various junctures invited me to consider the "merits" of their arguments). Ground IV is an essentially procedural challenge to the fairness of the consultation process. Ground V is different and amounts to an invitation to the Court to conclude that Ofcom simply got it wrong, on the merits. There is no difficulty in addressing any of Ground I – IV by recourse limited to normal principles of judicial review. In relation to Ground V the extent to which merits can be taken into consideration will depend upon the nature of the Decision (see above) and the evidence tendered by the Claimant (see below).

44. Nature of evidence tendered: The evidence which has been considered by Ofcom over the years in order to arrive at the Decision is compendious. Only a tiny fraction has been prayed in aid of the Grounds. The Court cannot be expected or required to conduct its own research. It must rely upon the evidence identified by the parties. This does not however imply that the Court will ignore the totality of the relevant evidence behind the impugned decision. The Court might well have to consider an argument that the decision is inadequately evidenced by putting the evidence highlighted by the Claimant into the broader context of the evidence as a whole.

45. Mr Fordham QC (for Vodafone) and Ms Rose QC (for Ofcom) submitted that modern principles of judicial review (and in particular the test of proportionality) were increasingly flexible and capable of incorporating any statutory instruction to take account of merits. There was hence no need to create a hybrid category of judicial supervision. In large measure I agree. The statutory instruction to take into account the merits can be factored into the traditional approach. It can for instance be used as a sanity check on the end result of the analysis and/or it can feed into the assessment of the materiality of any breach of public law principles which is, prima facie, found. If necessary, it can lead the court simply to apply a somewhat heightened intensity of review. In *BSB* the CAT queried whether it was proper, in a merits appeal, to talk in terms of the decision maker's margin of appreciation (see paragraph [37] above). In my view it is a relevant consideration, but the Court's supervisory task includes modulating the intensity of the review in line with all surrounding factors, such as those described above."

131. In the Tribunal, only two other cases have been decided under the new standard, *Viasat UK Limited v Ofcom* [2018] CAT 18 (*"Viasat"*) and *Virgin Media Limited v Ofcom* [2020] CAT 5 ("*Virgin Media*"). The standard of review was discussed in greater detail in *Virgin Media*. That Tribunal, having reviewed the existing case law, observed as follows:

> "57. … The role of the Tribunal is not one of rehearing the case on its merits. Proper respect must be accorded to Ofcom's role as a specialist regulator, and the expertise of Ofcom's staff. As explained by Green J in *R (Hutchison 3G UK Limited) v Office of Communications* [2017] EWHC 3376 (Admin) ("*Hutchison*") at [40], the focus is Ofcom's decision and whether Ofcom got their decision materially wrong. It is that decision that is being challenged. The question is not what decision the appellate body might itself have reached if it had started afresh.
>
> 58. It is also worth making the point that it is not enough to identify some error in the reasoning of a decision. An appeal can only succeed if the decision cannot stand in the light of the error: *Everything Everywhere Limited v Competition Commission* [2013] EWCA Civ 154 at [24]. This is consistent with the test in *T-Mobile*. Errors in reasoning which do not affect the result will not be material.
>
> 59. We also agree with Green J's comments in *Hutchison* at [42] that the approach in individual judicial review cases will differ depending on the decision being challenged. In that case the decision required Ofcom to make a judgment call in the context of an auction which took into account a wide range of future uncertain events, including a substantial degree of uncertainty about how the relevant market would evolve. Those are not the facts of this case, but nonetheless it is important to recognise that, as a specialist regulator, Ofcom's judgment, in particular as to the appropriate penalty to impose having regard to the facts of the case and to the principle of deterrence, must be accorded respect."

(4) The parties' submissions

132. We note first that all parties in this case (including Ofcom itself) have accepted that the Tribunal must observe the requirements of the Framework Directive. There were, however, other disagreements.

133. Mr Bates, for the Appellants, said the new regime meant that the focus of the appeal must be on the decision appealed against. On the standard principles of judicial review, the Tribunal should quash the decision if it thought that Ofcom was wrong in law, had made a procedural error, or had drawn erroneous

conclusions from the evidence before it. Decisions of this kind were subject to a close legal framework, requiring, for example, under section 80A of the 2003 Act, extensive consultation and proposals. The Tribunal could no longer substitute a decision of its own and was obliged to remit the decision to Ofcom if it found error.

134. In addition, because of the continued effect of Article 4 of the Framework Directive, if the Tribunal disagreed with Ofcom's finding, and thought that in this case that there was SMP in the CLA, then that gave it a further ground for quashing the decision. There were, in Mr Bates' words "two routes" open to the Tribunal. He did not accept that the converse applied, i.e. that an error in Ofcom's reasoning could be cured by the Tribunal deciding "on the merits" that the decision was nonetheless correct. This was because the only remedy was remittal and any decision of the Tribunal would not have been through the statutory consultation process. He said the task of the Tribunal, as outlined in the jurisprudence, was to subject the decision to "profound and rigorous scrutiny" and to consider whether the decision was subject to error. If it was, it must be quashed and remitted to Ofcom for fresh consideration.

135. Mr Holmes for Ofcom submitted that there was substantial agreement between Ofcom and the Appellants that the Tribunal had to decide, in the light of the evidence before the Tribunal, whether the decision contained a "material error", i.e. that Ofcom had relied on the wrong evidence or had drawn a wrong conclusion in a material respect. Ofcom endorsed the approach taken by Green J (now LJ) in the *Hutchison* case, referred to earlier, under which the approach to applying judicial review had to be "modulated" in the light of the nature of the case at issue. Mr Holmes emphasised that this was a clear case of expert regulatory *ex ante* judgment, in which there should be a margin of appreciation for Ofcom.

136. Mr Palmer, for BT, took a somewhat bolder view. He argued that Mr Bates was claiming a one-sided test, under which the merits of the case could be taken into account as a further route to quashing the decision, where normal judicial review

would be insufficient, but could not be used to rescue a decision that was based on a material error of reasoning. That was unfair. He said, relying on Toulson LJ's comments in *BT (08 Admissibility)*, that the Framework Directive required consideration of the merits of the case, not merely the merits of the decision. He also argued that Mr Bates had set an even higher standard, namely that the Tribunal should conclude that, in this case, there *was* SMP in the CLA, and in that case the burden of proving that to be so was on the Appellants.

(5) Our approach to the standard of review

137. Despite the possible uncertainty arising from the change from "full merits appeal" to "the principles of judicial review" brought about by DEA17, the impact on the present case appears small, if not minimal.

138. First of all, the parties appeared to show a perhaps surprising degree of common ground. The Appellants argued essentially that nothing had changed as Article 4(1) of the Framework Directive continued to govern the Tribunal's approach. BT supported this view with some enthusiasm. Ofcom accepted that Article 4(1) continued to apply in conjunction with section 194A. Of course, as we have seen, Mr Bates also argued for a strong focus on the Decision itself and the need to subject it to profound and anxious scrutiny as required on judicial review. He also stressed the one-way nature of the consideration of the merits, offering the Tribunal another route to quash the Decision. Everyone agreed that the Tribunal's only remedy was remittal of the Decision to Ofcom for fresh consideration.

139. Given that Article 4(1) continues to apply, it would appear that, in accordance with the Court of Appeal's view in *BT v Ofcom* and the High Court's view in *Hutchison 3G*, as set out helpfully by the Tribunal in the recent *Virgin Media* judgment, we should continue, as before, to scrutinise the Decision for procedural unfairness, illegality and unreasonableness but, in addition, we should form our own assessment of whether the Decision was "wrong" after considering the merits of the case. In doing so, we note that the Decision we are

required to assess is a complex one, and only one part of an even more complex assessment, in which the knowledge and experience of a specialised sectoral regulator are heavily engaged. We must therefore "modulate" our approach to fit the circumstances of this case and allow an appropriate degree of respect for the regulator's expert assessment.

140. We would only have to decide BT's further claim that the Decision could be in some sense rescued from being struck down on judicial review principles by a finding by the Tribunal that it was nonetheless "right" on the merits if we were to come to such a conclusion on the substance of the case. For the reasons that follow we consider that to be a hypothetical situation only.

(6) Possible effect of the standard of review on the provision of evidence

141. The arguments on standard of review also touched on the possible effect of the new review standard on the treatment of evidence. This is governed by Rule 21 of the Tribunal Rules.

142. As noted earlier, one of the underlying intentions in changing the standard of review may have been to reduce the amount of and attention given to witness evidence. We reviewed the witness evidence and how it was presented and handled in the case in the previous section, noting that most of the witness evidence was not tested orally. In addition, however, the parties disagreed on how we should deal with "new" evidence, i.e. evidence not put to or considered by Ofcom in the administrative process. Clearly, the extent to which the merits of the case are at issue in any appeal may also affect to some degree the weight to be attached to "new" evidence.

143. Mr Palmer for BT argued strongly that the taking due account of the merits of the case meant that new evidence showing whether the decision was right or wrong not only may but must be considered. Mr Bates, for the Appellants, was much more reticent, stressing the limitations placed by Ofcom's statutory

obligations to consult on the extent to which new evidence could be admitted or be given weight.

144. Mr Holmes, for Ofcom, made clear not only at the hearing but in the case management conference which took place on 10 October 2019 that the changed standard of review did not in itself limit the provision of new evidence and that this could also be tested orally if necessary. He argued further that evidence not adduced during the administrative procedure or relied on by Ofcom in the decision could nonetheless be advanced by Ofcom as part of any appeal in two circumstances.

145. The first was where the evidence responded to evidence or material put forward as part of the Appellants' case. Insofar as it would be unfair not to allow the Appellants to advance new arguments or evidence, it would be equally unfair not to allow Ofcom to do the same in response. The second situation was where the new evidence was needed to shed light on or "elucidate" points made in the decision itself.

146. Mr Bates did not disagree with this formulation, although, as we noted above, he disputed the wider claim made by BT. He also said, and we agree, that it was best to resolve these issues by reference to specific items of evidence rather than in the abstract.

(7) Our approach to the evidence in this case

147. We note first that there were no applications from any party in this case to exclude any of the evidence provided as inadmissible. Nor did the Tribunal see any grounds for refusing to admit any evidence of its own motion. The issue is the extent to which we should give weight to new or newly submitted evidence.

148. The matters of evidence in question are, first, the internal documents provided by BT, but relied on by Ofcom, as to BT's pricing behaviour in the CLA; second the evidence, again provided by BT and relied on by Ofcom, as to the extent of

take-up in the CLA of the unrestricted PIA remedy; and third the post code data supplied by Ms Kalmus as an annex to the Joint Expert Statement in response to Mr Duckworth's criticisms of the NRA model.

149. Mr Bates said we should be cautious and attach little weight to all these matters of evidence. He objected to what he called the selective and piecemeal provision of fresh material to bolster the case which should have been made in the Decision itself. He suggested that evidence that had not been collected or prepared as part of the statutory pre-decision process could not be reliable as it had not been subject to consultation and comment generally. Mr Holmes countered this in part by saying that the internal pricing documents were confidential and could not have been put out for general consultation anyway.

150. Given that there were no objections raised as to admissibility, we consider that the evidence in question must form part of our assessment and we must attach to it whatever weight is appropriate in coming to a fair overall judgment. In that sense, we would agree that our consideration of the merits must extend beyond merely the Decision to the merits of the case as a whole.

151. However, in this case, all the disputed matters of evidence can be fitted into one or other of permitted categories outlined by Mr Holmes and accepted by Mr Bates. The two internal pricing documents may shed useful light on the document that is mentioned in the Decision and help us to assess the correctness or otherwise of the claim that Openreach was subject to increased competitive pressure. The unrestricted PIA data may help to give credence or otherwise to the assessment given in the Decision as to the likely take-up of the unrestricted PIA remedy. Furthermore, the data now provided were by definition not available at the time of the Decision (June 2019) as the removal of restrictions on the use of PIA for businesses did not take effect until August. Finally, the post-code data supplied by Ms Kalmus was in response to criticisms made by Mr Duckworth of the economic model used by Ofcom as part of its assessment of competitive conditions in the CLA.

152. We therefore include all of this evidence in our assessment of the case.

G. SIGNIFICANT MARKET POWER

(1) SMP

153. We now turn to the main substantive legal issue in this case. This is whether Ofcom was right to find that BT did not and will not have SMP in the relevant product and geographic markets as identified by Ofcom, in this case, respectively, CI Access circuits and the CLA during the Relevant Period. There is no dispute in this case about the relevant market definition (product and geographic) adopted by Ofcom. Nor does any issue of possible abuse arise. The dispute in this case is solely in relation to the existence or otherwise of SMP in the CLA.

154. SMP is broadly equivalent to the concept of a dominant position under Art 102 TFEU but is defined specifically by the EU Common Regulatory Framework and incorporated into domestic legislation by the 2003 Act, particularly sections 78 and 79.

155. Article 14(2) of the Framework Directive provides:

> "An undertaking shall be deemed to have SMP if, either individually or jointly with others, it enjoys a dominant position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers."

