making communications work
for everyone

Wholesale Broadband Access Market Review 2018

✂ Redacted for publication

DRAFT STATEMENT

Notified to the European Commission 21 June 2018

About this document

Effective competition in broadband services plays a key role in ensuring that consumers benefit from lower prices, greater choice, better quality services and innovation. It has also encouraged high take-up with 80% of households using fixed broadband to access the internet.

This document sets out Ofcom's assessment of competition within the wholesale broadband access markets (excluding the Hull Area). The services in these markets are bought by telecoms providers to supply retail broadband services to residential and business consumers. We have published today a separate document setting out our findings and remedies for broadband in the Hull Area.

This statement covers our analysis of competition within these markets, focusing on determining whether any telecoms provider has a position strong enough to influence market outcomes. We then set out the regulatory instruments that we are introducing to protect competition in those areas where wholesale competition is not effective.

Contents

1. Executive Summary

1.1 Broadband has become an increasingly important service for both business and residential consumers in the UK. We are more reliant than ever on access to the internet for business, banking, shopping, entertainment and socialising. Nearly all UK homes and offices (96%) are now able to access a fixed broadband service of at least 10 Mbit/s and 91% can access superfast broadband services (i.e. services offering download speeds of at least 30 Mbit/s).[1]

1.2 Use of broadband has also grown significantly as consumers access the internet on a growing number of devices for a diverse range of activities, such as watching online content, gaming and video calling. In addition, small and medium sized businesses (including the smaller offices of larger organisations) are increasingly moving to cloud-based services, which depend on fast, reliable and consistent connections.[2]

1.3 Effective retail competition has been an important enabler of these changes. Competition keeps prices low, ensuring broadband and data are affordable, and propels technological innovation. For example, despite the significant growth in usage and the increasing take-up of superfast broadband services offering higher average speeds, the price of broadband has only risen slightly in real terms.

1.4 While this progress is encouraging, there is more to do to ensure that the country is ready to take advantage of further technological developments. We consider greater investment is needed to build more reliable full-fibre networks that can deliver speeds not possible over the legacy copper network. In our Strategic Review of Digital Communications (the Strategic Review) we recognised that competition among different networks is the most effective way to achieve continued investment in high-quality full-fibre networks.[3]

1.5 In our recently published Wholesale Local Access Market Review Statement[4] (the March 2018 WLA Statement) we put in place measures for regulating wholesale services over BT's Openreach network in order to promote competition in retail fixed line services.[5] This included making it easier and cheaper for competitors to use BT's underground ducts and over-ground telegraph poles to build their own fibre networks and giving BT continued pricing flexibility for wholesale access connections offering more than 40 Mbit/s. This

---

[1] Ofcom, Connected Nations Report 2017, December 2017, https://www.ofcom.org.uk/__data/assets/pdf_file/0024/108843/summary-report-connected-nations-2017.pdf, section 2.

[2] Ofcom, Connected Nations Report 2017, December 2017, https://www.ofcom.org.uk/__data/assets/pdf_file/0024/108843/summary-report-connected-nations-2017.pdf, section 2, Ofcom, Connected Nations Report 2016, December 2016, https://www.ofcom.org.uk/__data/assets/pdf_file/0035/95876/CN-Report-2016.pdf, page 1, and Ofcom, Connected Nations Report 2015, December 2015, https://www.ofcom.org.uk/__data/assets/pdf_file/0028/69634/connected_nations2015.pdf, page 1.

[3] Ofcom, 2016. *Making communications work for everyone – Initial conclusions from the Strategic Review of Digital Communications*, paragraphs 3.40-3.45. https://www.ofcom.org.uk/__data/assets/pdf_file/0016/50416/dcr-statement.pdf

[4] https://www.ofcom.org.uk/consultations-and-statements/category-1/wholesale-local-access-market-review.

[5] Openreach is a separate legal entity with its own Board of Directors and a duty to treat its customers equally. It is a wholly owned subsidiary of BT and provides wholesale services over BT's copper and fibre access networks.

approach is designed to incentivise investment in fibre networks (both by BT and competing telecoms providers) while protecting customers through a charge control on the 40Mbit/s Openreach fibre service and also maintaining regulation of its copper network.

1.6 In addition, we have taken a number of other steps to drive network investment and promote competition in line with our objectives set out in the Strategic Review including:

- Improving quality of services – we have worked with telecoms providers to put an automatic compensation framework in place for retail customers and imposed tougher minimum standards on Openreach;
- Reforming Openreach into a legally separate company to provide greater openness to different models of investment and risk-sharing, as well as incentives to be responsive to all customers;
- Working with the Government to implement the Broadband Universal Service Obligation – to make decent affordable broadband a universal right for every home and small business in the UK;
- Publishing an annual report which compares telecoms providers' performance across different quality of service metrics to help consumers make more informed choices;[6] and
- Deregulating and simplifying regulation where consumers remain protected – including where there is a real prospect of competition.

1.7 The only region of the UK that is not served by BT is the Hull Area. In the Hull Area KCOM owns and operates the largest telecoms network. The remainder of this document is concerned with the UK excluding the Hull Area. We have published today a separate draft statement setting out our findings and remedies for broadband in the Hull Area.[7]

Wholesale regulation supports retail competition

1.8 BT has the largest fixed telecoms network in the UK, covering almost all premises. Use of BT's network by other telecoms providers plays a key role in promoting and maintaining effective retail competition in broadband. Most telecoms providers offer retail broadband services to customers using BT's network through the regulation we have imposed in the WLA market. Some providers, such as Sky and TalkTalk, have installed their own equipment in many of BT's exchanges, through a process known as Local Loop Unbundling (LLU) and, more recently, through Virtual Unbundling of the Local Loop (VULA) which allows telecoms providers to offer superfast broadband. This unbundling gives telecoms providers a high degree of control over the services they can offer. Providers who have chosen not to use LLU and/or VULA purchase wholesale broadband services from BT (or other telecoms providers who have unbundled BT exchanges). Virgin Media is the only significant telecoms provider in the UK which does not rely on BT's network, as it owns and operates a cable

[6] Ofcom, Choosing the best broadband, mobile and landline provider. Comparing service quality 2017 https://www.ofcom.org.uk/__data/assets/pdf_file/0023/113639/full-report.pdf
[7] Ofcom, Wholesale Local Access and Wholesale Broadband Access Market Reviews: Review of competition in the Hull Area, Draft statement, 21 June 2018, https://www.ofcom.org.uk/consultations-and-statements/category-1/wholesale-local-broadband-access-market-reviews-hull.

network that it uses to provide broadband, alongside other services such as Pay TV and telephony.

1.9 This document is concerned with the wholesale broadband access (WBA) market, which sits between the WLA market and retail services. Historically BT's WBA products, supported by the regulation we have put in place in previous WBA market reviews, have played an important role in enabling telecoms providers to offer broadband services without having to invest in their own equipment, in some cases with the intention of building a customer base prior to investing (for example by putting equipment in BT's exchanges to facilitate LLU or VULA). However, the use of WBA products by telecoms providers other than BT has fallen steadily over the last decade. The larger telecoms providers have unbundled BT's exchanges in many areas of the UK and invested in their own equipment. These providers now use LLU and/or VULA in the vast majority of the UK to supply retail broadband services.

1.10 We have progressively deregulated WBA in those parts of the UK where the presence of telecoms providers using LLU and/or Virgin Media's cable network has meant that consumers have sufficient choice of broadband providers. In the 2010 WBA market review we only regulated areas accounting for around 22% of UK premises, and in the last review in 2014 we reduced this to less than 10% of UK premises.

1.11 Since the last review there has been limited further rollout of LLU. At the same time, Openreach has continued to upgrade its network to provide fibre connections, with this upgrade now extending to some areas where there is little or no LLU. Through access to these fibre connections, telecoms providers are able to serve more customers per exchange than they can using the existing copper network. The combination of these developments has reduced the number of areas of little or no broadband competition even further to around 1% of the country.

1.12 Retail competition in these areas of the UK (which we refer to as Market A) is limited and we do not expect that putting in place wholesale regulation at the WBA level to promote entry or expansion in this market would be likely to significantly increase retail competition. Some of the main telecoms providers who operate nationally have told us that they have either stopped offering services using WBA products in Market A or are not offering services to new customers. We consider this is likely to be due to the higher cost of serving these customers (such as the cost of separate network systems for such a small number of potential customers), the maximum speed that can be offered to customers (which is typically lower in these areas because many customer premises are further from the local exchange or street cabinet) and the more limited control that telecoms providers have on the end-product compared to when using LLU and VULA.

1.13 The Government has decided to introduce a broadband Universal Service Obligation (USO),[8] which will give eligible homes and businesses the right to a decent broadband connection at an affordable price. This could provide consumers in Market A with access to

[8] Through the Electronic Communications (Universal Service) (Broadband) Order 2018, http://www.legislation.gov.uk/uksi/2018/445/contents/made Accessed on 15 June 2018.

higher quality broadband. However, as the precise form, timing and impact of the implementation is not yet clear, we have not taken it into account in our market analysis or remedies for this market review.

1.14 Despite the fact that regulation of WBA services is unlikely to result in significantly greater retail competition in Market A during the course of this review period, we consider it remains important to protect existing competition in these areas, otherwise consumers would have no choice (or limited choice) of broadband provider.

Conclusions

Market definition and market power assessment

1.15 In summary, we have found that:

- broadband services provided over copper, cable and fibre access networks are within the same market, but broadband services via mobile, wireless and satellite networks are currently outside the relevant market;
- all broadband speeds are in the same market;
- it is appropriate to now take services provided over fibre access networks into account in the geographic market analysis; and
- the size of the geographic areas where consumers have limited choice of broadband provider has reduced significantly to around 1% of UK premises.

1.16 We have analysed the conditions of competition in these markets. Our findings are that:

- BT holds a position of significant market power (SMP) in WBA services provided at a fixed location in Market A; and
- no provider holds a position of SMP in WBA services provided at a fixed location in Market B.[9]

Measures to protect competition in Market A

1.17 Given the reduction in the size of WBA Market A and the fact we do not expect any significant new entry in these areas using WBA services, we have focussed our regulation on the measures needed to protect existing competition. In the particular circumstances of this market we do not consider it appropriate to put a charge control in place on any of the WBA services. Consumers are unlikely to face excessive retail prices in Market A provided BT continues its policy of national retail pricing for its main 'BT' brand services and given the competition it faces in Market B. Furthermore, we do not consider that a control on wholesale prices would result in lower retail broadband prices in Market A areas. This approach is consistent with our strategic aim to deregulate and simplify regulation where possible.

[9] Market B accounts for over 98% and Market A around 1% of UK premises. The remainder of UK premises (just under 1%) are in the Hull Area.

1.18 We have also reconsidered the package of remedies required to address the competition concerns we have identified and meet our objective of protecting existing competition in Market A. We have decided to impose a more flexible no undue discrimination requirement (rather than a strict equivalence of inputs non-discrimination obligation), reduce the minimum notice period for technical changes to existing services to be consistent with BT's contracts in the competitive Market B areas and removed the advance notification requirements for technical information relating to new services. Our remedies are listed in Table 1.1 below.

Table 1.1: Overview of WBA Market A remedies

Regulation on BT in Market A
A requirement to provide network access on reasonable request and on fair and reasonable terms, conditions and charges
A requirement not to unduly discriminate in the supply of services
A requirement to publish a reference offer
A requirement to notify changes to terms, conditions or charges
A requirement to notify changes to technical information
A requirement to publish quality of service information if directed by Ofcom
Obligations in relation to accounting separation and cost accounting

Source: Ofcom

Next steps

1.19 Under Article 7 of the Framework Directive, Ofcom is required, following completion of the domestic consultation process, to notify the European Commission, BEREC and other national regulatory authorities, of our final proposals for our market analysis and remedies. There is a one-month period for these organisations to provide their comments to Ofcom. Subject to any comments we receive, we intend to publish our final statement by the end of July 2018.

2. Introduction

Scope and purpose of this review

2.1 In this review, we assess the state of competition in WBA in the UK (excluding the Hull Area[10]). Where competition is not effective we consider how best to regulate the behaviour of any company we find to have SMP, which is a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers.

2.2 WBA is positioned between retail broadband services, i.e. the services that end consumers buy, and the WLA market, which relates to the physical connections to consumers' premises. We published a statement on our review of the WLA market in March 2018.[11]

2.3 This statement sets out our conclusions on product and geographic market definition, SMP and appropriate remedies. Our conclusions on both the WLA and WBA markets in the Hull Area are set out in a separate statement that we have published today.[12]

Background to this statement

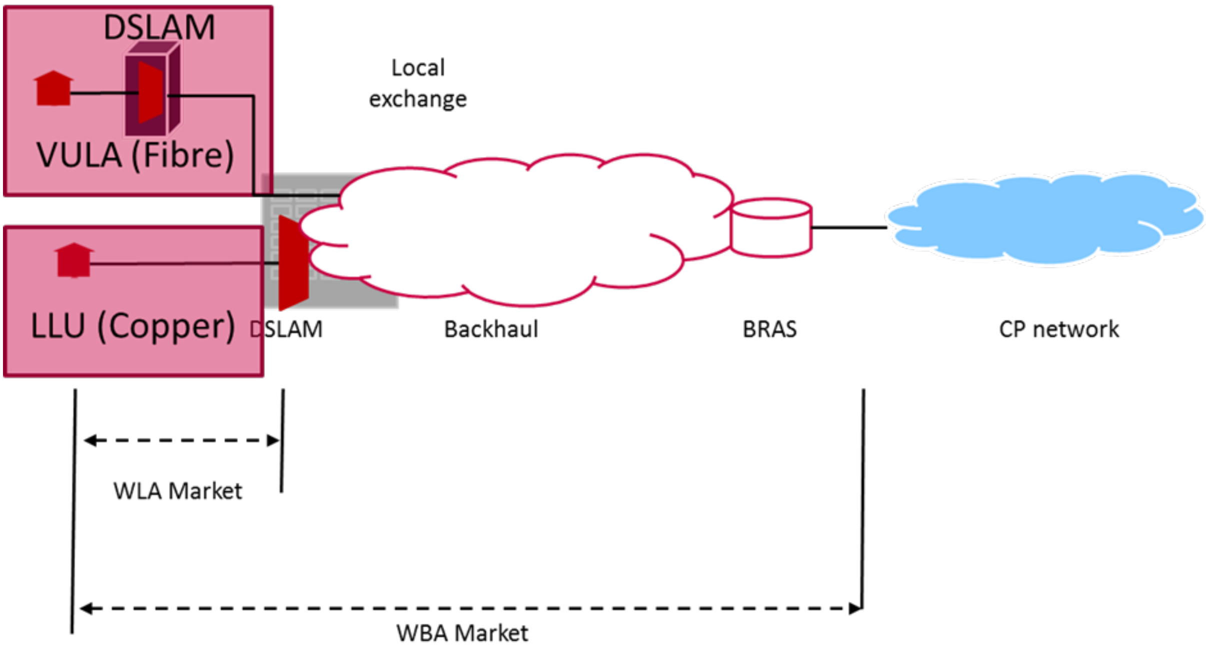
WBA product description

2.4 WBA services can be provided using both copper and fibre access networks. These are shown in Figure 2.1 below.

---

[10] The 'Hull Area' refers to the area where KCOM operates as the incumbent and consists of the Kingston upon Hull City Council area and some parts of the East Riding of Yorkshire Council area.
[11] Ofcom, March 2018 WLA Statement, https://www.ofcom.org.uk/consultations-and-statements/category-1/wholesale-local-access-market-review.
[12] Ofcom, Wholesale Local Broadband Access Market Reviews Hull, https://www.ofcom.org.uk/consultations-and-statements/category-1/wholesale-local-broadband-access-market-reviews-hull

Figure 2.1: WLA and WBA services using current generation copper access and next generation networks



Source: Ofcom

2.5 WBA products are built using a number of elements. Products provided over a copper access connection comprise:

- the access network considered in the WLA market review. Specifically, LLU, which enables providers to deliver standard broadband over BT's copper network through either Metallic Path Facility (MPF) or Shared Metallic Path Facility (SMPF);
- the broadband equipment at the local exchange (the Digital Subscriber Loop Access Multiplexor (DSLAM);
- backhaul connectivity across the WBA provider's network; and
- the functionality of the Broadband Remote Access Server (B-RAS) which provides management of the consumer's internet sessions.

2.6 There are two main types of WBA services provided using a copper access connection depending on the capabilities of the DSLAM located at the exchange. The DSLAM may support ADSL, which offers a maximum headline speed of 8 Mbit/s downstream, or ADSL2+ technology, which offers headline speeds of up to 24 Mbit/s. BT's IPstream product is provided using ADSL whilst its Wholesale Broadband Connect (WBC) product uses ADSL2+ technology. IPstream is generally now only offered where BT has not deployed WBC and is being withdrawn from exchanges where WBC is provided. BT has informed us that it is planning to deploy WBC to replace IPstream services in the remainder of its exchanges during the period covered by this review.