156. Section 78 of the 2003 Act provides:

> "(1) For the purposes of this Chapter a person shall be taken to have significant market power in relation to a market if he enjoys a position which amounts to or is equivalent to dominance of the market.
>
> (2) References in this section to dominance of a market must be construed in accordance with any applicable provisions of Article 14 of the Framework Directive."

157. The remainder of section 78 concerns situations of joint dominance, which are not at issue here. Section 79 requires Ofcom *inter alia* to *"take due account of all applicable guidelines and recommendations which (a) have been issued by the European Commission…; and (b) relate to market analysis or the determination of what constitutes significant market power."*

158. The European Commission did indeed issue recommendations and guidelines, particularly the SMP Guidelines, last issued in April 2018. These were heavily relied on by the Appellants and Ofcom rightly accepted that they were relevant and applicable.

159. The SMP Guidelines (see paragraph 79 above) contain a detailed description of how SMP should be assessed.

160. There is little doubt that a national regulator such as Ofcom is legally obliged to apply the definition of SMP set out in the Framework Directive and to take due (or "the utmost") account[10] of the SMP Guidelines in particular in so doing. However, although the SMP Guidelines themselves make clear at paragraphs 11 and 12 that SMP and dominance are not synonymous, because of the specific regulatory framework in which a finding of SMP has to be made, the definition of SMP reflects many years of application of Art 102 TFEU and is derived from the jurisprudence that has accumulated in relation to it.

161. We note that in a recent judgment *British Telecommunications Plc v Ofcom* (*VULA*) [2016] CAT 3 at paragraph 107, the Tribunal found that in a particular case there could be a difference between what was within the scope of SMP and what fell within that of dominance under Art 102. However, that difference seems more directed to the consideration of what might constitute abuse, having regard to the particular objectives of the Common Regulatory Framework, and

[10] The corresponding wording in Article 15(2) of the Framework Directive is "*taking the utmost account of"*.

does not, in our view, affect the assessment of whether SMP and/or dominance can be established.

162. There was little if any disagreement between the parties about the relevant jurisprudence under Art 102. This is to be found in cases such as Case 85/76 *Hoffmann-La Roche & Co. v Commission* EU:C:1978:36 (*"**Hoffmann La Roche**"*), Case 27/76 *United Brands Company and United Brands Continental v Commission* EU:C:1978:22 (*"**United Brands**"*), Case C-62/86 *AKZO Chemie. BV v Commission* EU:C:1991:286 *("**AKZO**"*) and numerous others. The definition of dominance set out in the case law of the Court of Justice is essentially that set out in Article 15(2) of the Framework Directive, quoted above. No-one contests that this definition applies here. The disagreement, if any, relates to how the definition is to be applied in practice. In this respect, in addition to the SMP Guidelines already mentioned, the Appellants placed reliance on the European Commission's Article 102 Guidance. The Article 102 Guidance works from the Court of Justice's definition, equating it to the economic concept of substantial market power, in the sense of the degree of constraint exerted on the relevant undertaking, and whether it is able profitably to raise prices above the competitive level for a significant period of time, raising prices being shorthand for other ways of reducing competition to the benefit of the relevant undertaking (see the Article 102 Guidance at paragraphs 10 and 11).

(2) Presumption of Dominance

163. We now turn to the Appellants' claim that Ofcom did not properly assess the implications of BT/Openreach's high market share. The Appellants made two related points. The first was that the existence of a dominant position did not mean that there need be no other competitors. The test was whether the dominant undertaking could act independently *"to an appreciable extent"* as stated by the Court of Justice in *Hoffmann La Roche* at paragraph 38:

> "The dominant position thus referred to relates to a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by affording it the power to behave to an appreciable extent independently of its competitors, its customers and ultimately of the consumers."

164. The second point was about the legal significance of a market share over 50%. Mr Bates argued strongly that such a market share had been found by the Court of Justice to raise a presumption of dominance, which could only be rebutted in exceptional circumstances. He referred to the *Hoffmann La Roche* and to *AKZO* cases in support of this. In *Hoffmann La Roche* it was said:

> "41…the view may legitimately be taken that very large shares are in themselves, and save in exceptional circumstances, evidence of the existence of a dominant position."

165. In *AKZO*, the Court of Justice referred to this passage and said that a market share of 50% could be considered so large, that in the absence of exceptional circumstances pointing the other way, an undertaking with such a share would be presumed dominant. This effectively established a presumption of dominance, which the undertaking in question would have to rebut.

166. Although this case was only briefly mentioned in argument before us, we note that the SMP Guidelines paragraph 55, to which the Appellants refer, contains in a footnote a reference to Case T-228/97 *Irish Sugar v Commission* EU:T:1999:246 and the statements in that case (paragraphs 97 to 104) to the effect that:

> "[…] large market share can function as an accurate indicator only on the assumption that competitors are unable to expand their output by sufficient volume to meet the shifting demand resulting from a rival's price increase." (SMP Guidelines footnote 50).

167. Ofcom and BT did not disagree with this jurisprudence but said it made little difference to the assessment in practice. High market share was clearly an important factor; Ofcom had taken this fully into account in the Decision but had considered other relevant factors also. There was no hierarchy of factors to

be derived from a legal presumption that a high market share made other factors less important.

168. The relevant passage in the Decision was paragraphs 6.166-169 in which Ofcom accepted that BT's market share was "*above the 50% level at which dominance can be presumed (subject to other factors)…"* but disagreed (with three respondents) that it had "*failed to demonstrate that the presumption of dominance is rebutted in the CLA…*and *(o)ur finding of no SMP is based on our assessment of other SMP criteria in addition to market shares"* - which were essentially the existence of a "*dense network of rival infrastructure"* and the *"likely impact of the unrestricted PIA remedy going forward."*

169. In our view, the existence or otherwise of a presumption of dominance arising from BT's market share over 50% makes little difference to the legal assessment in this case. This is because, even accepting that such a presumption can be derived from the jurisprudence, Ofcom's analysis essentially consists of an examination (albeit one that is disputed by the Appellants) of whether, given BT's high market share, there is nonetheless a sufficient degree of competitive constraint on BT to establish that there is no SMP. Whether this analysis takes the form of a consideration of the various factors listed in the SMP Guidelines and set out in Annex 1 to the 2019 Statement (A1.21), alongside market shares, or in counterpoint to them, does not greatly affect matters. They are, in our view, to be given appropriate weight in the context of an overall assessment. The existence of a high market share is clearly a trigger for a full assessment but does not itself determine the result.

170. We note two further points. First, in none of the cases cited by the Appellants was there any need for the court to consider other factors pointing against dominance in cases of high market shares. The factors all pointed in the same direction and the question was the relative weight to be attached to the high market share compared to other factors indicating dominance. Secondly, in the Article 102 Guidance, there is no reference to any "presumption" of dominance arising from high market shares. Instead, these are given appropriate emphasis

as an important part of the overall assessment of dominance. In addition, as we have pointed out, the SMP Guidelines, which do refer to the presumption of dominance case law, also refer to the qualification contained in the *Irish Sugar* case.

171. We regard this approach to what is in essence an economic analysis as preferable to an attempt to put the analysis of market power into a form of presumptive straitjacket which does not aid the analysis. It is not in our view helpful to categorise the range of factors that need to be considered, such as barriers to expansion, technological advantage and economies of scale or scope as "exceptional" and in some way less important than market shares. They are all clearly relevant and need to be given appropriate weight.

(3) No dispute as to market definition

172. We noted earlier that market definition is not contested in this case. This is particularly relevant in relation to the geographic market, as Ofcom's economic assessment, which we consider below, involved a consideration of the strength of competitive constraints in different parts of the CLA. Whilst Ofcom denied that there were significant differences, it was clear that infrastructure network coverage and customer characteristics were not uniform over the whole area. It might be thought that this would cast doubt on the correctness of the geographical definition, but the Appellants took no point on this. In the hot tub session, Mr Duckworth appeared to say that in communications markets, geographic definition was more a matter of regulatory convenience than strict economic analysis (Hearing Transcript, Day 3, page 8). There is support for this view in the 2019 Statement itself, at Annex 1, which states that in regulatory cases:

> "…the markets identified will not necessarily be identical to markets defined in ex post competition cases, especially as the markets identified ex ante are based on an overall forward-looking assessment of the structure and functioning of the market under examination." Annex A1.17.

173. The particular characteristics of the Common Regulatory Framework mean that, unlike in a "normal" Art 102 case, each stage of the abuse of market power analysis must be considered independently, without any attempt to inter-link the analyses, and in the present case dominance must be considered in isolation from market definition and abuse.

(4) The relevance of the review period

174. The Common Regulatory Framework requires Ofcom to conduct market reviews at regular intervals. In the past this has been conducted at three-year intervals. In the present case, Ofcom applied a shorter review (see paragraph 20 above). The reasons for this are explained at paragraphs 28 to 32 above. For our purposes we merely note that the judgements made by Ofcom in the Decision relate to effects and developments that will have an identifiable impact during the Relevant Period and that this period is shorter than normal.

175. This was raised by the Appellants as an issue in relation to the effect of the unrestricted PIA remedy, but it applies generally. Ofcom's assessment, acting as a forward-looking regulator as it is entitled, if not required, to do, is that during the Relevant Period, there is sufficient competitive constraint on BT to outweigh the effects of its high market share.

H. ECONOMIC ASPECTS

176. We now consider Ofcom's economic assessment of SMP and the Appellants' criticisms of it. The Appellants said there "multiple errors" but focussed on seven "principal errors" which we consider below. We deal first with the more general criticism which the Appellants said underlaid many of those errors, namely a failure by Ofcom to properly engage with the technical and economic realities relating to the supply of leased lines in the CLA.

177. Ofcom treated this underlying point as essentially the same as the Appellants' Principal Error #4, (Hearing Transcript, Day 5, page 102) namely:

> "Failure to properly assess how competition is operating within the CLA, including the competition dynamics, the distribution of demand within the CLA and BT's ability to engage in price discrimination within the CLA."

We take a broadly similar view but note that the question of possible price discrimination by BT is also dealt with in the section on pricing issues below.

(1) Ofcom's approach to its economic assessment

178. An important part of the Appellants' case was that Ofcom had placed too great a reliance on its economic modelling, particularly the NRA model, which it had used in defining relevant geographical markets, and had not considered the way in which competition worked "on the ground" in the CLA. Had it done so, and adopted a less desk-based, abstract, approach, it would have been able to form a more realistic view of the difficulties faced by BT/Openreach's competitors and could not, in those circumstances, have concluded that BT/Openreach did not have SMP. Mr Bates's cross-examination of Ms Kalmus was directed, in a significant part, to questioning Ofcom's approach and why it had placed such reliance on the NRA model. He sought to establish that Ofcom was not in a position correctly to judge the strength or otherwise of competitive pressure in relation to leased lines on the basis of the analysis it had conducted.

179. Ofcom replied that it had not placed excessive reliance on the NRA model but had found it extremely useful in assessing competitive conditions in the CLA and in all the other geographic markets it had defined. It was, however, only a starting point for further analysis and enabled Ofcom to form an intelligent view of the challenges faced by and opportunities open to competitors to attract business customers. Ofcom had considered many factors other than information produced by the NRA model and could not fairly be accused of being unable correctly to assess competitive conditions by relying on economic models rather than "real" evidence.

180. Many of these points raise specific issues as to the informative nature and reliability of the NRA model and are considered below. To the extent that the

Appellants seek to make a more general point about the way Ofcom approached its analysis, we find that the Appellants criticisms are overstated. It is entirely reasonable and common practice for economic regulators to build economic models and to include the information and data they produce in their overall assessment. Mr Duckworth did not disagree with the principle of using a model such as the NRA model. He instead thought that the model contained too many faults and did not, in itself, give a complete or sufficient picture of competition. Essentially, he thought it showed what other infrastructure was "present" within a given area at or near to a customer site but did not inform as to whether a customer could realistically gain access to that infrastructure.

181. We would not disagree with that view, but it appears from the Decision itself that Ofcom relied on more than the presence of competing infrastructure. It also sought to examine the extent to which that infrastructure could offer customers a realistic alternative to BT/Openreach. Thus in the part of the Decision entitled "Finding that BT has no SMP in the CLA", there are, in addition to paragraphs 6.153-159, which discuss the presence of rivals' infrastructure, paragraphs on barriers to entry and economies of scale and scope, prospects of potential competition and market developments since deregulation (paragraphs 6.160-164).

182. These paragraphs show that Ofcom certainly based its findings on the presence and of density of infrastructure largely on the results of the NRA model but also went on to examine the effect of a competitor being already "duct connected" to a customer's premises, the costs and difficulties of connecting to the actual customer's premises or site, the relative advantages of scale and scope possessed by BT and by competitors, and the possible impact of removing restrictions on the PIA remedy, giving greater access for competitors to BT's ducts. Finally, Ofcom considered how BT had behaved in the absence of regulation in the CLA, particularly as regards its pricing.

183. Of course, the Appellants disagree with Ofcom's assessment and we consider this below. What does not appear to be substantiated, however, is the idea that

Ofcom relied on the NRA to the exclusion of other evidence on how competition worked in the market and thereby rendered itself incapable of making a correct assessment.

184. Before considering the Appellants' specific objections in more detail, we consider the Appellants' particular claim that Ofcom had relied on a "relative" approach in its analysis of SMP.

(2) Did Ofcom take a relative approach?

185. In the Notice of Appeal, and in their skeleton argument, the Appellants claimed that Ofcom had erred in its assessment because it had found competition in the CLA to be "better" than in other parts of the UK (other than Hull) and had based its finding of no SMP on this relative or comparative approach rather than on any absolute assessment. It pointed to parts of the Decision which showed this, including paragraphs 6.156:

> "The proportion of customers with four or more rivals is significantly higher than in other High Network Reach areas. This shows that BT faces competition from significantly more rivals in the CLA than in other geographic markets."

and 6.166 where it said that BT's market share was:

> "somewhat lower than the service shares in other geographic markets…outside the CLA."

186. Ofcom denied that it had adopted a relative approach and pointed to many other parts of the Decision that clearly showed that:

> "The decision contained some comparative statements but it also made clear that Ofcom was assessing the sufficiency of competitive constraints in the CLA and Ofcom, therefore, correctly directed itself by reference to the relevant question." (Hearing Transcript, Day 5, page 101).

187. The relevant passages in the Decision were paragraphs 6.159 and 6.169:

> "6.159. Overall, the density of rival infrastructure indicates that the vast majority of (potential) users of CI Access services are likely to have competitive alternatives available to them in the event that BT raised its prices

> or otherwise offered poor terms of supply, preventing such a price increase. This is especially in the presence of unrestricted PIA remedy as set out below.
>
> …
>
> 6.169. While BT accounts for a high share of leased line sales in the CLA we consider that this dense network of rival infrastructure is sufficient to act as an effective competitive constraint on BT. This is consistent with BT Group's view about the likely impact of unrestricted PIA on service shares going forward."

188. Mr Bates did not press this claim during the hearing and it did not feature in his closing submissions. We believe that he was right not to do so and that there is no substance in this particular aspect of the Appellants' case. We note for the purposes of the later discussion, that this claim comprised "Principal Error #2" in Mr Bates' list of errors.

(3) The NRA Model

189. Turning to the more specific aspects of the claims relating to use of the NRA, the Appellants claimed that Ofcom:

(1) placed too much reliance on the NRA model with its 50m buffer distance, assuming that rivals with infrastructure within that buffer distance would "build rather than buy";

(2) under-estimated the costs of extensions to infrastructure networks; and

(3) misapplied the data on the proportion of end-customers supplied by rivals "on-net".

These claims were formulated by Mr Bates as "Principal Error #1" (that the NRA model provided no real insight into what competitive constraint BT was actually under) and "Principal Error #3" (the failure correctly to assess digging costs and possible digging distances).

190. The starting point of Ofcom's analysis for the CLA was the 50m "buffer" distance as used in the geographic market determination. This in turn was based on a consideration of the distance a CI provider would be prepared to dig in order to gain a contract, based on the costs and revenues of hypothetical firms in the industry (though the estimated costs of such firms were based on Openreach's reported levels of costs.)

191. A description of the purpose of the model was given by Ms Kalmus in the hot tub session:

> "I think it's useful to take a step back as to what the purpose of this network reach analysis was seeking to do.
>
> The purpose of it was to seek to measure which operators could supply customer sites. And so in terms of the data that Ofcom collected from operators, in terms of duct, what Ofcom collected, essentially, were the maps. So we connected -- the maps that Mr Holmes talked you through yesterday, that was the data we had and the maps look very pretty, they're great, you can see there are lots of rival network but what it does not in itself say is exactly how close are those networks to customers, which is what Ofcom was then seeking to measure, how close. And we are looking at it by drawing very -- what are really very small circles around customer sites, to capture those networks that were already there and also those who are really just outside the building."
>
> (Hearing Transcript, Day 3, pages 44-45).

192. Building such a model inevitably involved making a number of working assumptions and these were spelt out in the Decision. Ofcom said that such a model could only be indicative since actual costs and revenues depended on the specific location and the prospective contract. Examples of these working assumptions were as follows:

(1) **Revenues** are based on the charges for Openreach's EAD local access services (Table A10.1) for a three-year contract with a single line, which is the median life of such contracts. (A10.30-31);

(2) **Costs** are based on Openreach's own charges, such as its Excess Construction Charges (which are based on national averages) and

regulatory financial statements. This will be distance related, calculated for three situations: where there is a duct connected with tubing, a duct connected without tubing, and no duct, thus requiring the provider to dig a network extension;

(3) **The location of a customer** i.e. a large business site or mobile base station is approximated by the centroid of the postcode in which they are located;

(4) **The location of a provider's network** is taken to be its nearest flexibility point, such as a street cabinet or chamber, or a duct if this is nearer;

(5) **The distance involved in digging**. *The radial distance* is the straight-line distance between the provider's nearest flexibility point to the end customer's premises i.e. postcode centroid. The route distance follows the layout of streets and other infrastructure;[11]

(6) **The break-even distance** is calculated as the distance at which the discounted present value of estimated revenues is equal to the discounted present value of costs.

193. The radial distances thus calculated depend on the contract. For example, a three-year contract for a 100Mbit/s implies a break-even radial dig distance of only 27 metres, whereas at the other extreme a five-year contract for 10Gbit/s implies a dig distance of 118 metres. For a 1Gbit/s connection the three and five-year break-even distances are 34 metres and 55 metres respectively. These numbers are relevant to a consideration of whether the indicative buffer distance of 50m is reasonable.[12]

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[11] We note that it appears from paragraph A10.37 of the 2019 Statement that radial distances are calculated from route distances by dividing the latter by 1.4, which would be accurate if the actual route takes the form of two sides of a square.

[12] See Annex 10 to the 2019 Statement.

194. Both the Appellants and Ofcom appeared to agree that there were potential errors and biases in the NRA model.

195. In the Decision (paragraphs 5.76-5.80) Ofcom discussed consultation comments from Openreach and TalkTalk. For example, in paragraph 5.77 (footnotes omitted):

> "We agree with Openreach that the choice of the buffer distance needs to take into account the potential measurement inaccuracies. The assumptions we make in the network reach analysis need to produce a reasonable proxy for network reach. If we use a buffer distance that is too low the results are prone to finding a false negative, and we would find that customer sites could not connect to rival networks when in practice they could or even may already be connected. If we use a buffer distance that is too high the results are prone to finding a false positive, and we would find that customer sites could connect to rival networks when in actuality they may not be able to connect to any networks.
>
> 5.78 Therefore, we reflect these measurement inaccuracies in our choice of the buffer distance. We consider that the data limitations set out above mean that we cannot accurately measure very short distances (e.g. 20m or below) due to an increased likelihood of not capturing rival network presence.
>
> 5.79 In contrast to Openreach, TalkTalk argued that we should ignore measurement inaccuracies in our choice ofbuffer distance as they claim we are equally likely to overstate and understate the actual distance. However, we consider that we are more likely to overstate distances between customer sites and networks because:
>
> - sites that are already connected to networks (in other words, there is a 0m actual distance between the large business site/mobile base station and the network) will likely have a positive distance in our model. This is because we do not know when buildings are fibre connected and instead measure from the postcode centroid to the network;
>
> - if the postcode centroid is the exact location of the business site, we may still overstate the distance to the closest network. This is because networks do not build to the centre of customer sites, but to the outside edge of the site. Our distance may overestimate because we do not know precisely where on the building site the network can be connected; and
>
> - if large structures or landmarks cover the postcode centroid, we may not find network infrastructure in the immediate area surrounding the postcode centroid, even if the building is fibre connected. An example of this can be found in the CLA with the presence of large structures/landmarks (see Annex 12).

> 5.80 We have assessed a 25m buffer distance and we do not consider it appropriate for the following reasons:
>
> - the 25m buffer distance would cover only a small proportion (22%) of the median area of a postcode in the UK. This means that, for an average sized postcode, we would find low network reach even when a building is connected to a rival network, and so would not measure true competitive conditions. In comparison, the 50m buffer distance covers 89% of the median area of a postcode in the UK and 100% in urban areas; and
>
> - in urban areas where postcodes are smaller, the use of a very short buffer distance raises different measurement issues as large buildings can have radii greater than 25m. Using a 25m buffer distance, we would find almost half of CLA (139 out of 298) postcodes not to be high network reach, despite the widespread presence of rival network. This reflects the large size of structures in the CLA."

196. It may seem surprising that the Appellants did not address these responses in their appeal. For example, in their skeleton argument (paragraph 50) they took issue with Ms Kalmus' view that the digging distance was intrinsically conservative, saying for example *"she presents no evidence to show that postcode centroids are generally within the confines of the building"* [at which fibre ingress occurs] and ignored other potential sources of measurement error evidence.

197. In the Reply, the Appellants stated as follows:

> "30 …Whilst Ofcom is right that its estimates of dig distances for the purposes of its NR Analysis are subject to a high margin of error, the errors will underestimate, as well as over-estimate, actual dig distances. This is for two reasons:
>
> (a) *First,* Ofcom assumes that the connection to a rival's existing network will be made where the existing infrastructure is nearest the building …the actual point of connection could be some distance away.
>
> (b) *Secondly,* the point on the building where the networks fibre needs to enter the building may not be at the point on the external wall closest to the existing building.
>
> 31. It should also be borne in mind that [there] will also be other errors (with unknown biases). For instance, it may not be possible to dig along the most direct route, due to physical obstacles or limit major road closures, or difficulties on obtaining wayleaves."

198. In the hot tub session there was some discussion of this. It was agreed that approximations were an inherent feature of model building. Ms Kalmus said that the method for measuring distances was designed to balance out as far as possible errors in different directions (Hearing Transcript, Day 3, page 44). In the end it was not clear from the discussion (Hearing Transcript, Day 3, page 49) whether Mr Duckworth thought that there was an inherent bias in the distance measured which tended to underestimate the required digging distance or whether it was simply a matter of inaccuracy in the model (see also the Joint Expert Statement at paragraph 6e).[13]

199. In summing up the discussion the Chairman asked:

> "THE CHAIRMAN: I suppose the question for us is, is it tending to overestimate the amount of competitive constraint or underestimate, taken as a whole?
>
> MS KALMUS: I think this is when we start getting into an empirical question because one can see Mr Duckworth helpfully set out in the second report, there were four different potential measurement categories and I would agree with all of those sort of instances but there's a question as to how far that takes you in the abstract because there's a point which is unknown, which is how long you would have to --
>
> THE CHAIRMAN: I suppose what we need to know is from Mr Duckworth, you have no objection to the principle of modelling this kind of problem but you have reservations about this particular model; is that a fair summary of your position?
>
> MR DUCKWORTH: I think there are two points. I think one is Ms Kalmus' stated intent of the model which is to not only capture networks which are close enough to connect at a certain cost, i.e. within a certain dig distance, but also to capture customers who are already connected, as kind of a purpose of the model. And my view, which was expressed in the joint expert report, is we already have data on a postcode level, where customers in the CLA are actually connected and it's not a reasonable use of time to kind of build a model to replicate data that's already known. The value of the model in the CLA is to show where customers are sufficiently close to existing networks for a network dig to be economically feasible, if that is."
>
> (Hearing Transcript, Day 3, pages 51-52).

[13] This is distinct from the issue of whether digging costs (per meter) were underestimated in the model, as in Principle Error #3. See below.

200. Apart from the *digging distance* itself the matter of the costs of digging has also been raised and this is dealt with separately below.

201. We now consider the specific errors claimed by the Appellants with reference to the NRA model. The Appellants' skeleton argument makes the following claims:

> "Principal error #1: Relying, for the purposes of assessing BT's market power in the CLA, on the results of the NR analysis, which provided no real insight into the extent to which BT is actually constrained by the risk of customer switching to an alternative option (i.e. to build a network extension rather than buying a wholesale leased line from BT).
> […]
> Principal error #3: erroneous calculation of the costs of network extensions."

202. We note at this point the Tribunal's comments in *BT and others v Competition Commission* [2012] CAT 11, at paragraph 279, where the Tribunal explained that no economic model can ever perfectly reflect reality and that an Appellant must show that a model is deficient in the sense that a different model could better approximate reality. It follows from this that it is not enough for the Appellants merely to criticise the design of the NRA model, but it is incumbent on them to suggest a better alternative. We discuss this at paragraphs 210 to 214 below.

203. Turning first to Principal Error #1, the first three paragraphs (44-46) under this heading in the Appellants' skeleton argument seem mistakenly to assume that for Ofcom's analysis, the principal alternative to an access connection from Openreach is for a rival to build a network extension i.e. to undertake digging. This is an understandable error if one focuses on the explanation of the NR model in Annex A10 and A11 to the 2019 Statement, summarised above, since that explanation appears to be concerned with the economics of digging a network extension.