2.7 WBA products can also be provided over fibre to the cabinet (FTTC) and fibre to the premises (FTTP) deployed by BT:

- FTTC means that the DSLAM is located in the street cabinet (which is closer to the customer than the local exchange). The cabinet is then connected to the network using fibre while the copper network remains in place between the customer's premises and the cabinet. The DSLAM in the cabinet uses very high bit rate DSL (VDSL2) technology.
- G.Fast is a technology which uses FTTC and copper for the final connection to the customer (similar to VDSL2 over FTTC as above) which is able to provide higher bandwidth services.[13]
- FTTP replaces the access connection between the customer's premises and the network completely with fibre.[14]

2.8 WBA products provided over FTTC or FTTP comprise the following elements:

- the access network considered in the WLA market review. In this case, VULA, which provides access to BT's fibre network through a virtual connection is used. VULA allows telecoms providers to take ownership of the fibre connection and to integrate it into their network at the local exchange along with LLU. In the case of an FTTC deployment, the DSLAM is included in the access network (i.e. is a component of VULA). For FTTP deployments, a DSLAM is not required;
- backhaul connectivity across the WBA provider's network; and
- the functionality of the Broadband Remote Access Server (B-RAS) which provides management of the consumer's internet sessions.

2.9 BT's WBC product offers services over FTTC and FTTP connections in addition to services over copper connections. Services provided over FTTC offer headline speeds of up to 80 Mbit/s and services provided with a G.Fast upgrade to the FTTC connection[15] and FTTP offer up to 330 Mbit/s.

2.10 Telecoms providers have greater flexibility in the services they offer to consumers if they either build their own network or use regulated access to WLA services such as LLU and VULA, but this requires significant investment. Purchasing a WBA product allows telecoms providers to offer retail services without the level of investment in infrastructure required to build a network or put equipment in all exchanges as is required to access LLU and VULA services. However, they have less control over service features because:

- more of the service features are controlled by the WBA service provider; and
- they are buying capacity on the WBA provider's network in order to aggregate traffic for handover at a limited number of connection points. Whilst this allows them to purchase more capacity to meet their customer needs, they are reliant on the WBA provider's network to a greater extent than if they purchase LLU or VULA.

---

[13] Unlike FTTP, G.fast technology can offer only asymmetric download and upload speeds.

[14] FTTP is an access network structure in which the optical fibre network runs from the local exchange to the customer's house or business premises. The optical fibre may be point-to-point – there is one dedicated fibre connection for each home – or may use a shared infrastructure such as a gigabit passive optical network (GPON).

[15] BT has offered two speed variants in its G.fast pilot: the first up to 160 Mbit/s download and 30 Mbit/s upload, and the second offers up to 330 Mbit/s download and 60 Mbit/s upload. These higher speeds may only be available to customers within 300-400m of the cabinet.

2.11 Therefore, product differentiation among telecoms providers who use WBA services is focussed more on retail level features.

The findings of the last WBA market review

2.12 In June 2014, we published our findings from the last WBA market review (in our 2014 WBA Statement).[16] In that review we concluded that the relevant product market included broadband services provided to business and residential customers via copper, cable and fibre access networks at all speeds, including SFBB services.

2.13 We considered the extent to which different competitive conditions existed in different geographic locations. We concluded that the key determining factor in this assessment was the number of Principal Operators (POs) – that is, operators which we considered were large enough to impose a material competitive constraint on the other operators, across the UK. We did not define POs via rigid thresholds but designated as POs those telecoms providers which were relatively large, with a substantial presence across the UK, on the basis of network coverage. We considered five operators to be POs: BT, Sky, TalkTalk, Virgin Media and Vodafone.

2.14 We found that the country should be separated into three distinct geographic markets: (i) areas where there were only one or two POs providing WBA services (Market A); (ii) areas where there were two or more POs in addition to BT providing WBA services to themselves or other telecoms providers (Market B); and (iii) the Hull Area.

2.15 Table 2.2 summarises the geographic markets (excluding the Hull Area) identified, the relevant SMP findings and the remedies imposed on BT in the 2014 WBA Statement.[17]

[16] Ofcom, Review of the wholesale broadband access markets: Statement on market definition, market power determinations and remedies, 26 June 2014, https://www.ofcom.org.uk/__data/assets/pdf_file/0021/57810/WBA-Final-statement.pdf.
[17] See the 2014 WBA Statement for further details.

Table 2.2: Summary of markets identified and remedies imposed in the 2014 WBA Statement

Market	Operator with SMP	Remedy
Market A	BT	A requirement to provide network access on reasonable request and on fair and reasonable terms, conditions and charges A requirement to provide network access on an Equivalence of Inputs (EOI) basis (supported by a requirement not to unduly discriminate in respect of services not provided on an EOI basis) A requirement to publish a reference offer A requirement to notify changes to charges, terms or conditions A requirement to publish quality of service information if directed by Ofcom A requirement to notify technical information Obligations in relation to accounting separation and cost accounting A charge control[18]
Market B	No operator holds a position of SMP	No remedies

Source: Ofcom

Developments since the 2014 WBA Market Review

2.16 There have been numerous market developments since the 2014 WBA market review, especially in terms of changes to the fixed telecoms infrastructure available. We take these changes into account throughout our market analysis. Below we set out some of the most significant changes.

Investment in fixed broadband networks

2.17 There has been increased roll-out of infrastructure that supports superfast broadband (SFBB) offerings to consumers. We define what we consider to be SFBB below.

2.18 The largest provider of broadband services is BT with close to 100% coverage of the UK for its copper network and over 91% for its fibre network.[19] The significant majority of the fibre network is currently provided by FTTC technology but BT has recently announced the

[18] The charge control imposed in Market A applied to IPstream Connect only. See Section 7 of the 2014 WBA Statement.
[19] Ofcom, Connected Nations Report 2017.

launch of its 'Fibre First' programme, under which it aims to extend its FTTP network to reach three million homes by the end of 2020 and 10 million homes by the mid-2020s.[20]

2.19 Virgin Media uses its own cable network to serve its customers, which covers around half of the UK. It recently upgraded its network and offers speeds of up to 300 Mbit/s. Virgin Media plans to extend its coverage to up to 17 million premises through its Project Lightning network expansion that includes investment of around £3 billion. This would increase the coverage of its network to 60-65% of the UK.[21]

2.20 In addition, there have been a number of other recent announcements in relation to investment in full-fibre networks:

- Vodafone and CityFibre have engaged in a strategic partnership that aims to build a fibre network to provide FTTP services to one million homes and businesses by 2021 and that can be expanded to reach up to five million homes by 2025. The network will be built and operated by CityFibre, who will provide wholesale access to Vodafone and other providers.[22]
- Hyperoptic has announced plans to provide FTTP services to two million homes by 2022 and five million by 2025.[23]
- TalkTalk has announced plans to create an independent company with Infracapital that will build a full fibre network to serve more than three million homes and businesses in midsized towns and cities across Britain.[24]
- Other providers (such as Gigaclear) are also deploying FTTP, often in localised areas.

Increases in retail broadband speeds

2.21 Investments in broadband networks have driven increases in the broadband speeds available to consumers. The main Internet Service Providers (ISPs) typically offer services with headline speeds ranging from 17 Mbit/s to 300 Mbit/s.

2.22 In our subsequent analysis, we make a distinction between broadband services with download speeds as follows:

- standard broadband (SBB): download speeds of up to 30 Mbit/s;
- superfast broadband (SFBB): download speeds from 30 Mbit/s up to 300 Mbit/s; and
- ultrafast broadband (UFBB): download speeds of 300 Mbit/s and above.[25]

---

[20] Openreach, "We're launching our 'fibre first programme'", 1 February 2018, https://www.homeandbusiness.openreach.co.uk/news/fibrefirst.

[21] See http://www.virginmedia.com/corporate/media-centre/press-releases/virgin-media-announces-largest-uk-fibre-broadband-rollout.html, 27 April 2016 [accessed 18 June 2018].

[22] CityFibre, Strategic partnership to deliver Fibre-to-the-Premises (FTTP infrastructure to up to 5 million homes and businesses, 9 November 2017, https://www.cityfibre.com/news/vodafone-cityfibre-bring-gigabit-speed-fibre-uk/.

[23] Hyperoptic, "Hyperoptic secures £100 million to accelerate full fibre rollout", 28 July 2017, https://www.hyperoptic.com/press/posts/hyperoptic-secures-100million-to-accelerate-full-fibre-rollout/.

[24] TalkTalk, Trading Update Q3 FY18, https://www.talktalkgroup.com/talktalkgroup/hidden-pages/Trading-Update-Q3-FY18.

[25] There is no standard definition of ultrafast. The UK Government currently defines ultrafast as 100 Mbit/s or greater. We also consider that the reliability with which the speed is delivered is an important attribute and expect the definition of

2.23 Different technologies underpin the differences in headline speeds. FTTP can be used to provide UFBB speeds, FTTC or cable usually deliver SFBB speeds, while copper-loop based access normally delivers SBB speeds.[26]

Government initiatives

2.24 The UK Government has previously expressed a commitment to the UK having the best SFBB network in Europe.[27] In 2015 the Government made £530 million of public funding available with a view to enabling the roll-out of superfast broadband networks to communities which may not have been served by purely commercial developments as part of the Broadband Delivery UK (BDUK) programme. The combination of this scheme and commercial deployments has resulted in the UK Government reaching its target of broadband services of 24 Mbit/s being available to 95% of UK homes by December 2017.[28]

2.25 More recently, the UK Government has decided to introduce a broadband Universal Service Obligation (USO),[29] which will give eligible homes and businesses the right to a decent broadband connection at an affordable price, with download speeds of at least 10 Mbit/s.[30]

2.26 We recently published a document outlining our objectives for implementing the USO, our proposals on how we will designate provider(s) to deliver USO connections and our current thinking on the obligations which they should be subject to. We invited providers that were interested in being designated to notify Ofcom of this interest and provide supporting documentation. This call for expressions of interest closes on 20 August 2018.[31] Once we have considered responses to this document, we intend to consult in September 2018 on procedural regulations setting out how we propose to designate Universal Service Provider(s). We anticipate making designation regulations later this year. We will also be putting forward proposals for who should be designated as a Universal Service Provider(s)

---

ultrafast to evolve to take account of the importance of this reliability. We currently take ultrafast broadband services to be those that offer a minimum download speed of 300 Mbit/s or more (a factor of ten greater than that offered by superfast). These services can be symmetric and also offer higher upload speeds than superfast broadband. Over time we expect ultrafast technologies to evolve towards providing gigabit speeds and above – 1 Gbit/s or more.

[26] Typical technologies used in FTTC and cable networks are VDSL (and evolutions) and Docsis 3.0 respectively, while the typical technology now used over copper only access connections is ADSL2+.

[27] BIS (now BEIS) and DCMS, The UK's superfast broadband future, December 2010, page 2, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/78096/10-1320-britains-superfast-broadband-future.pdf.

[28] Mr Ed Vaizey MP, 9 March 2016, https://hansard.parliament.uk/Commons/2016-03-09/debates/16030960000001/BTServiceStandards. Government press release, Superfast broadband now available to more than 19 out of 20 UK homes and businesses, 29 January 2018, https://www.gov.uk/government/news/superfast-broadband-now-available-to-more-than-19-out-of-20-uk-homes-and-businesses.

[29] Through the Electronic Communications (Universal Service) (Broadband) Order 2018, http://www.legislation.gov.uk/uksi/2018/445/contents/made

[30] Government press release, High speed broadband to become a legal right, 20 December 2017, https://www.gov.uk/government/news/high-speed-broadband-to-become-a-legal-right; A new broadband Universal Service Obligation: Government's response to consultation on design, 28 March 2018, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/695121/USO_consultation_government_response_28_March.pdf.

[31] https://www.ofcom.org.uk/consultations-and-statements/category-2/implementing-broadband-uso

and the Universal Service Conditions to which they should comply later this year. We expect to make our final decisions by summer 2019, after which consumers will be able to make requests for connections.

2.27 The Nations are also implementing programmes to deliver superfast broadband: Reaching 100% in Scotland,[32] Superfast Cymru in Wales[33] and Superfast Northern Ireland.[34]

Mobile services, including the growth of 4G services

2.28 Since the last review, the take-up and use of mobile data services has grown significantly. This growth has been facilitated by increasing take-up of smartphones. The proportion of UK adults that have a smartphone is now 76%, up from 61% when we last conducted a review of WBA in 2014.[35] The growth in the use of mobile data services has also been facilitated by the introduction, rapid growth, and increased speeds, of 4G services. All of these factors have contributed to a significant increase in the use of mobile data with average usage now 1.9GB per month, an increase of 258% since the last review in 2014.[36] However, this is still significantly lower than the 190GB average monthly usage per household over a fixed broadband connection.[37]

Use of regulated WBA products

2.29 Since the last review, the composition of WBA customers in regulated areas (i.e. Market A as defined in the 2014 WBA Statement) has changed. For example, Virgin Media (November 2014) and TalkTalk (February 2015) both sold their off-network residential customer bases (i.e. areas where they served customers by means other than their own networks and/or LLU/VULA) and they have in effect withdrawn from use of BT's WBA products for these customers.[38] Virgin Media sold its off-net customers to TalkTalk which in turn sold its off-net customers to Fleur, a division of Daisy. We also understand from Sky that it no longer offers retail services based on BT's WBA services to new customers.[39] Therefore, there are fewer users of regulated WBA products than was the case in 2014.

---

[32] http://www.gov.scot/Publications/2017/07/4529/343135. Accessed on 15 June 2018.

[33] https://beta.gov.wales/superfast-broadband. Accessed on 15 June 2018.

[34] http://nibroadband.com/. Accessed on 15 June 2018.

[35] Ofcom, CMR 2017, https://www.ofcom.org.uk/__data/assets/pdf_file/0015/105441/uk-telecoms-networks.pdf, page 137, and CMR 2016, https://www.ofcom.org.uk/__data/assets/pdf_file/0024/26826/cmr_uk_2016.pdf, page 7.

[36] Ofcom, Connected Nations 2017, December 2017, https://www.ofcom.org.uk/__data/assets/pdf_file/0024/108843/summary-report-connected-nations-2017.pdf, paragraph 3.18, and Ofcom, Connected Nations 2016, 16 December 2016, https://www.ofcom.org.uk/__data/assets/pdf_file/0035/95876/CN-Report-2016.pdf, page 45.

[37] Ofcom, Connected Nations 2017, December 2017, https://www.ofcom.org.uk/__data/assets/pdf_file/0024/108843/summary-report-connected-nations-2017.pdf, page 8.

[38] TalkTalk, Annual Report 2015, P6 and P77 https://www.talktalkgroup.com/dam/jcr:04037e42-6a6d-4fcf-9bea-8f339240d0ba/Annual%20Report%202015%20Final.pdf. TalkTalk, Annual Report 2016, pages 8 89 and 90 https://www.talktalkgroup.com/dam/jcr:3ae87c83-4e84-4464-a9df-06dd76eb293d/TalkTalk%20Telecom%20Group%20PLC%20Annual%20Report%202016.pdf.

[39] Sky response dated 23 January 2018 to Question 1 of the s.135 notice issued to Sky on 16 January 2018.

2.30 However, all of the main telecoms providers are providing some services to customers in both Market A and Market B using WBA services (as we have now defined these markets). In addition, to this there are a number of smaller telecoms providers offering services in Market A using WBA services, such as Daisy.

Consultations

2.31 We consulted on proposed market definitions, SMP findings and remedies on 22 June 2017 (the 2017 WBA Consultation).[40] We received responses to the consultation from eight respondents:[41]

- BT;
- Intelsat;
- TalkTalk;
- UK Competitive Telecoms Association (UKCTA);
- Verizon;
- Vodafone; and
- Two respondents, [✂] and [✂], wished to remain anonymous.

2.32 Further, we consulted specifically on the regulatory reporting requirements for both WLA and WBA on the 24th November 2017 (2017 Regulatory Financial Reporting Consultation).[42] We received responses to this consultation from six respondents:[43]

- BT;
- Sky;
- TalkTalk;
- UKCTA;
- Vodafone; and
- [✂] who wished to remain anonymous.

2.33 We have carefully considered these responses and discuss how we have taken them into account in our analysis at relevant points throughout this document.