204. However, the Decision also compares the costs of a duct extension and blown fibre through existing ducts; these are set out in paragraph A10.35 and Table A10.4, where they are shown to be much cheaper. According to this, any firm

in this business would probably find it cheapest to supply a connection in the following order:

(1) Existing (but unused) fibre to the customer;

(2) Blown fibre through a tube within an existing duct;

(3) New fibre through a duct with no tube; and

(4) New connection involving laying of new duct, tubing and fibre.

205. It is therefore not surprising that where a supplier has existing infrastructure it will use it. During the hot tub session Mr Duckworth and Ms Kalmus appeared to agree that this was the correct interpretation of Table 6.9 (see the Hearing Transcript, Day 3, pages 55-63). Of course, purchase of a connection from Openreach is also an option for a rival supplier, which was chosen in 21% of cases.

206. However, the Appellants do not restrict themselves to considering only the cases where rivals need to dig in order to provide a connection. They say that even where there is an existing connection to the client's building rivals will frequently be at a disadvantage relative to BT in bidding for a contract, because of the cost of new wayleaves as well as the consequent delay. These would affect Openreach on fewer occasions (paragraph 47 of Appellants' skeleton argument).

207. However, the hot tub session included the following exchange:

> "PROFESSOR CUBBIN: Can we turn now to incumbency advantages. Given that you have a situation sometimes, where BT and a rival have infrastructure which is similarly close to a client, is there any systematic reason why BT should have a cost or other advantage over the rival?
>
> So interpret "similarly close" in whatever way you wish but that's the phrase. BT's incumbency advantages.

> MR DUCKWORTH: I think in such a circumstance, where all other things being equal, then they should have similar costs of connecting that customer and hence there's no incumbency advantage where you are both in a similar starting position.
>
> PROFESSOR CUBBIN: But?
>
> MR DUCKWORTH: No buts."
>
> (Hearing Transcript, Day 3, page 64).

208. BT's competitive advantage in the CI market in general is not disputed by Ofcom and is set out in paragraphs 6.52-6.59 of the 2019 Statement. However, Ofcom's view is that competition is still effective in locations where rival networks are close to the customer. The NRA model was designed to estimate the number of rivals within the dig distance.

209. This leads us to the main aspect of the NRA model criticised by the Appellants, namely that the results of the NRA model provided no real insight into the extent to which BT was actually constrained.

210. This criticism implies a requirement that Ofcom should instead analyse the competitive situation, that is to say the extent to which BT is actually constrained, in each customer location. This was explicitly discussed in the hot tub session:

> "PROFESSOR CUBBIN: Okay. We have heard from you about the problems of the network reach model and its application and interpretation. Have you got any suggestions as to how Ofcom might have proceeded otherwise, in practical terms?
>
> MR DUCKWORTH: I think the postcode data, which shows connections, fibre infrastructure but doesn't show at the moment, duct present at different postcodes, provides a kind of alternative source of evidence which isn't reliant on a model which has -- I think we are all agreed -- a number of errors. We disagree on the importance of the errors but underlying it there's a problem, a practical problem, of building this model. So the postcode data, I think, is more robust, gets closer to the heart of the problem, which is about actual presence in buildings rather than just being plus or minus 50 metres, or having a network plus or minus 50 metres from the building. So I think the postcode data which has appeared in the course of this process is more valuable, in terms of determining effective competitive constraints.

THE CHAIRMAN: That's not comprehensive postcode data though, is it?

MR DUCKWORTH: It's not and I am weighing up to imperfect sources of evidence.

THE CHAIRMAN: If you were in Ofcom's position and you had to do this for the whole country, would you be looking at every postcode in every part of the land?

MR DUCKWORTH: I think we kind of discussed that at the initial point on sort of market definition, that the network reach model is actually a very helpful thing to look at SMP or no SMP in areas where there's relatively low network presence. So I'm not saying Ofcom needs to collect this data across the country, I'm saying --

THE CHAIRMAN: You are saying that where there is high network presence, then you need to look to other sources of information?

MR DUCKWORTH: High network presence and a very low propensity of operators to extend their network.

PROFESSOR NEUBERGER: Can I just check on that: is the premise underlying that, that basically, network competition is impossible, that the competition comes from existing network in place?

MR DUCKWORTH: It's obviously not impossible, because these networks were created over time. We start in a position where -- in 1984, I think -- where BT had a statutory monopoly and over time, networks have appeared and competed in the CLA. What I think I am saying -- and PIA, which we will go on to discuss, is potentially reducing some of the barriers to entry to building networks which I think we are agreed on. So it's not that network competition is completely unviable, it's just within the period of this market review period, it doesn't seem to be sufficient to constrain BT's behaviour.

THE CHAIRMAN: So it's not a disagreement of principle, it's a disagreement of assessment?

MR DUCKWORTH: Yes."

(Hearing Transcript, Day 3, pages 74-76).

(4) The postcode data analysis

211. As noted at paragraph 210 above, when asked for an example of how Ofcom might have proceeded otherwise Mr Duckworth said:

> "So the postcode data, I think, is more robust, gets closer to the heart of the problem, which is about actual presence in buildings rather than just being plus or minus 50 metres, or having a network plus or minus 50 metres from the

> building. So I think the postcode data which has appeared in the course of this process is more valuable, in terms of determining effective competitive constraints." (Hearing Transcript, Day 3, pages 74-75).

212. It seemed to be common ground between the two experts that this was not a practical proposition for the whole country, since the required level of postcode detail is not available nationally. Even in the CLA there were hundreds of locations and requiring this level of detailed investigation would go beyond what was reasonable for a regulator with finite resources. This was discussed in the hot tub session:

> "MR DUCKWORTH: There's clearly a tension [between pure economic analysis and administrative convenience] because the economic view is that almost every single location could potentially be a separate market, not constrained by other locations around that, so clearly there's a tension.
>
> From an administrative perspective, it's not possible to go in there and do an SMP determination on every single individual location throughout the UK, and so you need to sort of collect those individual locations together, in what are kind of loosely termed geographic markets and assess dominance across that collection of, effectively, individual markets, where you believe competitor conditions are broadly similar.
>
> PROFESSOR CUBBIN: You have to use -- without putting words in your mouth but I'm suggesting that - you may need to look at other things besides- the metrics that you have used to define geographic markets.
>
> MR DUCKWORTH: Yes.
>
> PROFESSOR CUBBIN: Are we agreed with that?
>
> MS KALMUS: Yes."
>
> (Hearing Transcript, Day 3, pages 7-8).

213. We accept that the postcode data, regardless of whether it can be used to analyse competitive constraints throughout the country, does provide some insight on rivals' presence within the CLA. It is to that extent an alternative as well as a complement to the NRA. However, it will tend to under-estimate such presence as it ignores competition from any supplier who is not already supplying a customer in any given postcode. Even with this qualification, the results of the postcode data analysis in the CLA appear broadly consistent with what the NRA shows.

214. Mr Duckworth drew particular attention (Hearing Transcript, Day 3, pages 66-67) to the number of postcodes in which there were no rival networks present. In reply, Ms Kalmus, in her second expert report (and as an annex to the Joint Expert Statement), provided a breakdown of fibre connections for each postcode in the CLA. Her evidence showed that in 72% of postcodes there were no leased lines at all, so the question of rivalry did not arise. In 38% of the postcodes where there were active leased lines Openreach was the sole supplier. These postcodes accounted for only 12% of leased lines in the CLA. The fact that Openreach was the only supplier in a postcode did not mean that Openreach faced no competitive challenge. The NRA model showed that the average number of rival networks which were proximate to these postcodes was 3.6, which was not very different from the 4.3 average in the CLA as a whole.

215. It follows that, given that there was agreement on geographic market definition, it does not greatly matter whether Ofcom assessed rivals' presence on the basis of the NRA or by reference to each postcode. It appears to be common ground that proximity is a precondition for rivals to be able to compete for any particular customer. The NRA provides a sensible estimate of how many of these rivals are proximate to the customer but does not in itself predict (and nor does the postcode data analysis) the degree of effective competition these rivals offer. That has to be established by other means.

(5) Other relevant factors

216. As we noted earlier, in relation to Ofcom's overall approach to its assessment, Ofcom investigated other data which corroborated the finding of no SMP in the CLA including:

(1) Investigation of detailed maps of the rival networks, including the examination of particular locations in detail (paras 6.148-6.159 of the Decision and Kalmus 1, paras 68-69);

(2) Assessment of pricing levels;

(3) Discussions with rival networks, in which their different strategies were noted; and

(4) Calculation of market shares in value as well as volume terms.

We consider Ofcom's treatment of each of these factors in greater detail in the following sections.

(6) Digging costs and distances

217. As to the particular question of digging costs and actual digging distances (Principal Error #3), Ofcom stated in the Decision:

> "5.70 In summary, all the evidence taken together suggests that the actual distance from which operators are likely to extend network is likely to be much shorter than 50m. While the indicative cost dig model could suggest 50m may be appropriate, this is only indicative and does not account for the time taken to provide a circuit, which suggests much shorter distances. This is consistent with evidence on actual digging behaviour for circuits at all bandwidths where we find that network extensions are infrequent and median dig distances were less than 25m.
>
> 5.71 Therefore, we agree with Vodafone, TalkTalk and [✂] that actual distances for network extensions are likely to be shorter than 50m and disagree with Openreach and Virgin that the dig model supports dig distances at 100m. We also note that the indicative dig cost model is only one of several pieces of evidence we consider. While it helps to inform our view, it is not the only factor in determining network extensions."

218. It is clear from this that the NRA model was not used by Ofcom to predict actual digging distances and there are several references in the Decision showing that actual digging distances are typically much less in the CLA.

219. In the Joint Expert Statement (paragraph 6c) Ms Kalmus and Mr Duckworth agreed that *"the 50m buffer distance does not represent an economic dig distance due to measurement error"*. Mr Duckworth explained that:

> "The buffer distance was informed by Ofcom's dig distance model, which was not in itself an accurate estimate of distances over which rivals could effectively compete, but was set at a higher level in order to eliminate false

> negatives, for example locations that were already served by competitors but where the measured distance was significantly different from zero."

220. The Appellants' criticism is summarised in their skeleton argument:

> "54. Since Ofcom's costs estimates were a key input to the "indicative dig costs model" on which its NR analysis was based, the fact that those estimates were so unrepresentative of the true costs of building network extensions in the CLA fundamentally undermined the utility of the NR Analysis as an indicator of the extent to which BT faced competitive constraint."

221. However, in summary, it seems that Ofcom's approach can be characterised in the following way:

(1) Competition to Openreach depends on the ability of rivals to supply a connection at a viable cost. This will depend on how close they are to the potential customer.

(2) If they already have fibre to the customer, or to the customer's building, or at least duct to the customer building they pose a competitive threat to Openreach, but we cannot always identify such situations.

(3) At the extreme, rivals might dig new trenches to lay duct in order to make a connection. How far they might dig needs to be assessed on the basis of the costs and revenues, with particular reference to the evidence on digging costs. This gives an indication of the maximum distance that any potential rival to BT in the CLA is likely to be.

(4) The distance needs to be checked for probable under- and over-inclusivity of rivals. In the example quoted above[14] if 25m were used as the indicative distance "we would find low network reach even when a building is connected to a rival network".

[14] Referring to paragraph 5.80 of the 2019 Statement.

222. In the CLA companies such as Virgin and Colt had already carried out enough digging to reach a large number of customers via existing fibre or duct, as indicated on the maps in Ofcom's evidence (Kalmus 1, paragraphs 64-69), and thereby constitute a competitive threat to Openreach.

223. In our view the approach taken by Ofcom represents a reasonable and practical approach to the issue of digging costs and digging distances, and we do not think the Appellants' claims to the contrary can be sustained.

(7) CPs' different strategies and incentives

224. Ofcom acknowledged that Openreach had a high market share, exceeding 50% at wholesale level, both of the inventory of leased lines and of new connections. The Appellants claimed this reflected BT's market power and the difficulties faced by rivals in obtaining new contracts or the renewal of existing ones. Openreach, they said, had inherent advantages derived from its historic position as incumbent supplier.

225. Ofcom, on the basis of Ms Kalmus's evidence, said that whilst there were advantages enjoyed by Openreach, these did not necessarily mean it was not subject to competitive constraints. Ms Kalmus referred in particular to a report (the "**Cartesian Report**"[15]) supplied by Vodafone in its response to the consultation preceding the 2019 Statement. This stated that not only did CPs have the ability to "pick and choose" the best partner on a circuit by circuit basis for a particular connection, but that CPs purchased 95% of their services from three or four partners. She considered this was evidence of competitive pressure on Openreach. (Kalmus 1, paragraph 123)

226. The Cartesian Report also contained the suggestion that:

> "CPs are mindful of the fact that their partners are often also competitors at retail level. They are hesitant to fund, through their wholesale purchase, a

[15] Cartesian Report: "Business Connectivity Customer Switching", dated 28 February 2019.

> partner to bring the CP's end customer on net, lest they 'eat their lunch' down the line. The CP does not wish to enable a situation whereby its partner would have a competitive advantage at the retail level when the CP's end customer contract comes to the end of its term" (Kalmus 1, paragraph 124).