The regulatory framework

2.34 The regulatory framework for electronic communications is based on a suite of EU Directives, which have been implemented into national legislation in the Communications Act 2003 (the Act).[44] It imposes a number of obligations on the relevant national regulatory

[40] Ofcom, Wholesale Broadband Access Market Review, Consultation, 22 June 2017, https://www.ofcom.org.uk/__data/assets/pdf_file/0013/103180/wba-consultation.pdf.
[41] Non-confidential versions of the responses are available on our website at the following link: https://www.ofcom.org.uk/consultations-and-statements/category-1/wholesale-broadband-access-market-review.
[42] Ofcom, Regulatory financial reporting, Consultation, 24 November 2017. https://www.ofcom.org.uk/__data/assets/pdf_file/0022/108166/Regulatory-financial-reporting.pdf.
[43] Non-confidential versions of the responses are available on our website at the following link: https://www.ofcom.org.uk/consultations-and-statements/category-2/regulatory-financial-reporting2.
[44] The harmonised EU regulatory framework for electronic communications was amended in 2009. Those amendments to the Directives were transposed into national legislation and came into effect from 26 May 2011.

authorities (NRAs), such as Ofcom. One of these obligations is to carry out periodic reviews of specified electronic communications markets.

2.35 This market review process is carried out in three stages:

- we identify and define relevant markets;
- we assess whether the markets are effectively competitive, which involves assessing whether any operator has SMP in any of the relevant markets; and
- where we find SMP, we assess the appropriate remedies, based on the nature of the competition problems identified in the relevant markets.

2.36 In carrying out the review we are required to define relevant markets appropriate to national circumstances. In so doing, we are also required to take due account of the European Commission's (EC) Recommendation on relevant product and service markets[45] (the 2014 EC Recommendation) and the updated 2018 EC SMP Guidelines.[46]

2.37 We set out the applicable regulatory framework and the approach to market definition in more detail in Annexes 3 and 4.

Relevant documents

The 2014 EC Recommendation

2.38 The 2014 EC Recommendation sets out those product and service markets which, at a European level, the Commission has identified as being susceptible to *ex ante* regulation. These markets are identified on the basis of the cumulative application of three criteria:

- the presence of high and non-transitory barriers to entry;
- a market structure which does not tend towards effective competition within the relevant time horizon; and
- the insufficiency of competition law alone to adequately address the market failure(s) concerned.

2.39 WBA corresponds to Market 3b in the Commission's Recommendation. We, as the national regulatory authority in the UK, in accordance with competition law and taking due account of the 2014 EC Recommendation, have defined the relevant markets appropriate to our national circumstances in Sections 3 and 4 of this statement. In defining relevant markets, we have also considered the Commission's explanatory note to the 2014 EC Recommendation.[47]

---

[45] *Commission Recommendation of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services* (2014/710/EU) http://eurlex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014H0710&from=EN.

[46] European 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) (EC SMP Guidelines). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52018XC0507%2801%29.

[47] Commission Staff Working Document, *Explanatory Note accompanying the document Commission Recommendation on Relevant Product and Service Markets within the electronic communications sector susceptible to ex ante regulation in*

The EC SMP guidelines

2.40 The EC SMP Guidelines include guidance on market definition, assessment of SMP and SMP designation. In Sections 3, 4 and 5 of this statement, we set out how we have taken the EC SMP Guidelines into account in reaching our conclusions.[48]

The NGA Recommendation and the Costing and Non-discrimination Recommendation

2.41 The NGA Recommendation[49] aims to foster the development of the single market by enhancing legal certainty and promoting investment, competition and innovation in broadband services, and in particular, the transition to next generation access networks. It does so by setting out a common approach for the implementation of remedies with regard to such networks.

2.42 The Costing and Non-discrimination Recommendation[50] concerns the application of non-discrimination, price control and cost accounting obligations. It provides further guidance on the regulatory principles established by the NGA Recommendation, in particular the conditions under which regulation of wholesale access prices should or should not be applied.

2.43 In relation to both of these documents, we must take due account of each recommendation, but in light of particular factors it may be appropriate to depart from them.

BEREC Common Positions

2.44 In December 2012, BEREC adopted a revised Common Position on best practice in remedies on the markets for WBA.[51] In 2014 BEREC also adopted a Common Position on geographical aspects of market definition.[52] BEREC Common Positions are intended to

---

accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, (SWD(2014) 298), https://ec.europa.eu/digital-single-market/en/news/staff-working-document-guidelines-market-analysis-and-assessment-smp-under-eu-regulatory.

[48] We have also where relevant taken into account the European Commission Staff Working Document, *Explanatory Note accompanying the document Guidelines on market analysis and the assessment of significant market power under the EU regulatory framework for electronic communications networks and services*, SWD (2018) 124, https://ec.europa.eu/digital-single-market/en/news/revision-guidelines-significant-market-power-commission-publishes-drafts-revised-guidelines-and

[49] *Commission Recommendation of 20 September 2010 on regulated access to Next Generation Access Networks (NGA) (2010/572/EU).* http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32010H0572&from=EN.

[50] *Commission Recommendation of 11 October 2013 on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment (2013/466/EU).* http://ec.europa.eu/smart-regulation/impact/ia_carried_out/docs/ia_2013/c_2013_5761_en.pdf.

[51] BEREC, Revised BEREC common position on best practice in remedies on the market for wholesale broadband access (including bitstream access) imposed as a consequence of a position of significant market power in the relevant market, December 2012, http://berec.europa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/common_approaches_positions/1126-revised-berec-common-position-on-best-practice-in-remedies-on-themarket-for-wholesale-broadband-access-including-bitstream-access-imposed-as-a-consequence-ofa-position-of-significant-market-power-in-the-relevant-market.

[52] BEREC Common Position on geographical aspects of market analysis (definition and remedies) BoR (14) 73, https://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/4439-berec-common-position-on-geographic-aspe_0.pdf.

assist national regulatory authorities in designing the most effective remedies to address the competition problems identified in their respective national markets, in pursuit of the objectives of the regulatory framework for electronic communications and services. We must take utmost account of these Common Positions, but may depart from them where appropriate in light of particular factors.

Relevant legal tests and statutory duties

2.45 Where we conclude that a market is not effectively competitive, we identify the undertaking(s) with SMP in that market and impose what we consider to be appropriate SMP obligations. When imposing a specific SMP obligation, we need to demonstrate that the obligation in question is based on the nature of the problem identified, proportionate and justified in the light of the policy objectives as set out in Article 8 of the Framework Directive.[53]

2.46 For each SMP condition we are proposing to set in this draft statement, we explain why we consider they satisfy the test set out in section 47 of the Act, namely that the obligation is:

- objectively justifiable in relation to the networks, services or facilities to which it relates;
- not such as to discriminate unduly against particular persons or against a particular description of persons;
- proportionate to what the condition or modification is intended to achieve; and
- transparent in relation to what is intended to be achieved.

2.47 Additional legal requirements also need to be satisfied depending on the SMP obligation in question. For example, under section 88 of the Act, when we impose a charge control, we must consider whether there is a relevant risk of adverse effects arising from price distortion; and the appropriateness of the control for the purposes of promoting efficiency; sustainable competition; and conferring the greatest possible benefits on customers of public electronic communications services.

2.48 We also explain why we consider the performance of our general duties under section 3 of the Act would be secured or furthered by our regulatory intervention. Our principal duty, in this regard, is to further the interests of citizens in relation to communications matters and consumers in relevant markets, where appropriate by promoting competition. We explain why we are acting in accordance with the six Community requirements under section 4 of the Act. This is also relevant to our assessment of the likely impact of implementing our regulation.

2.49 Consistent with our duties under section 4A of the Act and under Article 3(3) of the BEREC Regulation, we have also taken due account of the applicable EC recommendations and utmost account of the applicable opinions, common positions, recommendations,

[53] See Article 8(4) of the Access Directive.

guidelines, advice and regulatory best practices adopted by BEREC relevant to the matters under consideration in this draft statement (which we have identified above).

Forward look

2.50 Market reviews look ahead to how competitive conditions may change in the future. For the purposes of this review, we consider the period up to 2021,[54] reflecting the characteristics of the retail and wholesale markets and the factors likely to influence their competitive development.

2.51 The prospective nature of our assessment over this period means that we are required to gather a range of evidence to assess actual market conditions as well as to produce forecasts that we consider will appropriately reflect developments over time. This is particularly the case in our assessment of market definition and market power. Where appropriate, we have exercised our regulatory judgement to reach decisions on the evidence before us with a view, ultimately, to addressing the competition concerns we identify in order to further the interests of citizens and consumers in these markets.

Impact assessment and equality impact assessment

2.52 The consultation documents summarised above constituted our impact assessment for the purposes of section 7 of the Act.

2.53 Section 7 of the Act generally requires us to carry out impact assessments where our proposals would be likely to have a significant effect on businesses or the general public, or to involve a major change in Ofcom's activities. In addition, as a matter of policy Ofcom is committed to carrying out impact assessments in relation to the great majority of our policy decisions.[55]

2.54 We have set out the Equality Impact Assessment (EIA) that we have conducted for the purpose of this review in Annex 7. Ofcom is required by statute to assess the potential impact of all our functions, policies, projects and practices on race, disability and gender equality. EIAs also assist us in making sure that we are meeting our principal duty of furthering the interests of citizens and consumers regardless of their background or identity.

2.55 It is not apparent to us that the outcome of our review is likely to have any particular impact on any equality group. More generally, we do not envisage the impact of any outcome to be to the detriment of any group of society. Nor do we consider it necessary to carry out separate EIAs in relation to additional equality groups in Northern Ireland.

---

[54] We will carry out and notify the next review in line with our obligations under the EU Framework and the Act.

[55] For further information, see Ofcom, 2005. *Better Policy Making: Ofcom's approach to Impact Assessment.* https://www.ofcom.org.uk/__data/assets/pdf_file/0029/45596/condoc.pdf.

Document structure

- Sections 3 and 4 define the relevant product and geographic markets, respectively;
- Section 5 completes the assessment of market power and builds on the analysis of the relevant market;
- Section 6 sets out our approach to remedies and the remedies that we are imposing;
- Section 7 sets out the financial reporting requirements;
- Annex 1 sets out the legal instruments;
- Annexes 2-8 contain detailed information of our analysis to support our decisions.

3. Product market definition

3.1 In this section, we set out our conclusions on the definition of the product market for WBA. WBA corresponds to Market 3(b) in the 2014 EC Recommendation and sits between the WLA market (Market 3(a)) and retail services.[56] In our assessment of market definition for this review we have taken due account of that recommendation and the EC SMP Guidelines. The reason for carrying out a market definition assessment, including our general approach to doing so, is set out in Annex 4.

3.2 In summary, we define the relevant product market as wholesale broadband access services provided at a fixed location. For these purposes, wholesale broadband access services comprise the provision of asymmetric broadband access and any backhaul as necessary to allow interconnection with other telecoms providers, which provides an always-on capability and allows both voice and data services to be used simultaneously.

Role of and approach to market definition

3.3 In undertaking our assessment of market definition, and subsequently of SMP, we look at a wide range of evidence and past practice, taking account of European and domestic guidance on such matters (most notably the 2014 EC Recommendation, EC Notice on Market Definition, EC SMP Guidelines, BEREC Common Position on geographical aspects of market definition and OFT market definition guidelines).[57]

3.4 The market review procedure requires us to analyse markets to determine whether any provider holds SMP in any given market, and whether any subsequent SMP conditions and remedies should be imposed. Hence, under the regulatory framework for electronic communications, and following established competition law practice, it is first necessary to define the relevant market. This involves consideration of the competitive constraints acting on the products, and in turn, the geographic areas, under investigation. This typically begins with consideration of demand-side and supply-side substitution.

3.5 From an economic perspective, market definition is a means to an end; the end being to identify market power. The identification of market power should not be sensitive to the definition of the product or geographic market, provided all relevant constraints on prices are identified and taken into account at some stage in the market analysis. In particular, supply-side constraints may be taken into account either in the analysis of market power (as potential entry) or, if entry is rapid and low-cost, at the market definition stage as supply-side substitution. What is important is that all relevant constraints are taken into

---

[56] *Commission Recommendation of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (2014/710/EU)*, http://eurlex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014H0710&from=EN.

[57] We have also reflected the relevant aspects of the recent judgment of the Competition Appeal Tribunal (CAT) in the appeal of Ofcom's 2016 Business Connectivity Market Review (2017 BCMR judgment), which addressed market definition *British Telecommunications plc v Office of Communications* [2017] CAT 25 (2017 BCMR Judgment). http://www.catribunal.org.uk/files/1260_BT_Judgment_CAT_25B_101117.pdf.

account (and not double-counted), and the stage at which this is done should not affect the conclusion regarding market power. It also follows from this that mechanical inferences about SMP from market shares should be avoided.

3.6 Under the relevant European and domestic guidelines, cited above, the analytical framework for assessing demand- and supply-side substitution for the purposes of market definition involves undertaking the hypothetical monopolist test (HMT). This looks at whether it would be profitable for a hypothetical monopolist of a focal product (which we define in the WBA context later) to impose a small but significant and non-transitory increase in price (SSNIP) above the competitive level. In other words, the HMT asks whether a SSNIP on the focal product would be unconstrained by switching to substitute products such that a price rise above the competitive level (typically by 5-10%) was profitable.[58]

3.7 As we set out below, we must then consider whether alternative products are sufficiently substitutable for the focal product. While this review is concerned with WBA products (i.e. the wholesale product), we must first consider retail services, because demand for WBA is derived from demand for retail broadband services.

3.8 For the purposes of defining the WBA market, we apply the 'modified Greenfield approach', meaning that we assume a hypothetical scenario in which there are no *ex ante* SMP remedies in the WBA market, but that SMP remedies in the adjacent WLA market (for example, LLU and VULA) and BCMR[59] markets continue to exist.

3.9 Under this approach we recognise that the WBA services sold to third parties today would not necessarily be provided commercially. There may be some commercial provision of WBA services to third parties in the absence of *ex ante* regulation in the WBA market, but only where it is in the access provider's interest. This may occur if there are telecoms providers which can add value at the retail level, for example from the strength of their brand in particular retail segments. These retail providers may be able to expand sales or command a higher price for their retail products, relative to the access provider's own sales, and this may ultimately translate into greater wholesale revenue for the access provider. However, particularly where wholesale competition is limited, the extent of wholesaling activities is likely to be more limited and/or provided on less favourable terms than without regulation.

Our proposals

3.10 In the June 2017 WBA consultation, we provisionally found that broadband services provided to business and residential customers via copper, cable and fibre access networks at all speeds are within the same market, including SFBB services. We proposed to find that

[58] EC SMP Guidelines, paragraph 29.

[59] Leased lines, which are regulated under the BCMR, are often used as backhaul for LLU and WBA-based services provided from BT exchanges.

broadband access provided via mobile, wireless and satellite networks are outside the relevant product market.

Stakeholder responses

3.11 BT broadly agreed with our finding that fibre, copper and cable-based services should all be included in the relevant product market. BT noted that retail services provided using mobile, fixed wireless and satellite networks may be "directly viable alternatives for products in the relevant markets, (typically lower speed products)".[60] BT also argued, as it had in its WLA consultation response,[61] that a larger share of consumers may regard a suitably priced mobile data package as a reasonable substitute for fixed broadband in future, particularly with the advent of 5G.[62]

3.12 BT did not identify whether it believed that these services provided sufficient constraint on copper, cable and fibre-based services to satisfy the test for including them in the retail product market but argued that the competitive pressure they provide should be recognised in our market analysis.

3.13 TalkTalk said that we had not taken into account the possibility that there were asymmetric markets, where SFBB acts as a competitive constraint on SBB, but SBB does not act as a competitive constraint on SFBB. It said that the appropriate finding is that there are two relevant product markets – a market containing only SFBB products provided over the Openreach network (when SFBB is the focal product), and a market containing all SBB and SFBB products provided over the Openreach network (when SBB is the focal product). TalkTalk argued that as the market definition in this case is almost certainly asymmetric, we must fully assess SMP in each of these separate markets.

3.14 TalkTalk argued that indirect constraints are necessarily weaker than direct constraints because of less-than-full pass-through and what might be characterised as dilution. It claimed that only 70% or less of the absolute amount of a wholesale price change was likely to be passed through in higher or lower retail prices and that BT's wholesale products comprised half or less of the cost stack for retail broadband. TalkTalk argued that the combined effects of pass-through of less than 70% and dilution of more than 50% suggest that a 10% increase in the wholesale price would lead to only a 3% or lower increase in the retail price, with the effect of "reducing switching and the extent of wholesale market constraints".[63]

3.15 TalkTalk also considered that "cable services provided by Virgin Media should not be included within the same relevant market [as copper/fibre broadband] without detailed analysis of elasticities of demand, pass-through rates, and substitutability in order to

---

[60] BT response to 2017 WBA Consultation, dated 14 September 2017, paragraphs 3.17 – 3.19 and Annex 1, https://www.ofcom.org.uk/__data/assets/pdf_file/0013/107113/BT.PDF.
[61] Openreach response to March 2017 WLA consultation, dated 19th June 2017, Volume 1, paragraph 137, https://www.ofcom.org.uk/__data/assets/pdf_file/0008/105020/Openreach-vol-1.pdf
[62] BT WBA Consultation response, Annex 1, paragraph 7
[63] TTG response to the 2017 WBA consultation, September 2017, paragraph 2.10

provide evidence that they are indeed in the same market."[64] In addition, TalkTalk argued that the constraining effect of Virgin Media is further weakened because "Virgin Media is only present in around half the country, where it has a market share of just over 40%; this means that only around a third of retail broadband customers on the Openreach network could switch to Virgin Media, even if they wished to do so."