227. Ms Kalmus thought that as Openreach had no retail operation of its own owing to regulatory requirement of separation, it was seen by some CPs who were not themselves vertically integrated, as less of a commercial threat than vertically integrated providers. She thought this helped to explain Openreach's continuing high market share but that it was not an indication of market power. (She also said that this issue arose mainly in relation to end-customer contracts: see Kalmus 1, paragraphs 125-6).

228. The Appellants reject this as mere speculation. We do not find that this in itself explains Openreach's high market share but, coming as it does from consultants retained by one of the Appellants and submitted to Ofcom in response to the consultation, we find it plausible so far as it goes.

(8) Homogeneity of competitive conditions across the CLA

229. It was necessary, both for the purpose of defining the relevant geographic market and for its assessment of SMP that Ofcom should consider whether the market conditions in the CLA exhibited a "sufficient degree of homogeneity".

230. The Appellants, on the basis of Mr Duckworth's evidence, clearly believed that this requirement was not met, in particular because some areas contained more actual and potential rivals to Openreach than others. We saw evidence pointing to there being different conditions in different parts of the CLA, including aspects of the NRA results, the postcode data analysis, the detailed maps of ducts and connections and the evidence on digging costs and distances. We were not, however, offered any indication of how any differing intensity of competition should be weighted in the overall analysis.

231. Clearly, conditions were not uniform across the CLA which suggests that some kind of overall approach was required. We have looked carefully at the approach

adopted by Ofcom, which did take some account of the conditions in different locations within the CLA and sought to apply an approach based on an approximation or average of these conditions. In terms of regulatory policy, this seems to us to be sensible and reasonable. Mr Duckworth accepted that treating each individual location as a separate geographical market subject to its own SMP analysis was not practicable. As he said, and as we noted earlier:

> "From an administrative perspective, it's not possible to go in there and do an SMP analysis on every single individual location throughout the UK…so you would need to assess dominance across that collection of, effectively, individual markets where you believe competitive conditions are broadly similar." (Hearing Transcript Day 3, pages 7-8).

232. This approach applies within the CLA just as much as it does across the country as a whole and we conclude that Ofcom was correct to conclude that conditions in the CLA were "broadly similar", that is to say sufficiently homogeneous to allow for an appropriate assessment of SMP.

(9) The unrestricted PIA remedy

233. We now consider the Appellants' criticism of the extent to which Ofcom relied on its unrestricted PIA remedy in its assessment of SMP. (Principal Error #5)

234. The unrestricted PIA remedy was dealt with at some length in the Decision. Ofcom's finding at paragraph 6.159 in relation to the effect on competition of the density of rival infrastructure was said to be "especially so in the presence of unrestricted PIA remedy as set out below". Paragraph 6.162 stated:

> "We consider the availability of unrestricted PIA and structural features in the CLA are likely to support telecoms providers' ability to compete for provision of CI Access Services in the CLA. As set out in Annex 6, we expect that at least some rivals may deploy infill network extensions using the unrestricted PIA remedy in the CLA given the high number of networks already present and high business density."

235. In similar vein, paragraph 6.168 concluded:

> "… some rivals may deploy infill network extensions during this review period using the unrestricted PIA remedy in the CLA given the high number of

> networks already present and high customer density. In the situations where BT may continue to have a competitive advantage, we expect that the use of unrestricted PIA would significantly reduce this advantage."

236. Annex 6 to the 2019 Statement contained the detailed basis for these statements, although its 20 pages applied to the whole UK, not just to the CLA. Ofcom had indicated during the consultation prior to the 2019 Statement that in general it would not adjust its proposed SMP assessment to reflect the availability of UPIA. Some respondents to the consultation thought this was wrong (particularly BT/Openreach, who argued for a greater reliance) whilst several others, including Vodafone and TalkTalk, although they broadly agreed with Ofcom's position, argued, in relation to CI Access Services, that Ofcom had overstated the likely effect of unrestricted PIA during the Relevant Period, because the unrestricted PIA remedy was not yet ready to be deployed, network extension costs were high and it was expensive to use UPIA for single site installations (A6.9, A6.10 and A6.13).

237. Ofcom said that in the light of consultation responses it had reconsidered its approach and decided that it expected the actual provision of leased lines using unrestricted PIA to be relatively low in the Relevant Period, but its impact in the Relevant Period was nonetheless most likely to be in areas with higher network density already, mainly because of network infill (A6.57). Thus:

> "In the CLA we consider it reasonable to expect that at least some rivals may use unrestricted PIA for network infill extensions during the review period. This is due to the high number of networks already present (four rival networks within 50m) and the high density of valuable customers." (A6.68).

238. The significance of the unrestricted PIA remedy was also discussed in Ms Kalmus' first report at paragraphs 26-29 (as part of her general explanations) and 127-129 (as part of her expert report). She considered Ofcom's findings of effects in the Relevant Period, referred to three specific confidential instances of responses to Ofcom's consultation and expressed the view that:

> "I consider that given this evidence Ofcom was correct to consider that unrestricted PIA would act as a constraint on Openreach in the CLA" (paragraph 129).

239. The Appellants disputed even this modest level of reliance on the likely effect of the unrestricted PIA remedy. In their skeleton argument, they referred to Mr May's evidence as to the costs and difficulties of network extensions, and that of Mr Pilsbury to similar effect. They said that legal barriers, particularly the need to secure 'wayleaves' gave BT, which already had large numbers of these, a great advantage as they were in general (i.e. 99%) not transferable unless granted after the change in the law in DEA17, which had taken effect in December 2017. The significance of wayleaves is explained at paragraphs 29 to 33 of the Appendix to this Judgment. Moreover, the evidence was that rivals only rarely built network extensions, even if their network was within the 50m buffer distance as it was easier and cheaper to lease lines from Openreach.

240. Ofcom responded that it did not dispute the factual correctness of Mr May's and Mr Pilsbury's evidence but said they were not representative of the generality of CPs. Vodafone's business strategy was noticeably different from that of other providers in part because of its acquisition of legacy infrastructure (from Cable & Wireless) and TalkTalk had no infrastructure in the CLA anyway.

241. There were some further developments since the Decision that we were asked to consider. The first was some evidence from BT as to the actual take-up of unrestricted PIA in the CLA. This was presented by Ofcom at the hearing in the form of maps supplementing those contained in Ms Kalmus' evidence showing the extent of existing infrastructure and the effect of intended PIA connections. The underlying information was contained in a witness statement from Mr Wallington, also provided at the hearing, which set out details of the progress of unrestricted PIA broken down by the stage that each order or potential order had reached. Although the Appellants did not contest the admissibility of this evidence, the information itself was disputed by Mr Duckworth, on behalf of the Appellants, who suggested that the figures were overstated, as a proportion were expired unfulfilled orders and there were other problems arising from the date at which unrestricted PIA had taken effect (August 2019). Mr Wallington produced a second witness statement giving further explanations.

242. We note first that, as already mentioned, this was new evidence which was filed in response to Mr Duckworth's oral evidence, and by definition did not exist at the time of the Decision. The Appellants rightly did not object to its introduction even at a late stage, although they disagreed with the conclusion Ofcom drew from it. Secondly, whilst the precise figures do not matter here, the evidence showed that there was, with one year of the Relevant Period still to go, at least a degree of interest and take-up of unrestricted PIA. This seems to us to be consistent with the weight attached to this factor by Ofcom in the overall SMP assessment, namely that "some rivals may deploy infill network extensions during this period using the unrestricted PIA remedy in the CLA" (2019 Statement, paragraph 6.168).

243. We agree with Ofcom that the weight that it placed on unrestricted PIA in the Decision was conservative and cautious. We do not therefore accept the appellants' claim that Ofcom placed "unjustified reliance on the unrestricted PIA remedy" (Principal Error #5).

244. We turn now to the other area where economic assessment is particularly relevant, that is the question of pricing.

(10) Pricing issues

245. The Appellants said there were two principal errors in relation to Ofcom's assessment of pricing; first, that it had relied on BT's recent pricing behavior as evidence that it was constrained in the CLA (Principal Error #6) and, secondly, that it had assumed BT could not raise prices at locations within the CLA where it faced little or no competition (Principal Error #7).

(a) The parties' submissions

246. The Appellants developed two main themes in relation to pricing. First, the question of whether Ofcom had considered whether BT/Openreach's prices within the CLA, where it retained a high market share, were in general higher

than a competitive market would allow, and therefore in themselves indicative of SMP; and, second, whether Ofcom had correctly assessed BT's ability to raise (or lower) prices selectively in certain areas, or in relation to certain products, and whether such discriminatory behaviour, if it could be shown to be occurring, would be indicative either of the existence of competitive pressure or of its absence. As we noted, this latter point overlaps with the Appellants' general criticism of Ofcom's failure to engage with the specific dynamics of competition at the customer/ contract level.

247. The Appellants claimed that Ofcom had never examined the first issue and had taken an ill-considered approach to the second. In Mr Bates's closing submissions, he said:

> "[t]he reality is the Tribunal doesn't have any evidence before it that goes directly to the question of whether BT's prices are at or below the competitive level." (Hearing Transcript, Day 5, page 58).

248. We must therefore consider whether Ofcom had the evidence on prices that it needed in order to determine whether BT has SMP in the CLA, and whether it interpreted the evidence appropriately in reaching its conclusions. The specific issues raised by the Appellants may be summarised as follows:

(1) BT's ability to maintain or increase market share despite charging significantly more than competitors was indicative that it did have SMP;

(2) Ofcom provided no evidence that BT's prices in the CLA were set at the competitive level;

(3) The fact that Openreach had cut prices as far, and in some cases further, in the CLA than in the areas of the country where it was not regulated should not be regarded as evidence that BT was not dominant in the CLA;

(4) BT's internal pricing documents also did not demonstrate that it lacked SMP; and

(5) Although BT used list rather than negotiated prices in charging for CI access services, it was free in the absence of regulation to exploit its local monopoly in areas of the CLA by setting higher prices where there are no proximate competitors.

(b) Specific issues

(i) BT's overall price levels in the CLA

249. In his opening submission, Mr Bates argued that "BT's market share has also been maintained despite the fact that it has been charging relatively high prices." (Hearing Transcript, Day 1, page 6). The maintenance of high market share in the presence of relatively high prices would have been supportive of the proposition that BT had SMP in this market.

250. We note that in their skeleton argument (paragraph 36), and in Mr Duckworth's written evidence (Duckworth 1, paragraph 4.39), the claim that BT's market share was, if anything, increasing was based on the fact that BT's share of new customer ends was higher than its share of inventory. The Appellants said Ms Kalmus appeared to accept this interpretation of the evidence. (see Kalmus 1, paragraph 173 b) However, Mr Harman's evidence, which was not disputed by the Appellants, showed that this was a false conclusion to draw as the new customer ends data included figures for existing customer churn. Mr Harman said:

> "Consequently, I conclude that the available evidence does not support Mr Duckworth's claim that BT's new connections market share is evidence that its inventory market share *"has not declined and is increasing."* The available evidence on market shares does not support a claim of any particular trend in BT's market share." (First Expert Report paragraph 2.1.4)

251. We accept this evidence and do not therefore give any weight to the suggestion that BT's market share is increasing and we note that Mr Bates also did not place any great weight on it as the hearing progressed.

252. The assertion that BT had been charging relatively high prices was based on the internal BT pricing document that Mr Bates said demonstrated that:

> "for the plain vanilla, the most common service, 100 megabit[e]s, and one can see there, again, that the Openreach price is significantly higher than that being offered by suppliers 4 and 3, who are the main challengers in London" (Hearing Transcript, Day 1, page 8).

This interpretation of the data in the document was strongly contested by Ofcom and by BT: Mr Holmes argued that Mr Bates had misread the internal document in question and said that the prices shown:

> "on the contrary, that properly understood, they are evidence to suggest that BT's pricing in central London is, or was at the time of this paper, competitive" (Hearing Transcript, Day 2, page 20).

253. The Appellants did not seek in their concluding remarks to maintain the point that BT was charging more than competitors in the CLA; as Mr Bates put it in his closing submission:

> "[e]ven supposing that BT's prices were lower than those of rivals, if that were the situation, and we don't know one way or the other, then you would still have to ask yourself the question why." (Hearing Transcript, Day 5, page 60).

The Tribunal therefore has no evidence that BT's charges in the CLA were appreciably different from those of its main competitors and we give no weight to this suggestion.

(ii) The competitive price

254. Mr Bates relied on the Article 102 Guidance to claim that Ofcom had made no attempt to establish what was a competitive price for CI Access Services in the CLA. He drew attention specifically to paragraph 11, which provides as follows:

> "The Commission considers that an undertaking which is capable of profitably increasing prices above the competitive level for a significant period of time does not face sufficiently effective competitive constraints and can thus generally be regarded as dominant. …[T]he expression 'increase prices' includes the power to maintain prices above the competitive level and is used as shorthand for the various ways in which the parameters of competition…can be influenced to the advantage of the dominant undertaking and to the detriment of consumers."