3.16 Vodafone argued that, for inclusion in the WBA market, WLA-based retail services must also provide an equivalent service (in the case of MPF) or an improved one (in the case of GEA) when compared to the standard WBA-based product. It argued that, if GEA-based services do not offer a speed uplift then the higher prices of SFBB (GEA) products will not constrain WBC/IPstream prices.[65] Vodafone claimed that in some cases, particularly in rural areas, GEA services may not provide a speed uplift over SBB services and can even be restricted to lower speeds than WBC/IPstream services, due to longer line distances, suggesting that SBB prices would not be constrained by SFBB prices in these areas.[66]

3.17 Verizon agreed with the inclusion of copper, fibre and cable services at all bandwidths in a single market. It also commented that material improvements in quality over recent years mean that business customers are increasingly viewing broadband as a viable and cheaper alternative to leased lines, particularly for redundancy purposes.[67] However, Verizon did argue that there is not an effective choice of providers offering wholesale broadband access to third parties.

3.18 One respondent [✂] argued that business customers have different requirements to residential customers and that the supply of wholesale broadband services to providers serving these customers forms a separate market to those serving residential customers.[68] This respondent disputed our view that the major differentiation between business and residential customers is the service wrap.[69] It questioned the extent to which LLU operators provided a constraint on WBA products for business customers as Sky does not offer wholesale broadband services and TalkTalk's business broadband packages are differentiated purely on service wrap and use a network that is designed for mass market residential use. The respondent claimed that BT is the only provider of business grade broadband.

3.19 Intelsat claimed that there was an apparent contradiction between our characterisation of satellite services as a weak substitute for copper/fibre broadband in the WBA June 2017 consultation with the way we described these services in our "wholesale market access review". Intelsat argued that some satellite providers are able to provide broadband

---

[64] TTG response to the 2017 WBA consultation, September 2017, paragraph 2.11
[65] Vodafone response to the 2017 WBA Consultation, dated 15 September 2017, paragraph 3.1, https://www.ofcom.org.uk/__data/assets/pdf_file/0019/107119/Vodafone.pdf.
[66] Vodafone response to the 2017 WBA Consultation, paragraph 3.2.
[67] Verizon response to the 2017 WBA Consultation, dated 14 September 2017, paragraphs 11-12: see https://www.ofcom.org.uk/__data/assets/pdf_file/0017/107117/Verizon.pdf.
[68] [✂]
[69] Although agreeing that the service wrap is important, the respondent felt that low latency and jitter, fixed IP addresses, quality of service and prioritisation are factors that make up a true business grade service.

services of up to 40 Mbit/s today and that those scheduled for launch over the next few years will provide up to 50 Mbit/s. Intelsat also argued that the perceived higher latency of satellite services could be overcome by recent advances in satellite technology and that for most customers the services would support all their broadband needs.[70]

Structure of this section

3.20 The remainder of this section is structured as follows:

- the definition of wholesale broadband access, the retail services it supports, and our choice of focal product;
- analysis of retail indirect constraints - first between broadband services of different speeds, then from cable services, then from wireless services (including satellite, fixed wireless access (FWA) and mobile broadband), and finally from leased lines;
- our conclusion on wholesale product market definition.

Wholesale broadband access, the retail services it supports, and the choice of focal product

Definition of wholesale broadband access

3.21 WBA products offer the opportunity to enter the provision of retail broadband services without the need to deploy an access network (or the need to use an upstream regulated product such as Local Loop Unbundling (LLU) or Virtual Unbundled Local Access (VULA)).

3.22 At the retail level, BT's WBA products are used to supply asymmetric broadband internet access services over copper and fibre connections. Asymmetric broadband internet access provides, at a minimum, an always-on capability that allows both voice and data services to be used simultaneously and provides speeds greater than dial-up connections.[71]

3.23 WBA products require only a limited number of interconnection points to provide nationwide coverage. As such, WBA products can be used by new providers entering at the retail level, or by providers wishing to offer services in exchange areas where they have not deployed their own access network. Given the economics of providing full national coverage by deploying alternative access networks or via LLU, providers other than BT wishing to offer services on a truly national basis will be dependent on WBA products to some extent.

3.24 As we set out earlier in this document (see Figure 2.1), WBA products are built using a number of elements, all of which are rented by a WBA access seeker from a WBA provider like BT:

[70] Intelsat response to the 2017 WBA Consultation, dated 15 August 2017: see https://www.ofcom.org.uk/__data/assets/pdf_file/0014/107114/Intelsat.pdf.

[71] This is in contrast to leased lines, which provide symmetric upload and download speeds and can be configured to deliver high quality broadband services for example with a bandwidth guarantee, lower latency and dedicated connectivity. See paragraphs 3.77-3.79 below.

- the access network considered in the WLA market review, which includes the connection from the customer's premise to the exchange either using copper, fibre or a combination of copper and fibre;
- the broadband equipment at the relevant subscriber line aggregation point, i.e. the exchange or street cabinet;
- backhaul connectivity across the WBA provider's network (i.e. from the point of aggregation to the point of interconnection for hand-over to the telecoms provider using WBA); and
- the functionality of the Broadband Remote Access Server (B-RAS) which provides management of the end consumer's internet sessions.

Retail services that use WBA inputs

3.25 Demand for wholesale services is derived from retail demand and so it is relevant for the purposes of assessing the wholesale market definition to look at the retail services provided using these wholesale services. As explained in our March 2018 WLA Statement, there are three broad categories of usage services over local access connections:

- internet access (typically via broadband, although some narrowband data usage remains by business consumers – e.g. ISDN2 or ISDN30);[72]
- the ability to receive TV content (in particular cable TV, IPTV or as a complement to satellite TV services); and
- the ability to make and receive voice calls.[73]

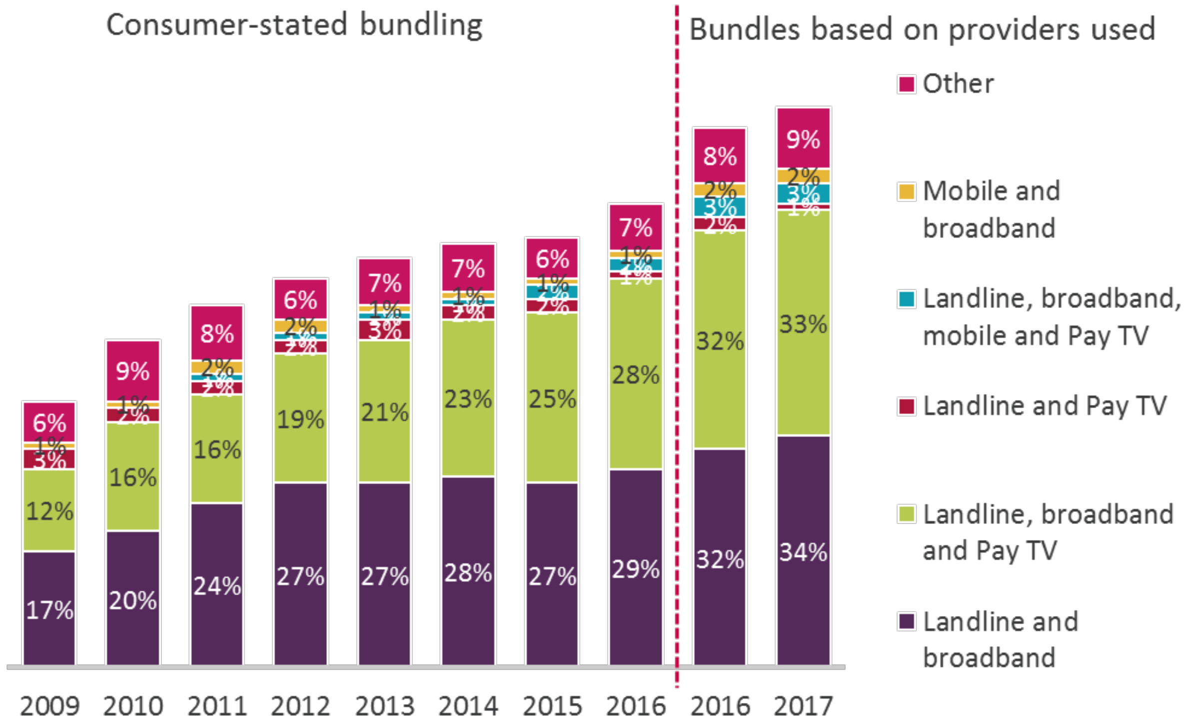
Retail Bundles

3.26 A large majority of consumers now take broadband as part of a bundle of services including fixed voice. For example, in 2017 70% of consumers took a bundle including landline and broadband (including some taking packages that also included Pay TV or mobile). The increasing take-up of bundles is illustrated in Figure 3.1 taken from our 2017 Communications Market Report:

[72] ISDN is a digital exchange line service that supports telephony and some data services. ISDN30 is primarily used by larger businesses who require multiple lines, for example call centres. ISDN2 supports two voice or narrowband data channels (such data usage might include card payments or fax machines, for example). Wholesale access to ISDN2 and ISDN 30 services was reviewed as part of the 2017 NMR statement and so internet access over such connections is not examined further in this document.

[73] March 2018 WLA Statement, paragraphs 3.37-3.45

Figure 3.1: Bundling of retail broadband, voice, mobile and TV services



Source: Ofcom, CMR 2017[74]

3.27 This trend towards bundles was also noted in the Explanatory Note to the 2014 EC Recommendation.[75] However, it concluded that:

> "[D]espite the fact that bundling is one of the dominant trends observed at the retail level, this Recommendation does not propose to define a separate retail market for bundles because evidence to date has not indicated that there is a need for *ex ante* regulation of bundles, which may contain a previously regulated input. Furthermore, even if an NRA would define a retail market for triple play, for example, the wholesale inputs needed to compose this bundle would remain separate and non-substitutable, such as for example local access, higher-level access and termination."

3.28 We have concluded that the existence or otherwise of a market for bundles at the retail level would not affect our WBA market definition, because even where products are bundled at the retail level, they are not necessarily bundled at the wholesale level. For example, if a telecoms provider were to provide both broadband and landline telephone services to a retail customer, with or without further bundled services, it would have to

[74] We have recently revised the bundle take-up figures; in previous years we have reported data from a question asking consumers 'Do you receive more than one of these services as part of an overall deal or package from the same supplier?'. From 2017 we are reporting bundling data based on whether the same provider was stated for two or more services and have revised 2016 for comparison to 2017.

[75] European Commission, Explanatory Note accompanying the Commission Recommendation on relevant product and service markets within the electronic communications sector, 9 October 2014, available at https://ec.europa.eu/digital-single-market/en/news/explanatory-note-accompanying-commission-recommendation-relevant-product-and-service-markets

buy both the separately regulated wholesale line rental (WLR) product and a WBA product from BT, unless it had taken unbundled access of the line. What matters is whether there is, or could be, market power in the provision of at least one part of the bundle. We therefore do not consider it relevant to evaluate whether there are separate markets for bundles at the retail level.

Focal product – including consideration of downstream access speeds

3.29 As set out above, to undertake the HMT, we identify a focal product and whether a SSNIP above the competitive level for this product would be profitable. If not, we consider whether an expanded market, including the focal product and its closest substitute, would now be profitable to monopolise. If so, the original focal product is expanded to include the substitute product. The market definition process therefore usually starts from a relatively narrowly defined focal product.[76]

3.30 WBA products are provided over the local access connections that form the WLA market defined in our March 2018 WLA Statement. However, there are important differences between WBA and WLA services that affect our choice of focal product in this review. In particular, for the purposes of defining the WLA market, the focal product did not distinguish between different broadband speeds or services that use WLA as an input – i.e. that market is service agnostic. Instead, we chose a definition of the focal product centred on the underlying connection to the premises. This was in order to recognise the economy of scope from providing multiple downstream services, including internet access at different speeds, inherent in control of local access.

3.31 There is a wide range of upstream inputs that can be used to deliver broadband services to downstream customers, including those at the WBA level. In contrast to many WLA products, WBA products are not service agnostic and the WBA provider can control the speed and other characteristics of the downstream service offered by the retail provider to a greater extent.

3.32 For our WBA market definition, therefore, we need to consider separately whether broadband lines of different speeds fall within the same product market. This primarily involves assessing the degree of substitutability between SBB and SFBB services.

3.33 If SFBB prices constrain SBB prices, consumers of broadband of all speeds may then be protected by the competition to provide SFBB services, such that we are able to take account of this competition in our geographic market analysis.[77] Hence it is important to test the strength of the constraint between SBB and SFBB prices as part of the market definition process in this review.

[76] CMA guidelines on market definition (OFT 403), paragraph 3.2, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/284423/oft403.pdf

[77] In the June 2014 WBA Statement, we did not take account of fibre-roll out when analysing the geographic market due to uncertainty over the competitive impact of these fibre services: 2014 WBA statement paragraphs 3.33 – 3.35, 3.71, 3.128 – 3.220, 4.3 and 4.193 – 4.199.

3.34 As in the March 2018 WLA statement, our focal product does not include the provision of cable-based or FWA-based wholesale broadband access or the provision of broadband access using mobile networks. Rather we consider whether broadband services provided over cable networks, FWA networks and mobile networks lie within the relevant market as part of our assessment.

3.35 We therefore consider that wholesale SBB access services delivered over a copper/fibre connection is the appropriate focal product for this review.[78]

3.36 Demand for this wholesale focal product is a derived demand, that is, it is derived from demand for the downstream retail product. The (potential) constraints on the price of this wholesale focal product are indirect constraints arising from substitution at the retail level. The definition of the wholesale focal product should be no wider than that of the corresponding retail focal product. The retail focal product is therefore retail packages offering SBB services delivered over a copper/fibre connection.

3.37 Finally, under the modified Greenfield approach[79], in addition to the supply of WBA services to third parties, we also take account of telecoms providers (e.g. Sky, TalkTalk and Vodafone) offering retail services using the upstream access products regulated under the WLA review. Hence our retail focal product includes SBB services provided by these operators. They may or may not supply a wholesale product to third parties on a commercial basis but, in either case, we also take account of the implicit self-supply of wholesale broadband access which underpins these operators' retail services and include it in the wholesale focal product.

3.38 This is consistent with our treatment of regulated WLA services in the 2014 WBA statement and means we capture the competitive constraints imposed by providers using regulated WLA services on retail broadband prices and, indirectly, on the provision of WBA.

3.39 It also follows that, even if, as Verizon and [✂] argue, there is not an effective choice of providers offering wholesale broadband access to third parties, regulation at the WBA level is unlikely to be appropriate where regulation further upstream is successful in delivering competitive outcomes for end consumers.

Retail indirect constraints

Broadband of different speeds

3.40 Having chosen our retail focal product of retail packages offering SBB services delivered over a copper/fibre connection, we then need to consider the strength of the constraint from retail packages offering SFBB services delivered over a fibre connection by a hypothetical monopolist of this focal product.

---

[78] In some cases telecoms providers may choose to supply SBB services using FTTC lines. For example, Vodafone uses WLR in conjunction with regulated access to FTTC to provide broadband of all speeds, including standard broadband.
[79] See paragraph 3.8 above

3.41 We typically group broadband services into four broad categories according to download speed as follows:

- narrowband internet access: download speeds up to the capacity of standard voice channel (i.e. up to 64 Kbit/s);
- standard broadband (SBB): download speeds of up to 30 Mbit/s;
- superfast broadband (SFBB): download speeds from 30 Mbit/s up to 300 Mbit/s; and
- ultrafast broadband (UFBB): download speeds of 300 Mbit/s and above.

3.42 In Annex 5 of our March 2018 WLA statement, we analysed demand for retail broadband services since the last WLA and WBA reviews and considered how it might develop over the market review period (to 2020/2021). Our analysis assessed a range of evidence with a bearing on the degree of substitutability between different broadband speeds, including retail price differentials, usage trends and their implications for demand (including bandwidth forecasts and consumer research), and evidence on propensity to downgrade.[80] This analysis focused on consumer behaviour over the last review period and, since the same retail services sit downstream of both the WLA and WBA markets, it informs our assessment of WBA product market definition. In particular, we found that:

- Our observations of price differentials are consistent with there being a degree of substitutability between SBB and SFBB, such that the availability of SBB continues to constrain SFBB prices, and between SFBB of different speeds.[81]
- Our observations on usage trends and implications for demand suggest that there is a group of broadband consumers who appear unlikely to need more than SBB, but there is also a significant group of SBB who want, and are likely, to upgrade to SFBB at current prices.[82]
- Higher bandwidths will become more important over the forthcoming review period, but we can still expect a large proportion of retail subscribers to take a 40/10 fibre service by 2020/21.[83]

3.43 We also carried out a critical loss analysis for the purposes of our WLA review which suggested that a SSNIP on SFBB would be constrained by switching to SBB, and vice versa.

3.44 We rely on this analysis for the present review. However, in the case of the critical loss analysis, this needs updating for the fact that the costs and charges for provision differ between WLA and WBA (reflecting their different levels in the supply chain). We have therefore updated the indicative critical loss analysis, as set out in Annex 5 of this document.[84]

---

[80] March 2018 WLA statement, Annex 5, paragraphs A5.64 – A5.131
[81] March 2018 WLA statement, Annex 5, paragraphs A5.64 – A5.76
[82] March 2018 WLA statement, Annex 5, paragraphs A5.77 – A5.108
[83] March 2018 WLA statement, Annex 5, paragraphs A5.109 – A5.131
[84] This is similar to the analysis we undertook for the purposes of the 2018 WLA statement- see Annex 5, paragraphs A5.12 – A5.63. As explained in the OFT Guidance (paragraph 3.7), critical loss analysis is one of a number of tools for defining markets: “Evidence on substitution from a number of different sources may be considered. Although the information used will vary from case to case and will be considered in the round … in some cases critical loss analysis may be relevant”. As

3.45 We have compared the projected loss of sales resulting from a SSNIP on WBA (or retail packages) offering, respectively SBB or SFBB, with an estimated critical loss threshold. The critical loss threshold is the level at which the forgone sales resulting from a SSNIP would lead to a reduction in profits that exactly offsets the increase in profits from those customers who do not switch away. Where the projected loss is higher than the critical loss threshold, a SSNIP will be unprofitable, and the product market should be expanded.

3.46 In principle, our starting point for the SSNIP analysis is an assessment of whether a hypothetical monopolist at the wholesale level (an "upstream monopolist") could profitably impose a SSNIP over the focal product. However, absent regulation of wholesale broadband access, there might be no commercial provision of WBA services to third parties. As such, we have considered the SSNIP test from the perspective of both an upstream monopolist of wholesale broadband access and also a vertically integrated monopolist.

3.47 In accordance with the OFT Guidance, we have considered the results of our critical loss analysis in the round with other evidence to inform our market definition.[85] As we set out in Annex 5, we find that:

- Retail packages offering SFBB are likely to constrain the pricing of packages offering SBB;
- Retail packages offering SBB are likely to constrain the pricing of packages offering SFBB, although this constraint is weaker than the constraint of SFBB on SBB;
- Retail packages offering faster SFBB services are likely to be constrained by switching to retail packages offering basic SFBB speeds;[86]

3.48 There are currently very few customers taking very high broadband speeds (e.g. 300 Mbit/s and above), so it is difficult to reliably test SSNIP responses for these services. However, future ultrafast customers are likely to be those who currently take higher SFBB bandwidths (i.e. 50 Mbit/s and above). Our survey therefore asked these respondents about their response to an increase in the price of these services. We found that the constraint from SBB and basic SFBB speeds is likely to provide an effective constraint on higher speed services and we did not find evidence of a break in the chain of substitution between broadband speeds here.

3.49 This was consistent with evidence from [✂][87].

3.50 We have also considered Vodafone's contention that SFBB services may not constrain SBB prices in Market A because "in some cases, particularly in rural areas, GEA services may not provide a speed uplift over SBB services and can result in lower speeds than WBC/IPstream services, due to longer line distances".

---

set out in the recent 2017 BCMR judgment, however, there is no obligation or necessity in every case to conduct a critical loss analysis in order to conduct the HMT and define the relevant market, and in some cases it may not be useful to do so. This will depend on "the availability and reliability of the underlying data and the soundness of any assumptions underpinning the analysis". See paragraphs 165-166 of that judgment.

[85] Including the additional evidence set out in Annex 5 of our March 2018 WLA statement.

[86] By basic SFBB services, we mean services offered using an up to 40Mbit/s wholesale access service

[87] [✂].

3.51 From our understanding of the technical characteristics of broadband networks, we consider that speeds over an FTTC connection should, in almost all cases, provide at least some uplift over a copper-based broadband connection, although the size of this uplift will depend on the length of the copper line between the cabinet and premise. While there appear to be some very limited circumstances where FTTC speeds to a particular premise are lower than copper-based broadband speeds, we think that these are likely to affect a very small fraction of premises, even in rural areas.[88]

3.52 We therefore consider that, for the vast majority of consumers (and even in rural areas) who are able to choose between fibre and copper-based broadband services, fibre-based services are likely to be a strong substitute for services over copper lines.

3.53 In response to Vodafone's argument, however, we have considered whether it is possible to identify exchange areas where this has an impact on a sufficient number of premises to affect our assessment of competitive conditions in that exchange. We discuss this further in our geographic market analysis below.[89]

3.54 On the supply side, a hypothetical monopolist of packages offering a single broadband speed at a fixed location (i.e. if SBB or SFBB were the focal product) would face the threat of supply-side substitution (or at least entry or expansion) if another local access network was present offering different speeds.[90] For example, if SFBB were the focal product, a telecoms provider using MPF to offer packages of SBB services, could switch its core network capacity to provide packages of SFBB by renting a regulated GEA FTTC connection.

3.55 We therefore conclude that retail packages offering SBB services delivered over a copper/fibre connection would be constrained by retail packages offering SFBB services and vice versa. The constraint on SFBB services from SBB services may be weaker (at least on the demand-side), but not to the extent that we would define separate markets on the basis of broadband speed. As such the focal product is expanded to comprise retail packages offering broadband services (of all speeds) over a copper/fibre connection. In the next sub-section we consider the extent to which retail services delivered over cable would act as a constraint on this focal product comprising retail packages of all broadband speeds.

Broadband access over cable

3.56 In our March 2018 WLA statement, we noted that all the retail services provided over a copper/fibre connection – i.e. fixed voice services, internet access, and TV content – can be, and are, provided over cable infrastructures.[91] At the retail level, we found that services provided over each network were likely to be close substitutes. We concluded that a hypothetical monopolist of local access at a fixed location using copper/fibre connections,

[88] We believe such a situation would likely only occur where a lower frequency signal is injected at a cabinet with reduced power, and where Openreach injects a lower amount of power for a particular line (due to the grouping of lines with similar characteristics) than would exist if that line was provided from the exchange.
[89] Paragraphs 4.50-4.57
[90]As also noted in the WLA final statement, Annex 5, paragraph A5.141
[91] March 2018 WLA statement, paragraph 3.70

either vertically integrated or wholesale-only, is unlikely to be able to profitably impose a SSNIP above the competitive level due to substitution to retail packages over cable.

3.57 We found that:

- BT and Virgin Media retail offers have several similar characteristics and are targeted at similar customers and at comparable prices. BT did not appear to discount its list prices more heavily in cable areas;
- information available to consumers, for example price comparison websites[92], sets out cable-based services alongside copper/fibre services and typically emphasises the range of services (broadband speed, download limits, inclusive voice calls, etc), rather than the underlying access connection.[93]
- Virgin Media has gained around 40% of connections within its coverage area, showing that a significant proportion of consumers have actively chosen to take retail local access services over the cable network rather than over copper/fibre. In addition, a significant proportion of all switching by consumers between retail providers involves switching between different networks, including switches to or from Virgin Media's cable platform.

3.58 As noted above, TalkTalk questioned whether cable services provided by Virgin Media should be included within the same product market, claiming that we had included cable without sufficient evidence and without following the SSNIP methodology. We addressed TalkTalk's comments to our WBA consultation as part of the assessment in our March 2018 WLA statement.[94] In summary, we concluded that:

- Marketing and tariff offers over the cable network are designed to compete with services over the copper/fibre network.[95] Virgin Media's share of connections within its coverage area showed that these offers had been successful in winning customers and the most likely alternative supplier was BT or another retail provider using BT's network;
- consumer survey evidence from previous market reviews suggested that a significant proportion of broadband users would be willing to switch between copper and cable services. Neither TalkTalk nor other stakeholders have provided any evidence suggesting there has been a reduction in the extent to which retail customers consider cable access to be a substitute for access over the BT network;
- only a relatively small proportion of consumers would have to switch between cable and copper/fibre-based services to render a SSNIP unprofitable.[96] As consumer survey

[92] For example, see Ofcom accredited price comparison sites at https://www.ofcom.org.uk/phones-telecoms-and-internet/advice-for-consumers/costs-and-billing/price-comparison [accessed 21 February 2018].
[93] However, Virgin Media's own advertising sometimes highlights its DOCSIS co-axial network as a source of differentiation from services over the Openreach network.
[94] March 2018 WLA statement, paragraphs 3.70-3.87
[95] March 2018 WLA statement, table 3.2
[96] This is because gross margins on packages offering broadband services are high, and would be so in a competitive market, in order to recover fixed costs. These margins are illustrated in Annex 5, Figure A5.1. High margins imply a low critical loss threshold for a given price increase (i.e. SSNIP), increasing the likelihood that a given projected loss will exceed that threshold (i.e. that the SSNIP would be unprofitable and the market widened beyond the focal product).

and other evidence suggests that the proportion of consumers who would be willing to switch between cable and copper/fibre-based services is in fact significant, we considered that a SSNIP on copper/fibre is likely to be unprofitable;

- measures of "upward pricing pressure", sometimes used by competition authorities to assess the incentives on merging firms to raise prices post-merger, suggested that BT would, in the absence of competition from Virgin Media, have the scope to charge much higher prices than it does now, with an implied increase far above the 5-10% level usually considered in the SSNIP framework; and
- it was appropriate to take account of Virgin Media's limited cable coverage in our assessment of the geographic market rather than the product market.

3.59 We therefore conclude that retail packages offering broadband services delivered over cable, are a sufficiently close substitute to such services over copper/fibre connections and expand our focal product to retail packages offering broadband services delivered over a copper/fibre or cable connection.

Wireless access services

3.60 There are various forms of delivering retail broadband services over a wireless access connection including:

- satellite;
- smartphone access over a mobile network (using 3G or 4G);
- line of sight (LoS) FWA services; and
- non-LoS FWA and mobile broadband services (e.g. dongles) designed for use at a fixed location.

3.61 In the June 2017 WBA consultation, we proposed not to widen the product market definition to include broadband services delivered over wireless connections.

Satellite services

3.62 In its response to the WBA consultation, Intelsat argued that satellite services would support the broadband needs of most consumers and that Ofcom had understated the extent to which satellite services were, or would become, a substitute for copper/fibre or cable services.

3.63 For the purposes of market definition we need to consider not just whether a service might be capable of being used for the same purpose as the focal product but also whether consumers would see it as sufficiently substitutable for the focal product to switch to it in the event of a SSNIP.[97] In the case of satellite broadband, we do not consider that satellite broadband services are a sufficiently strong substitute to broadband services delivered over a copper/fibre or cable connection. This is only in part due to limitations around latency (which Intelsat contested, although they did not provide any evidence to support this view). Our analysis also reflects differences in data allowances and the significantly

[97] This is consistent with the EC SMP Guidelines, in particular paragraph 37

higher up-front and ongoing charges for satellite broadband relative to broadband delivered over a copper/fibre or cable connection.

3.64 As we set out in our 2018 WLA statement[98], prices for low data allowance satellite services are comparable to broadband services available over copper/fibre/cable, but typically exclude voice services and the data usage allowances vary markedly. For example, Europasat, Broadband Wherever and Satellite Internet all offer services with 5-10 GB data allowances for around £24.95 a month. These prices increase substantially for higher allowances, for example a 50 GB allowance is charged at around £60 per month.[99] In contrast, broadband over copper/fibre/cable, is often available on an unlimited basis for prices around £25 (inc. VAT) per month at SBB speeds and from around £35 per month for SFBB speeds, which typically involve bundling of some fixed voice usage (and occasionally some TV content).[100]

3.65 The other significant pricing difference for satellite services is that they typically involve large upfront charges for equipment, which can be in the region of £300[101], whereas the retail connection charge for copper/fibre/cable services is typically less than £25.

3.66 This conclusion is supported by our SSNIP analysis, which shows that at most 2% of consumers said they would consider switching to satellite in response to a 10% SSNIP on fixed broadband; this is comparable to the proportion of consumers that said they would consider giving up internet access altogether. [102] Indeed, the results indicate that a SSNIP over all fixed broadband is very likely to be profitable even after taking account of switching to *all* forms of wireless access.

Smartphone access over a mobile network

3.67 As in our March 2018 WLA statement[103], we also conclude that other forms of wireless access based on cellular mobile technologies are an insufficient constraint on a hypothetical monopolist of broadband over copper/fibre or cable access connections to support inclusion in the market and are likely to remain so over the review period. This is because:

- evidence suggests that the vast majority of consumers view mobile data services as desirable in addition to fixed line broadband, not as a substitute[104];
- usage allowances may still be restrictive for the majority of customers. Very few mobile-specific packages offer more than 30 GB of data per month, less than half of

---

[98] March 2018 WLA statement, paragraphs 3.90-3.94
[99] https://www.europasat.com/satellite-broadband-tariffs/england/, http://www.broadbandwherever.net/home-user/, [accessed 21 February 2018], https://www.satelliteinternet.co.uk/satellite-packages [accessed 21 February 2018].
[100] See Annex 5 of the March 2018 WLA statement, Figures A5.7 and A5.8
[101] For example, the three providers above have setup charges of £299, £399 and £299 respectively, with some providers charging additional installation costs on top of this.
[102] See Annex 5 figure A5.6.
[103] March 2018 WLA Statement, paragraphs 3.95-3.98
[104] Only 6% of households only use mobile broadband and do not take a fixed broadband service. See Ofcom, H2 2017 technology tracker, table 47, https://www.ofcom.org.uk/__data/assets/pdf_file/0017/107360/Ofcom-Technology-Tracker-H2-2017-data-tables.pdf

median fixed broadband line usage (84GB) and less than one-sixth of mean usage (190GB);

- our consumer research suggests that no more than 4% of consumers would consider switching to mobile in response to a 10% SSNIP, well below any critical loss threshold.[105]

Line of Sight (LoS) FWA services

3.68 We agree with BT that some wireless technologies, including traditional (LoS) fixed wireless access services, may have some customer appeal in areas with very low broadband speeds over copper/fibre or cable connections, even if they would not be seen as good substitutes by the majority of consumers. However, since LoS FWA services are typically only available in localised geographic areas, only a small fraction of the population are likely to have access to a FWA service, and take-up in the UK is very low. The low take-up, even in the areas where they are available, suggests that LoS FWA services are not a close substitute to broadband delivered over a copper, fibre or cable connection.

3.69 It is more likely that, as we considered in previous reviews, these FWA services are generally considered as an 'in-fill' technology that can be used to provide services in 'not-spots' where fixed line broadband cannot provide satisfactory services due to technical and/or economic reasons. This suggests that the number of consumers who would switch from broadband services over copper/fibre or cable access to services over LoS FWA in response to a SSNIP is unlikely to be material, even in Market A.

3.70 Consistent with our conclusion in the March 2018 WLA statement, we continue to consider that broadband services provided over LoS fixed wireless access (FWA) do not act as a constraint on retail packages offering broadband services delivered over a copper/fibre or cable connection, and developments over the review period are unlikely to be significant enough to change this.

Non-LoS FWA technologies and mobile broadband services designed for use at a fixed location

3.71 We have also considered newer, non-LoS FWA services which share many of the characteristics of mobile broadband but are designed for use in the home. These services, however, often have usage caps and may also not be sold with a voice service. Whether for these or other reasons, it appears that take-up of these services also remains low. In addition, our summer 2017 consumer research[106] suggested that switching to FWA services in response to a SSNIP was also likely to be very limited.[107]

3.72 Finally, we have considered the possible implications of advances in wireless technologies. There have been recent innovations that may lead to terrestrial-based wireless services

---

[105] See Annex 5, figure A5.6.

[106] Summer 2017 residential consumer research, available at https://www.ofcom.org.uk/__data/assets/pdf_file/0017/112463/wla-statement-data-tables.pdf

[107] See Annex 5, table A5.6. While FWA was not presented as a specific option, the proportion of consumers willing to switch to a broadband service other than mobile and satellite in response to a SSNIP on fixed line broadband was no more than 3% in all scenarios considered.

becoming stronger substitutes to broadband services delivered over copper/fibre or cable in the longer term. These developments include:

- the release of higher frequency spectrum which may be suited to small cell, limited distance high bandwidth applications; and
- 5G standards may lead to the availability of higher speed data services.