255. Mr Bates cross-examined Ms Kalmus extensively on this point, seeking to establish that Ofcom had not even attempted to establish what was a competitive price for the services in question or the assess whether BT's prices were above or below that level. Ms Kalmus agreed that Ofcom had not done this explicitly but said that the concept of a competitive price was purely theoretical and she would not have known what one was or how it could be established in this market context. This is shown by the following exchange:

> "MR BATES: [D]o you agree that it could be the case that Openreach's prices, even now, are materially above the competitive level?
>
> Ms KALMUS: I apologise to repeat myself but I do not know what the competitive level is, so whether or not they are above, …it's not a question I will be able to answer because I do not – as I repeat multiple times, I don't know what that level is in this or any other market."
>
> (Hearing Transcript, Day 4, page 116).

256. We do not consider that determination of SMP requires the regulator to determine the competitive price – a term which we understand to mean the price that would obtain in a competitive market where no one player has dominance. We have been shown no regulatory requirement for such an analysis to be carried out and do not consider that the passage from the Article 102 Guidance, which gives at best a high-level conceptual view of one approach to assessing dominance, establishes such a requirement.

257. Nor is it clear to us how such an analysis would be done. To produce useful results bearing on whether prices currently prevailing reflect the dominance of one party, it would be necessary to model a telecoms market with a small number of competitors pursuing a variety of commercial strategies. We see no basis in this case for assuming that such an exercise would be productive or proportionate.

(iii) BT's price levels in the CLA

258. It was acknowledged that BT's prices in the CLA are no higher, and in some instances lower, than in regulated areas. Both experts accepted that this does

not, taken in isolation, prove that the CLA is competitive. The density of demand in the CLA may mean that costs are lower. But it does provide weak evidence in favour of the absence of SMP in the sense that the converse evidence – if prices were higher than in the regulated areas and had fallen less sharply than elsewhere - might tend to support the thesis that there was SMP.

(iv) BT's internal pricing documents

259. In the process of carrying out the 2019 BCMR, Ofcom obtained from Openreach an internal pricing document which considered its wholesale charges for the period 2018/19 for products up to and including 1 Gbit/s. As we noted earlier, there were two further similar pricing documents disclosed to Ofcom after the Decision had been published and provided to the Tribunal by BT which covered the same or similar ground. Ms Kalmus considered that they showed that BT faced effective competitive constraints in the CLA, while Mr Duckworth thought they merely demonstrated a range of factors contributing to BT's pricing behaviour (Joint Expert Statement, paragraph 8c).

260. We note here that internal pricing documents are an unusual form of evidence in two respects. They give an insight into motivation, and hence have the potential to cast rather more light on the question of market power than pricing decisions alone. But as discoverable, internal, documents of a regulated entity, it is necessary to treat them with a degree of caution; the authors of the document are likely to have been conscious that such documents may well be called in by the regulator.

261. In our view, whilst noting the experts' disagreement, it was reasonable to interpret the documents as showing, at least in that part of the CI access market in the CLA at that particular time, that BT believed that demand for its products was price elastic, and that it could not maintain prices substantially out of line with its competitors if it was to retain market share. To that extent, it suggests that BT did not see itself as free to set its prices independently of its competitors.

(v) The feasibility of BT price discriminating

262. Mr Bates argued that:

> "The fact that BT … charges list prices, as far as we know, it only discounts on a cross CLA level for particular products, doesn't show that it's not able to price discriminate in a more localised or targeted way… Whether or not BT will in fact engage in price discrimination is not the relevant question for present purposes, it's whether it could price discriminate."
>
> (Hearing Transcript, Day 5, page 51).

The issue here is the Appellants' claim that in some areas of the CLA there is only limited rival infrastructure, so Openreach has in effect a local monopoly and could charge much higher prices than elsewhere. Ofcom, by deciding that BT lacked SMP in this market, would lack the power to prevent such behaviour.

263. The feasibility of price discrimination on the basis of a customer's closeness to rival infrastructure is disputed. Ms Kalmus said: *"[whether] price discrimination is both feasible and profitable, is also something which I would disagree with."* (Hearing Transcript, Day 3, page 32). One question is whether Openreach has the information on which to discriminate; Mr Duckworth argued that even where Openreach lacked the detailed customer by customer information, it could discriminate between customers on the basis of characteristics that were correlated with competitive pressure. As to the feasibility of doing this in practice, he said "*I think this is a question of kind of commercial practicality, which ... I can see there are, you know, significant barriers to that sort of price discrimination."* (Hearing Transcript, Day 3, page 33).

264. Openreach's CI access prices have been unregulated in the CLA since at least 2016. Ofcom said that they have no indication or evidence that Openreach has engaged in price discrimination in that time. The claim that Openreach would find it advantageous to introduce discriminatory pricing to take advantage of particular locations within the CLA where there is little rival infrastructure appears to us to be conjectural. There appear to be substantial technical issues

(finding an observable characteristic which is sufficiently highly correlated with competitive pressure) and commercial issues (weakening a simple system of transparent list-based pricing) that would need to be overcome if it were to happen. There has been no evidence that Openreach has been practising discriminatory pricing or is planning to do so. The fact that Ofcom did not consider discriminatory pricing in reaching its decision that BT did not have SMP in the CLA does not, in our view, cast doubt on the soundness of that decision.

(vi) The limited information available

265. It could be argued that the information on the prices charged by different providers, their market shares and the changes in market share in different markets that are in the Ofcom review, and the information available to the Tribunal on these matters, is very limited. As noted in the Decision (paragraphs 6.41-2) there are reliability issues with the data on the stock of connections; the data on new connections combine genuinely new connections with customer upgrades and "churn", and this makes it difficult to combine the two sources of information to draw conclusions about changes in markets shares (as explained in the expert report of Mr Harman at paragraphs 3.1-3.7). The only comparative pricing data is a graph in an internal BT pricing paper.

266. It goes without saying that more and better information on relative prices and changes in market share would have been helpful in deepening understanding of the way competition was functioning in the market, and thus inform a judgement about SMP. However, we consider that Ofcom had sufficient information to come to the view that it did.

(c) Overall view on pricing behaviour

267. There is a general point to note about the relevance of pricing evidence to the determination of SMP. It was common ground between the experts that SMP was broadly equivalent to the competition law concept of dominance, defined

as "a position of economic strength affording a telecoms provider the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers." (Joint Expert Statement 2a). The experts also agreed that evidence on the assessment of SMP was to be considered in the round, and no single criterion was determinative, though there was some disagreement about the relative weight to be given to market share and to other evidence (JES 2e). They further agreed that evidence on BT's pricing was relevant to the assessment of whether it had SMP, though they disagreed on the interpretation of some of the pricing evidence in the case (JES 8).

268. The concept of SMP thus relates to the putatively dominant player's power to behave in a particular way. In general, one can only expect to observe how players have acted in the past, not how they could have acted. Thus, pricing evidence is likely to be relevant to the determination of SMP but is unlikely to be conclusive. As Mr Duckworth put it:

> "It's very difficult to be determinative and say: well, that behaviour on its own, either shows market power or not, because what we are trying to understand is a degree of independence in pricing from competitors."
>
> (Hearing Transcript, Day 3, page 85).

269. One important implication of this is that pricing evidence that casts light on the question of dominance should not be ignored simply because it could be fully explained by factors that are unrelated to dominance. It needs to be retained and weighed appropriately in building up a picture of the nature of competition in the market, and in particular on the degree to which BT is dominant.

270. In our view, the pricing evidence that was before Ofcom, and the pricing evidence that is before the Tribunal, provide substantive, albeit modest, support for the proposition that BT does not have SMP in this market, and that seems to be essentially the assessment that was made by Ofcom in the Decision.

(d) The weight Ofcom gave to the pricing evidence

271. We note that Ms Kalmus expressed the opinion that Ofcom would have been justified in placing greater weight on BT's observed pricing behaviour in reaching its findings and said that she herself placed greater weight on them. She referred specifically to the 13.5% annual price reductions required by the 2016 BCMR, which Openreach had implemented in the CLA whilst not being obliged to do so and to the specific further price reductions referred to in BT's internal pricing documents.

272. Mr Bates argued that Ofcom could not, through the medium of Ms Kalmus, change the nature of the Decision in respect to the weight to be attached to the pricing evidence. In response to a question from the Tribunal, Mr Holmes, said that Ofcom stood by the analysis of prices and the weight attached to them as expressed in the Decision. He said that Kalmus' view was *"her personal view about the weight she would be inclined to attach to evidence about the behaviour of BT in the unregulated market over a number of years"* (Hearing Transcript, Day 2, pages 111-112). Mr Holmes said the Decision contained no material error in this respect.

273. This was an important clarification, as it meant that we did not have to consider whether Ofcom was putting its defence in relation to this aspect of the Decision on a different basis from that relied on in the Decision itself.

(11) Profitability

274. The Appellants claimed, although this was not identified as a specific principal error, that BT's high market share and what they claimed to be higher than competitive prices were reflected in higher than normal levels of profitability. This point was made particularly strongly in the expert evidence of Mr Duckworth. In his first expert report he stated:

> "The latest available financial information for CI Access services in the CLA is from the 2016 BT Regulatory Financial Statements. This showed that in

> 2015/16, prior to deregulation of the CLA, the return on capital; for AISBO services (now CISBO) in the WECLA (which includes the CLA) was 50.2%, compared to a cost of capital of 10.8%. I calculate that the revenues overall in the WECLA would need to have been 51% lower in 2016/16, all else being equal, for the return on capital employed to be 10.8%, the WACC determined for this period." (paragraph 4.43).

275. Ms Kalmus considered this analysis to be out of date and that the fall of prices in the CLA that she had noted since 2016 must have meant that profit levels would have decreased also. She also drew attention to the academic literature on the relationship between market power and profits (See Kalmus 1, paragraphs 174-176.):

> "Moreover, I consider that the relationship between profitability and market power is complex, such that it is hard to draw meaningful conclusions about SMP from an observation on profits. This is particularly true in an industry like telecoms with high fixed and common costs and low on-going costs to serve the customer. Although costs are depreciated over time, the asset life used for depreciation purposes is commonly shorter than the true asset life. This means that an operator in a network expansion phase can be assessed as loss-making, and one with a rolled-out network as highly profitable from an accounting perspective, even if over the economic life of the asset profits are reasonable. As Bishop and Walker note, *".. this apparently simple and obvious relationship [between profitability and market power] holds only rarely and should not be used generally as the basis for assessing the competitiveness of particular markets or industries."*"

276. Ofcom placed no particular reliance on Openreach's profitability in the Decision. The Appellants claim suggests that had it done so, it would have found further evidence to support a finding that BT/Openreach had SMP. Mr Duckworth maintained his view in the Joint Expert Statement. Whilst he accepted Ms Kalmus's general point about the uncertainty of market power conclusions based on profit, he nevertheless thought that in this instance the high profit levels reported in the RFS were "*an indication of the absence of an effective competitive constraint"* (Joint Expert Statement Point 9d).

277. In our view not a great deal turns on this point. The evidence referred to by Mr Duckworth is not conclusive and relates to a time before the review period. Ofcom did not rely on an assessment of profitability in the Decision and, given the inherent unreliability of profitability measures in the light of lifetime project

costs, we do not consider that the Appellants and Mr Duckworth have established in any convincing way that Ofcom ought to have examined Openreach's profitability or that doing so would have assisted its assessment.

I. OUR OVERALL ASSESSMENT

278. We now give our overall assessment of the case. This should be read in conjunction with our earlier findings in parts F to H, to which we refer where appropriate to avoid repetition, and in which we considered each of the principal errors that the Appellants claimed vitiated the Decision. We generally follow the order of treatment in parts F to H above.

(1) The context of the appeal

279. A proper assessment of the Decision for the purpose of this appeal is complicated by the fact that Ofcom's full 2019 Statement covered the whole of the UK and came to different conclusions as regards different areas. The appeals against these conclusions were selective and left important parts of Ofcom's findings, particularly as to market definition, uncontested. This particular appeal, on non-price aspects of the Decisions, relates solely to Ofcom's finding that there was no SMP in the CLA. The appeals against other aspects of the Decisions will need to be referred to the CMA for determination.

(2) Market shares and the presumption of dominance

280. As we have noted, most of the law applicable in this case was not in dispute. The one area where there was some dispute, at least as a matter of principle, was in relation to the existence and/or significance of the presumption of dominance. The Appellants argued strongly that it was clear from the case law and the SMP Guidelines that where, as here, the incumbent's market share exceeded 50%, there was a presumption of dominance that could only be rebutted if there were exceptional circumstances.

281. As we discussed in more detail earlier, the idea of a presumption of dominance does have judicial acceptance, although the jurisprudence is less explicit on how particular factors might be weighed in the balance to rebut it. Ofcom accepted that such a presumption applied, indeed the Decision itself made reference to it, but claimed that other factors considered by Ofcom rebutted the presumption in this case. Ofcom resisted the idea that other factors were in some way rendered less important than the high market share by the operation of the presumption.

282. In our view, the presumption of dominance arising from a high market share serves as an essential trigger point to tell an authority that there is "a case to answer" and that it must examine carefully whether other factors confirm the existence of market power, or whether they serve to show that the holder of the high market share is subject to sufficient competitive constraint for the market to be judged competitive. That view appears also to represent what is generally accepted by competition economists.