3.73 The widespread rollout of such technologies could lead to service offerings which consumers find to be closer substitutes for broadband services provided over copper/fibre or cable connections than the FWA services currently available. Such services may also blur the boundary between traditional fixed line access and wireless access at a fixed location if, for example, fibre is used for connections up to very distributed small cells, with 5G or public wifi used to deliver the "final drop" to the customers' premises.

Conclusion on wireless access services

3.74 Wireless-based broadband services are highly differentiated and in previous reviews have not been found to act as a constraint on a hypothetical monopolist of retail packages offering broadband services delivered over a copper/fibre or cable connection. While there are some ongoing developments in the satellite and traditional LoS FWA sectors, we do not believe that changes over the review period will be significant enough such that either satellite or LoS FWA are likely to act as a significant constraint on a hypothetical monopolist of broadband over copper/fibre or cable connections.

3.75 We also consider that other forms of wireless access based on cellular mobile technologies remain, at present, an insufficient constraint on a hypothetical monopolist of copper/fibre and cable access connections.

3.76 However, with advances in wireless technologies such as LTE and with the advent of 5G, we expect that some wireless technologies could begin to gain consumer acceptance as an alternative to a copper/fibre or cable connection. Should such services become more widely available to consumers, and where they are able or likely to provide an effective constraint on retail services over copper/fibre or cable connections, we would review our position accordingly.

Leased lines

3.77 Leased lines are high-quality, dedicated, point-to-point data transmission services used by businesses and providers of communications services. They provide symmetric upload and download speeds and can be configured to deliver high quality broadband services for example with a bandwidth guarantee, lower latency and dedicated connectivity. There are three main end user segments that make use of leased lines (or alternatives): enterprise customers, mobile network operators (MNOs) and backhaul by fixed asymmetric broadband providers, including Local Loop Unbundling operators (LLUOs) and others using next generation access technologies.

3.78 No stakeholders commented specifically on our proposal not to include leased line services in the relevant market. Verizon said that increasingly business customers are considering using broadband as a cheap and effective substitute for dedicated leased lines, at least for redundancy purposes.[108] Verizon also argued that, if broadband continued to improve in terms of its performance and resilience, it was likely that it would ultimately come to exercise a material competitive constraint. However, we do not consider that leased line services are likely to become an effective constraint on the price of broadband packages delivered over local access connections during this market review period.[109]

3.79 Consistent with our conclusion in the March 2018 WLA statement[110], given the existing price differences between broadband services over local access and leased lines, we consider that there is likely to be limited switching to leased lines in response to a SSNIP. The 2016 Business Connectivity Market Review (BCMR) statement also noted that users do not appear to regard them as close substitutes and neither do telecoms providers[111], and this was reflected in most stakeholders' responses to the BCMR consultation, replies to the market research questionnaires and in telecoms providers' marketing of fibre-based services.[112] Our recent research on SME communications needs also suggests that the price gap between fibre- and cable-based services and a leased line is too great for some SMEs.[113]

Residential and business packages

3.80 One respondent to our consultation [✂] argued that business customers have different requirements to residential customers and that the supply of wholesale broadband services to providers serving these customers forms a separate market to those serving residential customers. This respondent argued that only BT provides wholesale business grade broadband on a national basis.

3.81 This respondent [✂] made very similar arguments in response to our 2013 WBA consultation. In our 2014 WBA statement[114], we concluded that residential and business broadband packages are in the same product market, for the following reasons:

- some businesses substitute between residential and business products;
- the evidence on product pricing suggests there is a chain of substitution across all broadband products; and
- supply-side substitution between different types of residential and business products is feasible.

---

[108] Verizon response to the June 2017 WBA Consultation
[109] Even if Verizon's argument were correct, it would be consistent with a constraint which was asymmetric.
[110] March 2018 WLA Statement, paragraph 3.120
[111] Ofcom, 2016 BCMR statement, Volume 1, paragraph 5.41, https://www.ofcom.org.uk/__data/assets/pdf_file/0015/72303/bcmr-final-statement-volume-one.pdf.
[112] Ofcom, 2016 BCMR statement, Volume 1, paragraphs 4.259-4.261.
[113] BDRC for Ofcom, SMEs' communications needs, April 2018, pages 28-29, https://www.ofcom.org.uk/__data/assets/pdf_file/0010/113113/sme-communications-needs.pdf
[114] 2014 WBA statement, paragraph 3.90

3.82 We have considered whether there has been a material change in market circumstances since 2014 that would affect our conclusions that residential and business customers are in the same product market.

3.83 Our 2016 SME research[115] shows that 30% of businesses continue to use residential products rather than products specifically designed for businesses.[116] Many business-specific products appear to offer the same underlying connectivity as residential products but with additional features, including static IP addresses, higher upload speeds and increased call centre support.

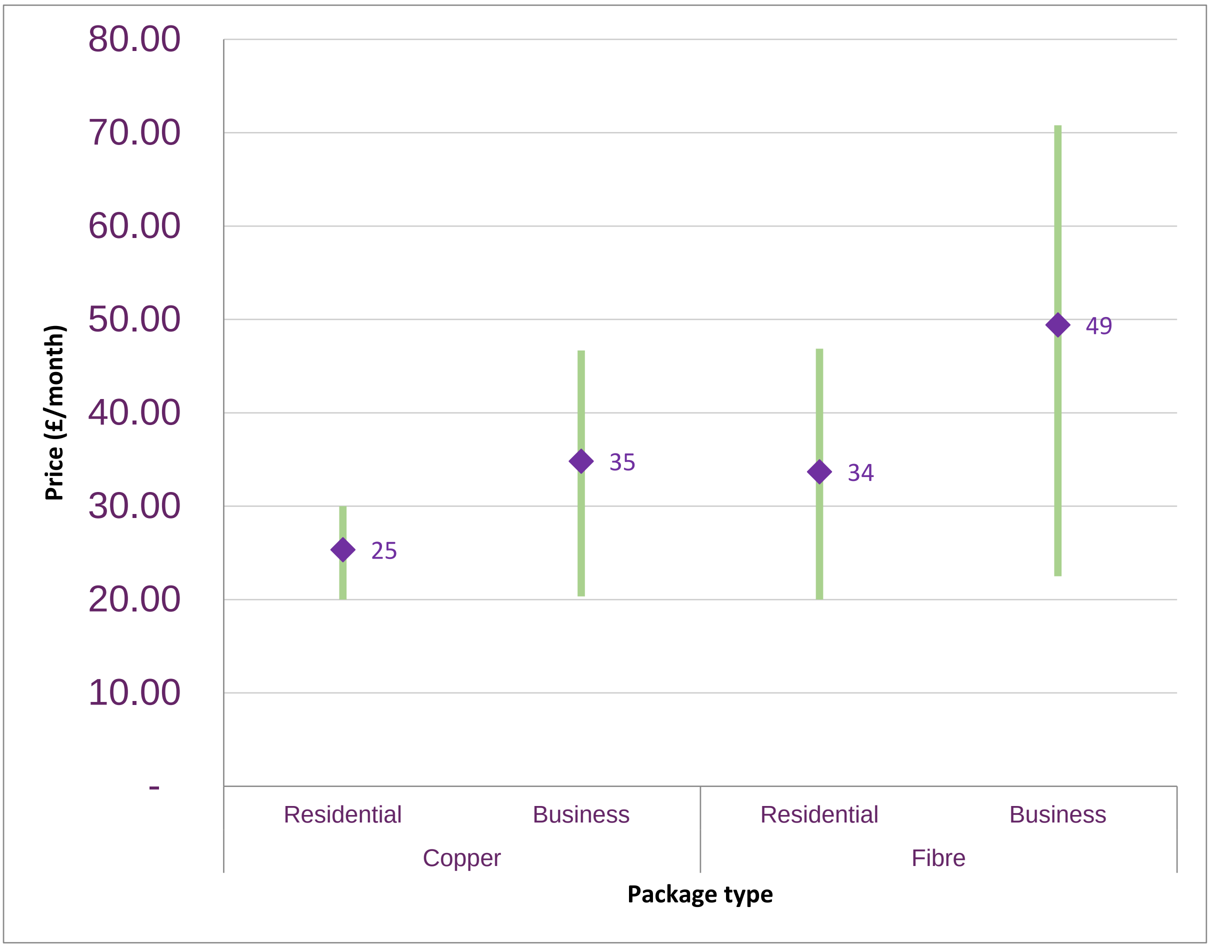
3.84 The similarity of residential and business products, and the potential for substitution between them, appears to be reflected in their relative pricing. As shown in Figure 3.2, on average, business packages currently appear to be priced at somewhat of a premium to residential packages, but there is a wide range of prices for both residential and business packages and there is a considerable overlap between the residential and business package price ranges.

---

[115] We have also published more recent research – BDRC on behalf of Ofcom, April 2018, SME's communications needs, https://www.ofcom.org.uk/__data/assets/pdf_file/0010/113113/sme-communications-needs.pdf. This research, however, does not contain a comparable figure to the one cited above.

[116] Ofcom SME consumer experience research 2016 data tables, page 883, table 247, https://www.ofcom.org.uk/__data/assets/pdf_file/0029/96491/Ofcom-SME-Consumer-Experience-Research-2016-Data-Tables.pdf. The main reason noted for not having a business specific contract was that "a personal contract is fine for my business", although the sample size for this question was low (n=55).

Figure 3.2: Comparison of residential and business broadband prices[117]



Source: Provider websites, accessed on 1st May 2018 and Pure Pricing Monthly Broadband Pricing Tracker May 2018

3.85 Businesses will select from a menu of service options, from low to high-grade business broadband products. The main differentiator between these basic products and higher-grade business broadband services appears to be the higher levels of support and repair times that the latter sometimes offer. In many cases, business specific features are offered as add-ons to business packages that are very similar to residential packages.

3.86 In our 2014 WBA statement, we showed that a number of telecoms providers were providing the features that were also identified by [✂] in its response to the 2013 WBA consultation.[118] We have reviewed the retail offerings of the five Principal Operators

---

[117] Figure includes 38mbit/s and 52mbit/s packages however note most providers only supply residential broadband at these speeds. Premium business packages also include unlimited UK calls in many cases while residential packages offer this as an add-on for an additional £5 to £10 on top of the headline price.

[118] 2014 WBA final statement, paragraphs 3.111-3.114

(POs)[119] from our June 2017 WBA consultation, and found that four of the POs offer business retail broadband packages,[120] with a varying degree of the business-specific features mentioned by [✂]. For example, all other POs offer static IP addresses with their business packages, with Virgin Media and Vodafone both offering enhanced support on some of their business packages.

3.87 Even where these business services do not contain all of the factors suggested by [✂], a provider which already has a network that can be configured to offer higher quality services should be able to develop the necessary processes and systems to offer higher grade (business targeted) services within 12 months, either by developing them in-house, buying them in or contracting support out to a third party.[121] Therefore, if current business services offered by certain telecoms providers do not fulfil all the service features that [✂] identified, such telecoms providers are likely to be in a position to configure their products to support additional features in the business segment within less than a year.

3.88 In particular, the same underlying equipment used to provide residential broadband is used to provide entry-level business broadband and can be readily configured to provide higher grade business broadband services. If we consider an ADSL provider, for example, then the same ADSL line card is used to support both residential and business services. Further, the DSLAM that the ADSL line card is plugged into is capable of supporting both residential and business services. The same applies for backhaul connections where traffic can be managed to offer different service quality. Therefore, on the supply-side, a telecoms provider is able to use a single common network infrastructure to support a whole range of retail residential and business broadband services.

3.89 The characteristics of broadband services that appear to be targeted at business customers (e.g. static IP addresses) can be offered by re-configuring existing equipment used to supply residential customers – i.e. a telecoms provider serving only residential customers could very easily start serving business customers at little additional cost. For example, a telecoms provider who did not offer 24/7 technical support to their residential customers may need to do so if it wanted to offer business services, but most providers could likely do this at a fairly low additional cost (for example, at the cost of increasing the number of call centre staff) and recover the costs through somewhat higher charges for these services. Were a hypothetical monopolist serving business customers to charge significantly above the competitive price level, there would likely be entry from providers currently only (or predominantly) serving residential consumers.

3.90 Therefore, we continue to consider that entry into the business segment (or to the provision of particular service features) by a provider already serving the residential segment (or providing lower-grade business services) could be undertaken quickly and at low cost. It follows that a hypothetical monopolist of broadband packages offering

[119] As we explain further in section 4 below, we define a PO as a provider that is likely to exert a substantial competitive constraint on the other providers, across the UK. The POs in this review are BT, Sky, TalkTalk, Virgin Media and Vodafone.
[120] Sky does not offer business broadband services
[121] We have not updated our analysis of this since our 2014 WBA Statement but we consider that this is unlikely to have changed in the intervening period

business-grade services would face the threat of supply-side substitution (or at least entry or expansion) if another provider was present offering residential packages.

3.91 In conclusion, we remain of the view that broadband access used to supply residential and business customers are in the same product market.

Wholesale product market definition

3.92 In light of the above analysis of indirect constraints, we now set out our reasoning and conclusions on wholesale product market definition.

3.93 As explained previously in this section, we consider that wholesale SBB access services delivered over a copper/fibre connection is the appropriate focal product for this review. The (potential) constraints on the price of this wholesale focal product are primarily driven by indirect constraints arising from substitution at the retail level. That is, absent a direct wholesale alternative – such as third-party access over a cable or other network – the extent of the product market is determined by the strength of indirect (retail) constraints.

3.94 Our analysis of indirect constraints above shows that:

- retail packages offering SBB services delivered over a copper/fibre connection are likely to be constrained by retail packages offering SFBB services delivered over a fibre connection (and vice versa) and there is not further segmentation between faster SFBB packages and those offering basic SFBB speeds;
- retail broadband services offered over cable, are sufficiently close substitutes to such services over copper/fibre connections;
- retail broadband services offered over wireless connections, such as satellite services, mobile data services and FWA, as well as services offered over leased lines, are not strong constraints on retail packages offering broadband services over copper/fibre or cable connections; and,
- the supply of broadband services to residential and business customers are in the same product market.

3.95 These indirect constraints will act on a hypothetical monopolist of wholesale SBB access services delivered over a copper/fibre connection such that the appropriate wholesale market is broadened to comprise broadband access (of all speeds) delivered over copper/fibre or cable connections. This is because WBA charges (particularly when used in conjunction with WLR – as required to offer a dual-play broadband package) are a large part of the retail costs of offering a retail broadband package. Whether or not telecoms providers with their own local access network (or using regulated access to LLU and VULA) separately supply a WBA product to third party retailers on a commercial basis, it is appropriate to include self-supply (on these alternative networks and via LLU and VULA) in the WBA market. This is consistent with our previous treatment of indirect constraints and self-supply (including via regulated inputs such as LLU and VULA).

3.96 Based on our assessment outlined in this section (and supported by Annex 5), we define the relevant product market as wholesale broadband access services provided at a fixed location. For these purposes, wholesale broadband access services comprise the provision of asymmetric broadband access and any backhaul as necessary to allow interconnection with other telecoms providers, which provides an always-on capability and allows both voice and data services to be used simultaneously.

4. Geographic market definition

Summary

4.1 In this Section we conclude that there are two distinct geographic markets for WBA in the UK excluding the Hull Area (covering 99.4% of UK premises):[122]

- Market A (0.9% of premises) – areas in the UK where there is limited or no network competition (exchange areas which are BT-only or BT+1 Principal Operator (PO, which we define later)); and
- Market B (98.5% of premises) – areas in the UK where there is sufficient network competition (exchange areas which are at least BT+2POs).

4.2 The size of Market A has reduced since our consultation (and is now much smaller than at the time of the 2014 WBA statement). This change since our June 2017 consultation has primarily been driven by an increase in the number of premises covered by BT's FTTC-enabled cabinets, and the increase in take-up of GEA services by Local Loop Unbundling Operators (LLUOs).[123]

Role of and approach to geographic market definition

4.3 Having defined the product market in section 3, we now define the scope of the WBA geographic markets.

4.4 In principle, the hypothetical monopolist test (HMT) provides a framework for geographic market definition as well as product market definition.[124] However, one limitation of the HMT in the case of geographic market definition for fixed telecoms services is that it will often lead to overly narrow geographic markets:[125]

- in the case of demand-side substitution, it is extremely unlikely that individual consumers will move home in response to a SSNIP on the price of their retail services; and
- in the case of supply-side substitution, it is unlikely that a provider will expand its network to an individual premise or unbundle an additional exchange in response to a SSNIP.