283. In any event, where, as in this case, Ofcom has conducted a number of successive market reviews under a close regulatory framework, with a very full awareness of the history and development of the markets in question, it is in our view quite sufficient that the high market share is considered as one factor, albeit an important one, alongside numerous other matters that need to be taken into account, particularly in regard to the ability of rivals to respond to actions by the incumbent undertaking. We are satisfied that there were no material errors in the way that Ofcom conducted its assessment in this case.

(3) Ofcom's economic assessment and its overall approach

284. Against the background of those important legal issues, the case devolves essentially into a question of whether, having regard to the Framework Directive, Ofcom made any material error in its economic assessment.

285. We have considered in some detail the basis on which Ofcom conducted its assessment and the materials and evidence that it relied on. These included

results drawn from the NRA model, which it had used also to define the relevant geographic markets, supplemented by other information about the presence of rival network infrastructure, its proximity to customers' sites and buildings, its estimation of the costs and feasibility of connecting proximate infrastructure, and the commercial strategies and investment plans of the rival network operators as gleaned from Ofcom's consultation and the responses to it.

(4) Ofcom's use of the NRA model

286. The Appellants claimed that Ofcom had placed undue reliance on the NRA model instead of examining actual market conditions. We do not agree. There was considerable dispute as to the reliability (in the sense of the errors and imperfections it contained) and the informative nature (i.e. what it could tell Ofcom) of the NRA model. We found that, whilst Ofcom used the NRA model to show the presence of rivals' infrastructure, it also looked at additional factors to show the existence of effective competition and did not shut its eyes to the reality of the actual difficulties of network extensions and connections.

287. Ofcom used the model results as a starting point and had then examined the other relevant factors. It acknowledged that companies such as Vodafone might not engage in digging even short distances to connect its infrastructure with the customer's facility, and that others, such as TalkTalk had a different leased lines strategy altogether. However, Ofcom had evidence from other CPs that suggested a contrary view.

(5) The postcode data analysis

288. The Appellants suggested that the use of postcode sector data analysis offered a better way of assessing actual rival infrastructure presence. However, we did not consider that this offered any greater insight in this respect than the NRA model, and also contained imperfections. It was better to treat the two approaches as complementary; in either case a further assessment of the degree

of effective competition was needed, involving an all-round analysis that did not only focus on the presence of infrastructure.

(6) Network extensions and digging costs

289. The Appellants also claimed that Ofcom had wrongly assessed the cost of building network extensions, applying a standardized modelled cost that did not reflect reality, as shown by Vodafone's evidence in particular. The Appellants also said that as this was a key input into the NRA model, this further undermined the model's effectiveness. Our examination of this issue led to a different conclusion and we found that Ofcom's approach was a reasonable one, with which we did not disagree.

(7) Ofcom's reliance on the unrestricted PIA remedy

290. One of the other factors relied on by Ofcom in considering potential competition was the extension of the PIA remedy, under which a CP could, subject to giving notice and complying with certain procedures, gain access to BT's ducts in the CLA. Whilst we heard a lot of argument about the unattractiveness of this route to the Appellants, it was clear that other providers were already making some use of this option, and that it would be likely to have some effect on competitive conditions in the Relevant Period. We take BT's claims of the already considerable effect with a degree of caution, but this does not greatly matter, as the issue for us is whether there were likely to be any noticeable effects during the review period.

291. The reliance placed by Ofcom on unrestricted PIA effects in the Decision was in fact very modest. It was at best a contributory factor providing useful underpinning to its overall conclusion. The evidence we heard as to actual interest and take up since the remedy was introduced served to confirm this view. We think Ofcom's assessment of the level of importance of this factor was correct.

(8) Considering competition "on the ground"

292. The Appellants made a general criticism of what they allege was the abstract, desk-based nature of Ofcom's assessment. It should, so they said, have examined the actual way in which contracts were sought and won, and how the process of competition worked on the ground. As we have said, we do not consider that Ofcom relied on a desk-based analysis but examined competitive conditions from a number of different perspectives.

(9) Homogeneity of competitive conditions across the CLA

293. We considered carefully whether Ofcom was right to conclude that conditions of competition were sufficiently homogeneous across the CLA to enable a correct assessment of SMP to be made. It was, as we noted, common ground that the market conditions were not completely uniform across the defined geographic market, so the question was what degree of approximation in approach was acceptable.

294. Uniform conditions of competition are inherently unlikely in a geographic market of this kind and were certainly not present in this case. What matters is what degree of homogeneity is sufficient to allow an appropriate competition analysis to be carried out.

295. We found, on the evidence, that the fact that, in the CLA, the great majority of business customers enjoyed a substantial degree of proximity of infrastructure provided by rivals to Openreach and that the business strategies of many, although not all, of CPs envisaged increasing their relevant infrastructure during the Review Period, combined with the pattern of demand and the possible impact of unrestricted PIA, were sufficient for us to conclude that Openreach was subject to effective competitive pressure. This conclusion was fortified by our finding that BT appeared to apply a uniform price structure across the CLA, subject only to some selective discounting for certain products, which itself appeared to be a response to competitive pressure.

296. In this case, Ofcom considered a large number of factors in the round before concluding that, although Openreach still enjoyed a substantial share of wholesale market volumes, in the CLA there was sufficient competitive pressure from rivals entering or expanding their operations, and sufficient demand, to justify a finding that, as in 2016, BT did not have SMP. In our view, Ofcom, relying on its experience and judgment, was fully entitled to apply some degree of approximation to the assessment of whether competitive conditions in the CLA were sufficiently homogeneous in coming to its overall conclusion.

(10) The issue of BT's prices

297. This element of judgment is also apparent in the other main group of relevant factors, namely BT's pricing behaviour. The Appellants strongly criticised Ofcom for not establishing what was a competitive price level and for not ascertaining, either by examining price behaviour or profit levels, whether BTs prices were above this level. We find this criticism to be unfounded. Quite apart from the practical difficulty of constructing such a competitive price, and the strong theoretical objections to it also, Ofcom had noted BT's overall national price reductions and had evidence (some of it produced by BT after the Decision) of additional, localised price reductions in the CLA.

298. The Appellants said Ofcom was not allowed to place any greater weight on the evidence on pricing than it had done in the Decision. But Ofcom did not seek to place any additional weight on this aspect and was content to rest on the Decision. We do not find any fault with this approach.

(11) The regulatory context and Ofcom's objectives

299. We have mentioned in a number of places that the Decision must be considered in its regulatory context. That includes the close regulatory framework in which the Decision was taken, and in particular the need for a forward-looking approach to the assessment of SMP.

300. Another aspect of that context is the overall policy of Ofcom on the regulation of business leased lines, which is described in the decision itself and also in the evidence of Ms Kalmus. We note in particular Ofcom's published intention (see the Access Review Announcement at paragraph 31 above) to establish from April 2021 a unified approach to leased line regulation for domestic and business use and a desire to move from access-based competition to network-based competition. This means that instead of concentrating on ensuring that Openreach's infrastructure is available at regulated prices to CPs, Ofcom encourages providers to invest in their own infrastructure, including where practical, making use of BT's poles and ducts.

301. Apart from emphasising that it had to take a forward-looking view of what is appropriate during the review period, Ofcom did not base its defence on any of these wider considerations and we do not ourselves rely on them in coming to our own conclusion. We do, however, note that substantial investment in infrastructure does not appear to form any significant part of the strategy in relation to leased lines for business customers of either Appellant. It is not the regulator's task to either to help or to hinder the business strategy of any particular provider and it has to take an overall and objective view of market conditions and likely developments, which we think Ofcom has done in this case.

J. CONCLUSION

302. For all these reasons, we unanimously conclude that the Decision does not contain any material error that would justify its being quashed and that the Appellants' claim fails. Ofcom's Decision is accordingly upheld.

303. It will now be necessary to refer to the CMA the appeals relating to price control matters and we invite submissions on the formulation of the questions to be referred, if these cannot be agreed.

304. We wish to thank the parties' legal representatives for their assistance in these proceedings. We also wish to thank those who contributed to the technical briefing in advance of the hearing.

Peter Freeman CBE QC (Hon) Professor John Cubbin Professor Anthony Neuberger
Chairman

Charles Dhanowa O.B.E., Q.C. (*Hon*) Date: 5 March 2020
Registrar

APPENDIX: TECHNICAL BACKGROUND

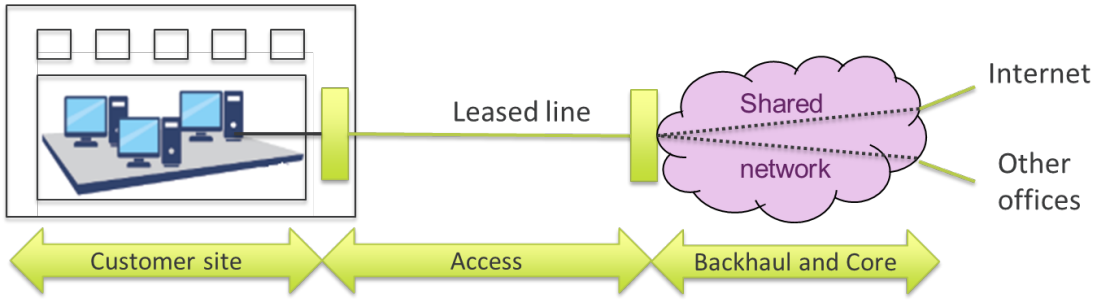
1. The Tribunal was assisted by the parties' preparation of an agreed 'technical primer' which explained how leased lines are built and how they are used. An oral 'teach-in' session also took place which gave us a valuable opportunity to familiarise ourselves with the underlying technology in a non-adversarial setting in advance of the substantive hearing.

(1) What is a leased line?

2. A leased line is a high-quality point-to-point connection that is used to transfer data between two fixed locations. They are used by businesses and telecoms operators.

3. An illustration of this is shown in Figure 1 below, showing how a business site might be connected to a shared network using a leased line to gain access to, for example, the internet and other offices.[16]

Figure 1: illustration of how a leased line is used



4. When the leased line connects to an end user site it is known as an access circuit. Conversely, circuits between network sites are known as backhaul, inter-

[16] "Shared network" in this context means a network that is shared between end users and/or between wholesale customers and/or between services (e.g. broadband, leased lines, mobile).

exchange or core circuits.[17] The present appeal concerns CI Access circuits.[18] The end-user sites that are connected using CI Access circuits include both:

(a) end-customer sites used by businesses of various kinds who wish to transmit and receive data; and

(b) mobile network operators' base stations (i.e. masts), in which case the access circuit is used to carry data from the base station to the mobile network operator's core network infrastructures.

5. Access leased lines differ from broadband connections in that they are: (i) dedicated fibre to the end user site; (ii) high capacity (relative to other connectivity services such as "broadband" for residential consumer use); (iii) uncontended (the capacity is guaranteed and not subject to reduction by the presence of other telecoms services or end-users, unlike broadband); (iv) symmetric (data can be sent and received across the connection at the same speed); (v) higher quality (e.g., higher speeds, greater reliability); and (vi) more expensive.

6. Advances in full fibre broadband technology mean that the differences in capabilities of broadband and leased lines connections are reducing for lower speed circuits. For example, the majority of leased lines services are currently at 100Mbit/s. Some network operators already offer broadband services capable of symmetrical bandwidths guaranteed at 100Mbit/s.

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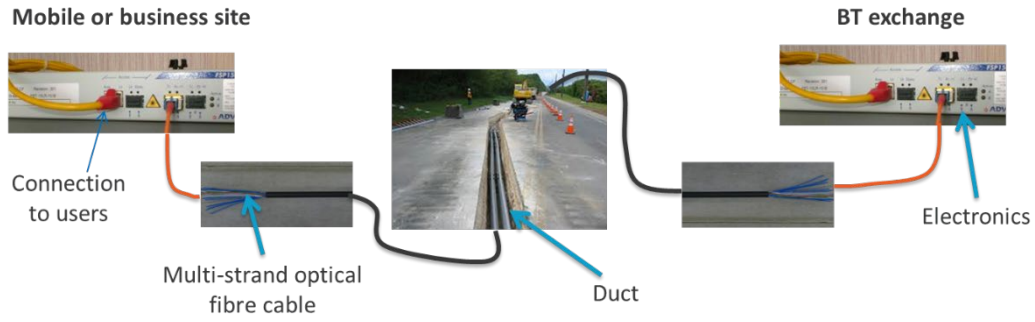
[17] The term backhaul is referred to in telecoms as meaning the transmission of aggregated data to a main or central network site. For fixed networks, backhaul occurs from one network site to another e.g. from BT exchanges to an operator's core network. In mobile networks, backhaul refers to the transmission of end users' mobile data from a mobile base station to an operator's core network. The connection to an individual base station is part of the CI Access market, whereas connections between network sites which aggregate together the data from multiple base stations were considered as part of Ofcom's inter-exchange market.

[18] CI is used by Ofcom to distinguish fibre leased lines from earlier leased lines such as TI. TI leased lines were deregulated in the BCMR 2019 and are not the subject of this Appeal.

(2) The physical elements of a leased line

7. At its simplest level, a leased line is most commonly a strand or multi-stranded cable of optical fibre(s) (which is a glass wire) inside a duct (plastic pipe), directly buried in the ground. Electronics are connected at either end as shown in Figure 2. Light carries data along the optical fibre.

Figure 2: Physical elements of a leased line



8. Figure 2 shows a simple illustration of a CI Access leased line, such as Openreach's Ethernet Access Direct ("**EAD**") product. The Openreach electronic equipment at either end of the circuit contain optical lasers which provide the signal which transmits data over the optical fibre as well as other electronic technology (such as technology which uses the Ethernet standard).

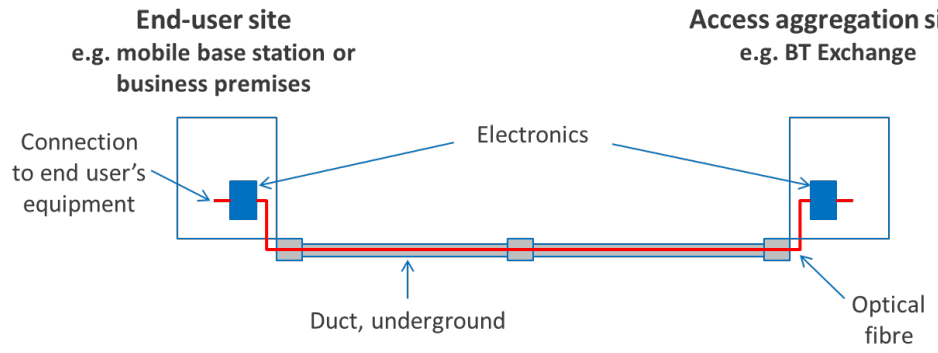
9. One end of the circuit will be in an end user site, e.g. a business premises or mobile base station, and the other end at a network operator's building (such as a BT exchange) or another user site (e.g. where a business is using a leased line to transmit data between its offices at different locations).

10. The location of the leased line equipment at an end user premises may require agreement with the landlord to gain site access and, where appropriate, access to any internal cabling or permission to install internal cabling (this is commonly known as a 'wayleave').[19]

[19] Internal cabling can also be referred to as in building wiring.

11. A simple diagram showing the key elements is shown below in Figure 3.

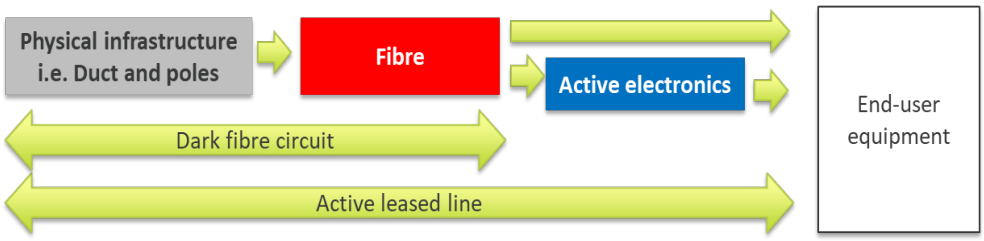
Figure 3: Diagram of an access leased line showing the main components[20] (in this example, the end-user site is linked to a network operator's access aggregation site)



(3) Creating a leased line connection

12. The relationship between the building blocks used to provide a dark fibre circuit and an active leased line is shown in Figure 4 below.

Figure 4: Main building blocks of a leased line



(a) Dark fibre

13. Dark fibre is a term used to describe a fibre optic cable that has not been connected to any electronic equipment. It is called 'dark fibre' and a 'passive'

[20] In addition to the main components shown, a separate connection may be provided to monitor the equipment at the end-users site to, for example, raise an alarm if a fault occurs. This is known as 'out of band (OOB) management'.

product as the electronic equipment which 'lights' the fibre and makes the circuit active is not part of the product. Dark fibre is used to connect electronic equipment placed at either end of the dark fibre circuit as illustrated in Figure 2 and Figure 3. For Figure 2, it comprises the middle three pictures only and connecting fibre cables, not the electronics at either end.

14. Dark fibre access providers install and sell fibre to connect between two sites. The customer then creates an active leased line by adding the active electronics at either end, using technology such as Ethernet or WDM (described below) to provide a point-to-point connection.

(b) Active leased lines

15. Active leased lines are sold with electronic equipment which determines the capacity and transmission technology of the circuit. The two main technologies used for CI Access circuits are Ethernet and WDM technology.[21]

Ethernet Access Direct

16. Ethernet is a common technology which allows data to be transmitted across a network, and is a term used as shorthand to cover a set of international Ethernet standards. These standards cover many things, including: how the data is structured, the transmission medium used (copper, fibre, wireless), and the bandwidth speeds (typically 100 Mbit/s, 1 Gbit/s, or 10 Gbit/s).[22]

17. Leased lines often use Ethernet as the underlying transmission technology, due to its widespread use and equipment availability, typically delivered over a

[21] For simplicity, less common types of access connections (such as copper based 'EFM') and legacy leased line technologies (e.g. 'TI' services) have not been included here as these typically run at lower speeds than more modern fibre based technologies. Broadband connections have also not been covered as these typically share capacity with multiple end-users. Neither of these were included in the CI Access market.

[22] Ethernet as a technology is described by a set of standards (e.g. 802.3) organised by the Institute of Electrical and Electronics Engineers (IEEE). More information can be found at the IEEE website http://standards.ieee.org/index.html.

single fibre, typically able to reach 70km or more (route distance), and at speeds of 100Mbit/s to 10Gbit/s.

18. Openreach's main Ethernet-based product set for point-to-point connections is known as EAD which supports Ethernet connections from 10 Mbit/s to 10 Gbit/s, with 100 Mbit/s and 1 Gbit/s accounting for the vast majority of Access circuits.

Wavelength Division multiplexing leased lines

19. Wavelength Division multiplexing ("**WDM**") is a technology that uses different wavelengths (colours) of light to create separate virtual circuits over the same fibre, or pairs of fibre. The combination of these virtual circuits means that WDM circuits can offer multiple 10 or 100 Gbit/s and beyond, compared to Openreach's EAD product set, which has an upper limit of 10 Gbit/s per circuit.

20. Once the first circuit is installed, additional circuits can be added quickly without the need to add more fibres by simply adding or lighting an extra wavelength (colour). The high bandwidths and scalability of WDM leased lines make them particularly suited for high capacity routes.

21. Openreach offers two main product families based on WDM: (i) Optical Spectrum Access ("**OSA**") is an Openreach managed solution using ADVA equipment. It provides a minimum 10Gb lit service, with the option to grow capacity (as described above) which can be undertaken by Openreach or the customer. Openreach provides end-to-end monitoring of the service; and (ii) Optical Spectrum Extended Access ("**OSEA**"), which is similar to the above, but uses equipment which is capable of travelling longer distances and generally has higher bandwidth electronic options.

22. Both OSA and OSEA are offered as managed services or on a "Filter Connect" basis which allows customers to supply their own electronics to light additional

wavelengths as their capacity requirement grows with no input required from and no costs payable to Openreach.

(4) Connecting new users

23. New end users require a physical connection to their premises. If a network operator wishes to provide a leased line and does not have an existing connection to the building at or within which the end-customer site is located, it will need to either:

(a) If it has an existing duct connection to the building, deploy a cable or fibre to the building;

(b) If it does not have a duct connection to the building:

i. Extend its own network to provide a new duct connection to the building;

ii. Deploy its own cables in another network operator's duct;

iii. Purchase a passive or active wholesale access product such as dark fibre if it is available or EAD to serve the new customer.

24. In addition, depending on the location in the building where the end customer requires service to be provided, internal wiring may be required, which may in turn need additional permissions from the landlord.

(a) Constructing new duct

25. Generally, the most expensive element of extending a network is constructing the physical connection to the end customer site. Generally, only ducts are used in the provision of leased lines in the UK, with both ducts and telegraph poles used for the provision of other services for residential customers such as broadband.

26. In the case of duct, this requires a trench to be built and a duct to be laid. A fibre cable can then be pulled through the duct using a rope or, if only a few strands, blown down it with compressed air. In the UK, operators have the choice of either building this themselves (using contractors) or more recently, buying access to BT's duct under the PIA product, where such infrastructure exists.

(b) Using Physical Infrastructure Access (PIA)

27. To reduce the need to dig trenches to install long sections of duct, rival networks could instead seek to deploy their own cables in existing infrastructure. Rival networks could either (i) come to a commercial arrangement with another operator to deploy their own fibre cables in existing infrastructure; (ii) deploy their own fibre cables in existing infrastructure under the Communications (Access to Infrastructure) Regulations 2016[23]; or (iii) deploy their own fibre cables in BT's ducts using Openreach's PIA product. In practice none of these are used to any material degree today.

28. The objective of the PIA remedy is to reduce the need for rival networks, in cases where BT duct runs over the correct route already, to dig long sections of duct, and instead deploy their own cables in BT's existing duct where that duct has sufficient capacity.

(c) Wayleaves

29. For access connections to an end-user site, network operators may also have to reach agreements with landowners in order to cross their land or with landlords (e.g. of the building in which the end-customer site is located) to gain entry to

[23] These regulations establish a right for network providers to request access to infrastructure operators' physical infrastructure with a view to deploying elements of high-speed electronic communications networks within that infrastructure. That right covers infrastructure used by telecoms providers but the right also extends to infrastructure used for the production, transport, transmission or distribution of gas, electricity, heating, water or transport.

and to site equipment on their property. This type of access is commonly known as a wayleave.

30. Wayleaves are unlikely to permit installation of additional equipment where an existing agreement is in place and may need to be negotiated each time an operator wishes to install new equipment at a site.

31. Negotiating wayleaves can be an additional cost and potential delay on top of building and maintaining the physical infrastructure (e.g. duct, fibre) and installing the electronics at the end-user site and the operator's network site.

32. Wayleaves may be required by a network operator, not only where it is constructing its own duct, but also where it is using BT's duct pursuant to the PIA remedy. Changes made to wayleaves under the DEA 2017 now permit a network operator to share a permission with another operator (subject to certain conditions) in cases where the wayleave was granted by a landowner after December 2017.

33. This shared access was not possible without prior arrangement with the relevant landowner before the DEA 2017 and does not apply retrospectively. Therefore, for the majority of properties where agreements are already in place, the new act does not apply.

(5) Selling leased lines to retail customers

34. Customers have a number of different supplier options when choosing to buy leased line services. These can be grouped into the following categories: network operators, network aggregators, value added resellers, and system integrators.

(a) Network operators

35. Network operators use their own networks to provide end-to-end network connectivity services to customers. BT, Vodafone, and Virgin Media provide these services using their own national networks which include access, backhaul and core connections. Other operators, such as Colt and CityFibre, have significant access networks in some areas (for example Colt in London), but do not necessarily have national backhaul and core infrastructure.

36. BT provides wholesale access to itself and to other telecoms providers via its subsidiary Openreach Limited. This access is provided on the same terms and conditions to all customers (i.e. both "downstream" divisions of BT and third parties). BT's downstream divisions, when they provide end-to-end services to customers over BT's network which is subject to SMP regulation from Ofcom, must purchase wholesale inputs from Openreach. Openreach does not provide end-to-end retail services to customers, whereas other network operators such as Virgin Media and Colt do.

37. In some cases, network operators choose to buy access circuits from BT or other network operators. This may be, for example, where they don't have coverage (their network is not near to an end-user site), or it is more cost effective to buy than extending their own network by building (build vs. buy), or where financial constraints (such as capital scarcity) apply.

38. Some fixed broadband operators providing leased lines, such as Sky and TalkTalk, have core infrastructure, but no significant access or backhaul network, instead purchasing wholesale access mainly from BT (through its Openreach division).

(b) Value-added resellers, network aggregators, and systems integrators

39. **Value-added resellers** buy services from network operators to offer their customers an end-to-end to network connectivity solution. This makes it simple

for an end user to buy end-to-end connectivity by removing complexity and tailor the service to an individual customer's needs, and can allow the network operator to reach more customers compared with selling directly using a less bespoke solution.

40. **Network aggregators**, like value added resellers, buy services from network operators and sell them to customers. Unlike value-added resellers, they tend to buy network services from multiple operators to provide a national service; buying circuits which give the best value for money to the end customer.

41. **Systems integrators** purchase network connectivity services from network operators or aggregators and resell them to end customers. The connectivity is often bundled with other computing services such as data storage (e.g. 'cloud' storage) and applications (e.g. email, file management, security, internet connectivity). The 'bespoke' services are tailored to the customer's needs and may range from just connectivity through to complete managed IT solutions and can be managed on behalf of the customer. These systems integrators range from inhouse IT departments (such as in multinational companies), smaller regional providers through to larger international companies.

42. A characteristic of the telecoms industry is that the end-user may not know which network operator is supplying the underlying leased line, as even a network operator such as Virgin may use a mixture of its own and third-party access circuits.