---

[122] The remaining 0.6% of UK premises are in the Hull Area. As explained in Section 2, this statement focuses on the WBA market in the UK excluding the Hull Area. We have today published a separate statement on our findings of SMP and remedies in the Hull Area in both the WLA and WBA markets. See https://www.ofcom.org.uk/consultations-and-statements/category-1/wholesale-local-broadband-access-market-reviews-hull
[123] These are operators that have unbundled BT's copper exchanges to provide broadband services
[124] BEREC Common Position on geographic aspects of market analysis, paragraph 15, https://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/4439-berec-common-position-on-geographic-aspe_0.pdf.
[125] BEREC Common Position, paragraph 15.

4.5 To identify the appropriate geographic market, and consistent with the idea of market definition as a means to an end, it is therefore helpful to aggregate geographic areas into areas where "the conditions of competition are sufficiently homogenous".[126]

4.6 Areas should be defined as separate markets if competitive conditions "differ…with potential effects on either the SMP finding or the identified competition problems".[127] Hence, when defining geographic markets:

> "it is important for NRAs to bear in mind the purpose of market definition, which is not an end in itself but a means to undertaking an analysis of competitive conditions, for the purposes of determining whether ex-ante regulation is required or not." [128]

4.7 BEREC notes that in determining whether competitive conditions differ: "the coverage of alternative regional/local infrastructures and the competitive constraints posed at the retail level by active operators based on these infrastructures is a natural starting point for the analysis", including "the different networks, active operators and product characteristics in a given geographical area, as well as regarding the commercial offers and – importantly – if they are differentiated from offers in neighbouring areas".[129]

4.8 However, structural indicators may also be relevant. A set of indicators relevant to the assessment of competitive conditions are provided in the Explanatory Memorandum to the 2014 EC Recommendation:

> "The exact criteria to be taken into account when assessing the homogeneity of competitive conditions in different geographic areas may vary depending on the market(s) in question but are based on the same competition law principles to be applied for any geographic market delineation. This means that NRAs should look at the number and size of potential competitors, distribution of market shares, price differences or variation in prices across geographies, and other related competitive aspects, which may result from relevant competitive variations between geographic areas (nature of demand, differences in commercial offers, marketing strategies etc.)".[130]

4.9 The BEREC Common Position lists a similar set of relevant indicators.[131]

---

[126] EC SMP Guidelines, paragraph 47. Similarly, in *Tiercé Ladbroke v Commission* [1997] ECRII-923, paragraph 102, "The geographical market can be defined as the territory in which all the traders concerned are exposed to objective conditions of competition which are similar or sufficiently homogeneous". Similar wording was previously used in *United Brands v Commission* [1978] ECR207, paragraph 44, *Michelin v Commission* [1983] ECR3461, paragraph 26 and *Alsatel v Novasam* [1988] ECR5987, paragraph 15.
[127] BEREC Common Position, paragraph 129.
[128] BEREC Common Position, paragraph 129.
[129] BEREC Common Position, paragraph 46
[130] *Explanatory memorandum to the EC 2014 Recommendation on Markets*, page 13.
http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?action=display&doc_id=7056
[131] BEREC Common Position, paragraphs 104-105.

4.10 BEREC also notes that the definition of the relevant geographic market may be informed by the presence of a common pricing constraint:

> "If prices of the incumbent and alternative operators are geographically uniform, that is, do not differ between geographical areas, this may be an indication of insufficient geographical variations in competitive conditions to justify the definition of subnational geographical markets.
>
> This is, however, not always the case. An NRA should always check underlying facts possibly indicating the opposite. If the prices of the incumbent are geographically uniform but the prices of the alternative operators with national coverage differ between geographical areas, particularly between competitive and less competitive areas, the indications for a national market are less clear."[132]

4.11 We therefore look at the level of competition across the UK and consider if it varies to the extent that it is appropriate to define separate markets. We also consider the relevance of uniform pricing later in this section.

Background

4.12 In our 2014 WBA statement, we found that the conditions of competition were appreciably different between exchange areas where BT and at least another two POs were present (BT+2 PO exchange areas) and exchange areas with a lower PO presence.

4.13 We took account of POs using copper or cable infrastructure. In 2014, we did not include POs using fibre-based WLA products because we felt at the time that there was uncertainty about the competitive impact of these products.

4.14 In our 2014 WBA statement we concluded that the relevant geographic markets for WBA (excluding the Hull area) were:[133]

- Market A: exchanges where only BT is present or BT+1 PO is present, or forecast to be present, with either copper or cable (9.5% of UK premises) [134]; and
- Market B: exchanges where there were BT+2 or more POs present, or forecast to be present, with either copper or cable (89.8% of UK premises).

4.15 In our June 2017 WBA Consultation we provisionally concluded that it was appropriate to use BT's copper exchange areas as the relevant unit for our wholesale geographic market analysis. We identified four main competitors to BT in the WBA market (Sky, TalkTalk, Virgin Media and Vodafone) due to their network coverage and share of connections, and assessed the extent to which they competed with BT in each exchange area. We proposed to take account of these operators' use of BT's regulated GEA (fibre) services in addition to copper and cable infrastructure in assessing the area in which they provide a competing WBA service.

---

[132] BEREC common position, paragraphs 48-49, and see also paragraphs 113-120.
[133] Ofcom, 2014 WBA Statement, paragraph 4.1.
[134] Proportion of premises cited are those calculated for the 2014 WBA statement

4.16 Where two or more of these POs had unbundled a local exchange or were able to serve more than 65% of the premises in the exchange area using BT's regulated GEA services or, in the case of Virgin Media, using its cable network, we proposed to find that the exchange area was competitive. We included these areas in Market B (97.3% of UK premises).

4.17 Where there were less than two of the POs offering services in the exchange area or they were unable to target more than 65% of premises, we proposed to find that the exchange area was not competitive. These areas were included in Market A (2% of UK premises).

Responses to our consultation

The local exchange area for copper services as the geographic unit

4.18 TalkTalk agreed with our view that the copper exchange area was the relevant unit to use for our geographic market analysis. It considered that a move to a cabinet level approach would add additional complexity to the analysis without creating a meaningfully more accurate determination of the conditions of geographic access.[135]

4.19 Vodafone disagreed with our proposal. Although recognising that this approach had worked in the past, Vodafone argued that the inclusion of GEA (which is a cabinet-based technology) in the market means that a copper exchange-based assessment is no longer appropriate and that a cabinet-based assessment should be used instead.[136]

4.20 Vodafone referred again to the lower speeds, higher prices and lower quality of service experienced by consumers in rural areas. It argued that these circumstances needed to be taken into account to ensure that product and disparate geographic issues are adequately addressed within market boundaries. Vodafone identified two broad customer experiences and proposed an alternative market definition, with each UK premises falling into one of the two following markets:

a) "Market X": "for premises that can access standard broadband from both BT and at least one LLU provider or Cable provider, or through a range of suppliers using Openreach's FTTC based GEA offerings and are capable of supporting a line speed of at least 24Mbit/s"; and

b) "Market Y": "for premises which don't have access to cable / LLU infrastructure (as a result of their exchange not being unbundled or living in a non-cabled area) and whose exchange line is either not enabled for Openreach FTTC based GEA or the line is unable to support a speed of 24 Mbit/s or more even if GEA is available."[137]

[135] TalkTalk response to the 2017 WBA Consultation, paragraph 2.22.
[136] Vodafone response to the 2017 WBA Consultation, paragraph 4.2.
[137] Vodafone response to the 2017 WBA Consultation, paragraphs 4.6 - 4.8.

4.21 UKCTA also argued that we should exclude from our Market B calculations those customers who are unable to obtain FTTC services (or who receive broadband services with slow speeds) and instead include these customers in Market A.[138]

Accounting for fibre

4.22 TalkTalk argued that our geographic market definition was flawed because our assumption that the ability to use GEA in an exchange area provides competition in the WBA market did not reflect the reality of how it provides services. TalkTalk said that it does not offer FTTC-based broadband services in areas outside its LLU footprint (and said that it understood that Sky and Vodafone did not either) and that therefore it should not be included as a PO except in exchanges which it has unbundled and is willing and likely to sell FTTC-based broadband products. It said that it should therefore not be counted as present when assessing the level of competition in other areas i.e. those exchanges which TalkTalk has not unbundled but which are served by a fibre-based exchange from a different exchange area, in which TalkTalk is present.[139]

4.23 BT claimed that the introduction of its single order GEA product (SOGEA) would negate the need for providers to purchase MPF or WLR services and that this would therefore enable fibre-based broadband to be provided anywhere that fibre was available.[140]

4.24 BT argued that the fibre threshold we used for potentially including exchanges in Market B (65%) is too conservative. BT said that, although this threshold may be appropriate for cable, multiple CPs are able to use BT's fibre to compete, meaning that a lower percentage of the exchange area needs to be covered in order to constrain BT's prices. BT considered that a 50% threshold would be more appropriate.[141]

4.25 By contrast, Vodafone claimed the use of the 65% threshold for fibre and cable to address this issue is inappropriate and potentially leaves 35% of premises in markets designated as competitive even though they have no choice of service.[142]

4.26 BT disagreed with our proposed decision not to include FTTP when assessing the geographic markets. Although recognising that rollout was relatively low, BT argued that it was highly concentrated and could impact on whether an exchange was designated as being in Market A or Market B.[143]

Criteria for assessing competitive conditions in each exchange

4.27 TalkTalk argued that, in the light of the product market concerns that it had raised (discussed in Section 3 above), Ofcom should reconsider whether Virgin Media should be

[138] UKCTA response dated 14 September 2017 to the 2017 WBA Consultation, paragraph 8, https://www.ofcom.org.uk/__data/assets/pdf_file/0016/107116/UKCTA.PDF.
[139] TalkTalk response to the 2017 WBA Consultation, paragraphs 2.17 - 2.20.
[140] BT response to the 2017 WBA Consultation, paragraph 3.29.
[141] BT response to the 2017 WBA Consultation, paragraphs 3.32 - 3.36 and Annex 3.
[142] Vodafone response to the 2017 WBA Consultation, paragraph 4.2.
[143] BT response to the 2017 WBA Consultation, Annex 3, paragraphs 4 - 6.

included as a PO for the purposes of the WBA market analysis. In the light of this, TalkTalk also suggested that Ofcom may need to reconsider whether a BT+2 PO threshold should be used, or whether it would be more appropriate to move to a BT+1 PO threshold.[144]

Common pricing constraint

4.28 BT argued that it was no longer appropriate to define more than one geographic market for wholesale broadband access in the UK excluding the Hull Area. It claimed that once our modelling data was updated and FTTP roll-out and planned fibre build included, the size of Market A fell to less than 1% of UK premises and that these were spread out across the country. BT asserted that it had no incentive or real ability to separately target these disparate areas and that it was therefore appropriate to define a single national market for the UK (excluding the Hull Area).[145]

4.29 To support its argument, BT made reference to the Commission's Explanatory Note the 2014 EC Recommendation.[146] In particular, BT highlighted the three criteria that the Commission identified on page 14 of the Explanatory Note that should be fulfilled when choosing the geographic unit from which to start the market analysis.[147]

4.30 BT argued that the Explanatory Note makes clear that:

- the fact that competitors are not present in all areas is not in itself sufficient to find distinct geographic markets as regional competitors can still exercise competitive pressure if the incumbent applies uniform national prices and the regional competitors are too large to ignore – BT pointed to its retail national pricing policy and the pricing pressures exerted by competitors in 98% of the UK;
- price differences must reflect fundamental demand or supply side differences between the markets, rather than simply variations in the underlying costs of supply in the areas – BT claimed that the unit costs of providing services are higher in areas which are more sparsely and remotely populated and that Market A prices have previously been determined by charge controls rather than market forces; and
- the size of the market is relevant – BT noted that Market A is comprised of less than 2% of UK premises.

4.31 BT disagreed with our assessment that, absent regulation, BT's prices in Market A would have been higher. BT argued that higher IPstream prices were part of its strategy to encourage migration to its WBC product and that the EOI remedies created disincentives to it negotiating WBA charges with individual customers as it would have to extend these

---

[144] TalkTalk response to the 2017 WBA Consultation, paragraph 2.23.
[145] BT response to the 2017 WBA Consultation, paragraphs 3.37 - 3.40 and Annex 2.
[146] European Commission Explanatory Note accompanying the Commission Recommendation on relevant product and service markets within the electronic communications sector, 9 October 2014, https://ec.europa.eu/digital-single-market/en/news/explanatory-note-accompanying-commission-recommendation-relevant-product-and-service-markets.
[147] BT response to the 2017 WBA Consultation, Annex 2 paragraph 5.

prices to all customers. Absent the charge control and EOI requirements, BT claimed that it would have the incentive to negotiate nationwide prices with its customers.[148]

4.32 BT explained that all of its ten largest WBA customers purchase services in both Market A and Market B. It argued that this provided them with strong countervailing buyer power when purchasing services in Market A as any attempt to extract less favourable terms in this market would risk them withdrawing large parts of their business from the competitive Market B areas.[149] We respond to this point in Section 5.[150]

4.33 BT emphasised that it has a national pricing policy for its main brand and that EE now does likewise for new customers. BT explained that the costs of implementing the necessary systems changes, putting in place the necessary marketing and the risk of negative reputational effects far outweighed any theoretical gains from setting different retail prices in Markets A and B.[151]

Our reasoning and decision

4.34 Because of the limitations noted earlier in this section of demand-side and supply-side substitution in the context of defining geographic markets in the case of fixed telecoms, our analysis focuses on an analysis of the similarity (or absence thereof) of competitive conditions and the likelihood (or otherwise) of common pricing between areas.

4.35 As set out in the introduction to product market definition in section 3, our geographic market definition follows a modified Greenfield approach. That is, our analysis of the WBA level assumes the presence of upstream regulation, most significantly the presence of regulation (including both specific access obligations and price regulation) at the WLA level.

4.36 Below we assess whether there is any significant geographic variation in the presence of WBA competitors across the UK that would lead us to a finding of separate geographic markets. We then consider whether there are any other factors, such as a common pricing constraint, that could lead us to conclude that there is a national market despite geographical variation in the presence of alternative telecoms providers.

The local exchange area for copper services as the relevant geographic unit

4.37 In the 2008, 2010 and 2014 WBA market reviews, we considered that local exchange areas (based on copper connections) were the most suitable geographic unit on which to base the WBA geographic market analysis. Nearly all UK premises have at least a copper connection (even if the majority can now be upgraded to a fibre connection – via FTTC). The exchange area also aligns exactly with the areas in which an LLU operator competes since, when an LLU operator unbundles an exchange, it is able to supply broadband

[148] BT response to the 2017 WBA Consultation, Annex 2 paragraph 7.
[149] BT response to the 2017 WBA Consultation, Annex 2 paragraphs 8 - 10.
[150] Section 5, paragraphs 5.34 - 5.37
[151] BT response to the 2017 WBA Consultation, Annex 2 paragraphs 11 - 14.

services to all the customers connected to that exchange. LLU is an upstream regulatory remedy and is a significant driver of competition in WBA.

4.38 The increased deployment of fibre raises the question of whether an alternative geographic unit would now be appropriate. As well as its copper network, BT also deploys fibre between local exchanges and street cabinets (FTTC), or in some cases between the exchanges and consumers' premises (FTTP). Most LLU exchange areas have several street cabinets, and fibre may either be deployed to all or only some of the cabinets within the copper local exchange area. Therefore, an alternative option for the geographic unit could be to use BT cabinet areas.

4.39 The Explanatory Note to the 2014 EC Recommendation[152] and the EC SMP Guidelines[153] state that NRAs should ensure that the units for geographic analysis are:

- of an appropriate size, i.e. small enough to avoid significant variations of competitive conditions within each unit yet big enough to avoid a resource intensive and burdensome micro-analysis that could lead to a fragmentation of markets;
- able to reflect the network structure of all relevant providers; and
- have clear and stable boundaries over time.

4.40 These criteria broadly overlap with those recommended in the BEREC Common Position on geographical aspects of market definition, which also adds that they should be mutually exclusive and less than national.[154]

4.41 Regarding the first criterion, competitive conditions over copper-based infrastructure are unlikely to vary significantly within most local exchange areas. For the majority of exchanges the competitive conditions will be determined by whether or not multiple providers have rolled-out LLU at that exchange. Where providers have done so, they will be able to serve the whole exchange area using LLU and hence competitive conditions are unlikely to vary significantly within that exchange area.

4.42 In theory, competitive conditions could vary within a local exchange area where there is limited LLU roll-out and only partial coverage by cable or fibre infrastructure. For fibre, this could occur in two different ways.

- First, when BT rolls-out fibre from an exchange to cabinets, it does not necessarily roll-out fibre to every cabinet within that exchange area. In these situations, there will be variation in the presence of fibre within that exchange area.

[152] Commission Staff Working Document, Explanatory Note accompanying document to the Commission Recommendation on Relevant Product and Service Markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, (SWD(2014) 298). See page 14 http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=7056.

[153] 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 (C/2018/2374), https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1528453322518&uri=CELEX:52018XC0507(01), paragraph 49

[154] BEREC Common Position on geographical aspects of market analysis (definition and remedies) BoR (14) 73, paragraph 86.

- Second, BT serves over 95% of premises with fibre-based services from just over 1,000 fibre-enabled local exchanges compared with over 5,550 exchanges that it uses to provide copper-based services to over 99% of UK premises. Therefore, fibre-based access products available at a particular exchange can typically cover a wider geographic area than the copper-based access products at that same exchange. This means that in many areas it is possible for a provider to offer broadband services from a fibre-enabled exchange linked to a fibre-enabled cabinet that sits within another exchange area, even if the telecoms provider is not present in that other exchange.

4.43 We believe that the exchange area approach has an advantage over the fibre-cabinet approach. There is a risk that a cabinet-based approach might lead to unduly burdensome micro-analysis leading to a greater fragmentation of markets than under an exchange-based approach. Under a cabinet-based approach each cabinet would need to be separately defined as falling within different geographic markets, and any remedies would apply at the level of each cabinet (of which there are around 90,000). This could lead to the situation of cabinets within the same vicinity being regulated or unregulated, which may be impractical to implement for the SMP provider and its customers. Further, the cabinet-based approach creates a greater burden on telecoms providers in terms of data provision to Ofcom for analysis.

4.44 We recognise that there could be a risk that BT would set different prices for WBA or retail broadband services delivered from different cabinets in the same exchange If this were a significant risk, then it might be appropriate to impose regulation at the cabinet level. While we are aware of a small number of instances where BT has made special offers at the WLA level for GEA-FTTC lines that met certain criteria at specific cabinets rather than exchange areas[155], we are not aware of any instances of BT pricing differently between cabinets in particular exchange areas due to variations in competition in that exchange area, and no evidence of this has been provided by respondents to our consultation. We are also not aware of any cabinet-level pricing of WBA services – which is the market of interest in this review.

4.45 Both the exchange level approach and cabinet level approach meet the second criterion in the EC's Explanatory Note and SMP Guidelines (i.e. reflect the network structure of BT to which access seekers have rolled out their own network or infrastructure). In relation to the third criterion, there is little to choose between the alternative approaches, except to note that exchange areas may provide a more stable geographic unit as we expect a greater change in the number of fibre-enabled cabinets than the number of exchanges.

4.46 In addition to the criteria outlined above, we believe that the geographic unit ought to reflect the area at which competition might be expected to take place in a competitive market. Currently BT prices its WBA services at an exchange level, albeit there is long-standing regulation of WBA services which, since 2008 has reflected the degree of

---

[155] Openreach, Openreach's response to Ofcom's consultation "Wholesale Local Access Market Review: Promoting network competition in superfast and ultrafast broadband", 18th January 2018, https://www.ofcom.org.uk/__data/assets/pdf_file/0020/110990/Openreach.pdf

competition in different exchange areas. We cannot observe the geographic unit at which BT would price absent regulation, but it is plausible that it would continue to be at the exchange level. Alternatively, if pricing were on a per-customer basis, it is likely that BT's offer to each wholesale customer would reflect the choices of alternative suppliers in different geographic areas – which given the structure of regulation at the WLA level is at least as likely to be on an exchange basis as it is on a cabinet-level.

4.47 We therefore disagree with Vodafone that the inclusion of WBA over a fibre connection in the product market means that it is no longer appropriate to use an exchange level approach to the geographic market analysis. While there could be a case for using either a cabinet level approach or an exchange level approach, on balance we consider that an exchange level approach is preferable. This is because a cabinet level approach risks leading to more burdensome regulation without this necessarily better reflecting competitive market outcomes or delivering more effective downstream competition to the benefit of consumers.

4.48 On the basis of the criteria set out in the EC Explanatory Note and SMP Guidelines, we believe that setting individual premises as the relevant geographic unit[156] would be inappropriate, since it would lead to geographic markets which:

- are not of an appropriate size – as this approach would lead to an even more burdensome micro-analysis of markets than a cabinet level approach, which we consider to be disproportionate for the reasons set out above;
- are not able to reflect the network structure of relevant providers – while both an exchange-based approach and a cabinet-based approach reflect the network structure of BT, we find that neither BT nor access-seekers set network terms or prices on a per-premises basis; and
- do not offer clearer or more stable boundaries over time.

4.49 Vodafone suggests using a threshold speed of 24Mbit/s for defining the relevant geographic market, but itself noted this could be set at a different level.[157] Moreover, we consider that the geographic boundaries of competition in WBA markets depend primarily on the number of POs present rather than the speed of services provided. In any case, for the reasons explained in section 3, we consider that the product market definition comprises WBA of all speeds.

4.50 Nevertheless, we have considered the implications of Vodafone's related suggestion that fibre-based services might not offer faster speeds than copper-based broadband services in some exchange areas, and UKCTA's suggestion that customers who receive broadband services (including FTTC customers) with slow speeds should be in Market A.

4.51 As set out in section 3 above, we consider that speeds over an FTTC connection should, in almost all cases, provide at least some uplift over a copper-based broadband connection, although the size of this uplift will depend on the length of the copper line between the

[156] As UKCTA and Vodafone appear to suggest.
[157] It does not correspond to the definition of SFBB set out in Section 3 for example.

cabinet and premise. While there appear to be some very limited circumstances where FTTC speeds to a particular premise are lower than copper-based broadband speeds, we think that these are likely to affect a very small fraction of premises, even in rural areas. We therefore consider that, for the vast majority of consumers (and even in rural areas) who are able to choose between fibre and copper-based broadband services, fibre-based services are likely to be a strong substitute for services over copper lines.[158]

4.52 In response to Vodafone's argument, however, we have considered whether it is possible to identify any exchange areas where this has an impact on a sufficient number of premises to affect our assessment of competitive conditions in that exchange

4.53 Using data collected for Connected Nations 2017, we have reviewed those exchanges that were categorised as Market A in our June 2017 WBA consultation but are now categorised as being in Market B. Where, for any given postcode in these exchanges, both an FTTC- and a copper-based broadband speed is available, we have compared these two speeds.

4.54 In general, we find that for those postcodes where information is available, FTTC provides an (often substantial) uplift over copper-based broadband speeds. There are a small number of exchanges where a significant minority of postcodes receive slower fibre speeds than copper speeds. However, in these exchange areas, the number of such postcode areas where a fibre line is reported as offering a slower speed than a copper line tend to be limited, even as a proportion of fibre coverage within that exchange area. It may also be the case that one property in a postcode may get slower fibre speeds than the copper-based speeds for that postcode, but each premise that gets both copper and fibre services would get a faster speed over FTTC than over copper-based broadband services. This is particularly likely in rural areas where properties in the same postcode are significantly different distances from the cabinet.

4.55 Given the issues around the availability of data on affected premises in the relevant postcode areas, and the reliability of this data at such a granular level, we do not think that it would be appropriate to consider reallocating these exchanges between geographic markets on the basis of this data.

4.56 Even if we were to move these exchanges to Market A, the overall impact on the size of Market A would be very small, even relative to the size of Market A.[159]

4.57 We therefore remain of the view that the local exchange area is the most suitable geographic unit on which to base our geographic market analysis.

Determining POs

4.58 In our June 2017 consultation, as in previous reviews, we considered that the key factor determining differences in competitive conditions between exchange areas was the

[158] We believe such a situation would likely only occur where a lower frequency signal is injected at a cabinet with reduced power, and where Openreach injects a lower amount of power for a particular line (due to the grouping of lines with similar characteristics) than would exist if that line was provided from the exchange.
[159] The total difference would be 18 exchanges, which include around 0.07% of UK premises

number of POs able to serve premises within the exchange area. A PO is defined as a provider that is likely to exert a substantial competitive constraint on the other providers, across the UK. The PO concept has been used in the analysis of competition in WBA markets since our 2008 WBA Market Review Statement.

4.59 In order to assess which providers to categorise as POs, we calculated the network coverage (in terms of UK premises) for each of the largest telecoms providers.[160] We also calculated their national WBA share of connections (including self-supply).[161] These results are shown in Table 4.1 below.

Table 4.1: Coverage and national wholesale shares of broadband connections

Provider	Network coverage of UK (excluding Hull)	National WBA share of connections
BT	100%	[✂] <40%
Sky	[✂] >95%	[✂] 15-25%
TalkTalk	[✂] >95%	[✂] 15-25%
Virgin Media	[✂] 40-50%	[✂] 15-25%
Vodafone	[✂] >95%	[✂] <5%

Source: Ofcom calculations based on data provided by BT and Virgin Media[162]

4.60 As this table shows, four telecoms providers have a substantial share of connections at the national level: BT, TalkTalk, Sky and Virgin Media. These four providers are large vertically integrated companies (although only BT and Virgin Media have their own local access networks) and are well established in several telecommunications markets. We therefore include them in the list of POs.

4.61 Vodafone has a high coverage level but a lower share of connections than the other POs. Vodafone is currently actively marketing its residential broadband services after launching its offering in this segment in 2015. It therefore has the potential to expand its customer base. We therefore also include Vodafone as a PO.

4.62 We identify our list of POs as BT, TalkTalk, Sky, Virgin Media and Vodafone. This is the same as in the 2014 WBA statement.

[160] As determined by providers with >10% national coverage and >100,000 lines.
[161] Here we mean the share of active broadband connections supplied by the relevant PO. Active connections include broadband connections provided via MPF and SMPF on BT's copper network (either by BT or by an LLU operator), via VULA on BT's fibre network (either by BT or by a VULA operator) or by Virgin Media using its cable network. BT share includes EE and Plusnet connections.
[162] Ofcom calculations based on BT's responses to the 38th WLA WBA s.135 Notice dated 19 September 2017 and Virgin's response to Virgin Media response to WBA WLA s.135 Notice dated 16 January 2018. Market shares include FTTP. BT's market share includes connections provided by EE and Plusnet.

Accounting for copper-based competition within the local exchange areas

4.63 For each local exchange area, we examine whether POs are present using LLU. Using data provided by BT we are able to determine whether a PO has any active lines in a given exchange. Where a PO has more than two active lines from that exchange we deem them to be present in that exchange area.[163]

4.64 We have also assessed whether providers plan to increase their coverage by further LLU roll-out during this review period. As explained in paragraphs A6.42 – A6.44, we take account of providers' committed roll-out plans. Evidence gathered during the course of this review indicates that none of the POs are currently planning further significant roll-out of LLU.[164]

Accounting for cable

4.65 We account for the competitive impact of Virgin Media's cable network by matching its network footprint onto BT's exchange areas. Ultimately this process allows us to estimate the proportion of premises within a given BT exchange area that Virgin Media can serve.

4.66 The proportion of premises that Virgin Media can serve based on its current network footprint varies across exchange areas. Therefore, we consider that we should set a threshold for the proportion of premises within an exchange area that are capable of being served by Virgin Media in order to consider Virgin Media to be present in that exchange area.

4.67 As noted in paragraph 2.19, Virgin Media is currently planning a significant degree of additional roll-out ('Project Lightning'). We have not taken any of Virgin Media's forecast rollout into account as Virgin Media was unable to confirm the location of the roll-out to a sufficient level of detail for us to factor these forecasts into our analysis. In any case, given that most of Virgin Media's network is in exchange areas in which at least three other POs (including BT) are present, we would expect that most of its expansion would fall into Market B and so have little impact on our market analysis.

4.68 In the 2008, 2010 and 2014 WBA statements, we concluded that Virgin Media should be counted as having a presence in an exchange area if its network was able to supply more than 65% of the premises in that exchange area. In our 2008 statement, we considered that in order to provide a competitive constraint in an exchange area, Virgin Media must be able to supply above 50% of premises but not necessarily as many as 90%. We checked a range of sensitivities between these levels (including our chosen 65% threshold) and found that the choice of threshold did not make a significant difference to the market

[163] We use the criterion of more than two active lines to reduce the likelihood of including exchanges where a provider has deployed LLU only for test purposes.
[164] Based on the responses of TalkTalk, Sky and Vodafone to Question 1.1 of the s.135 Notices sent to them in October 2015 and Openreach data on planned rollout provided in their response to question 1.8 of the 38th WLA WBA s135 notice dated 19 September 2017

sizes.[165] A 65% coverage threshold also means that Virgin Media is able to serve a clear majority of premises in that exchange area. Conversely, reducing the threshold to 50% as suggested by BT would leave 50% of premises in the exchange area served only by BT and one telecoms provider using LLU. We considered that this would risk potentially overstating the strength of the competitive constraint from Virgin Media.[166]

4.69 We have analysed whether changes in the coverage threshold for Virgin Media have an impact on our market analysis. We find that Market A remains unchanged in size whether we reduce our coverage threshold to 50% (i.e. no exchange areas move between Market A to Market B due to the change in the cable coverage threshold) or increase it to 80%.[167] Therefore, accounting for competition from cable has relatively little effect on our geographic market definition with the location of the boundary between Market A and Market B primarily being determined by the coverage of telecoms providers using LLU.

4.70 We therefore continue to use 65% as the appropriate cable coverage threshold for determining whether Virgin Media would count as a PO with presence in an exchange area.

Accounting for fibre

4.71 In response to our June 2017 WBA consultation, stakeholders provided their views on a number of distinct issues relating to the way we proposed to account for fibre in our geographic market analysis. These issues are:

- The treatment of FTTC-based services;
- The treatment of FTTP;
- The choice of 65% as the fibre threshold.

4.72 We address each of these issues in turn below.

Treatment of FTTC-based services in our geographic market analysis

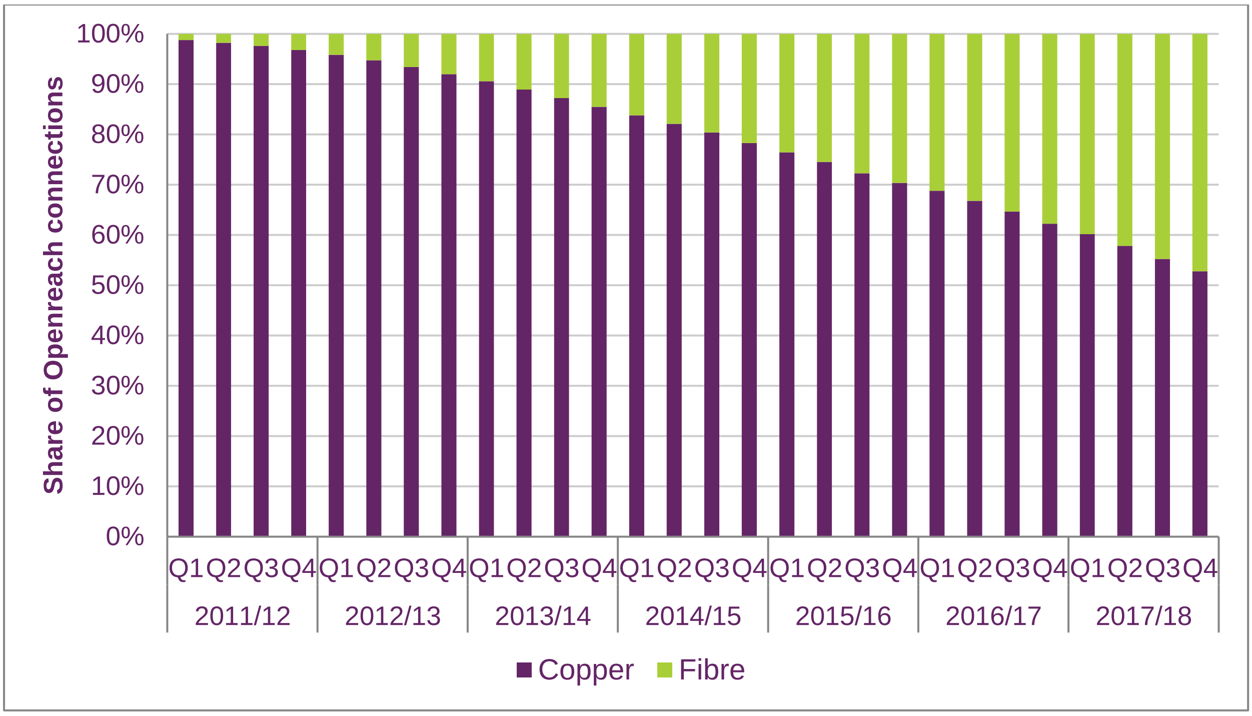
4.73 In the product market definition we included wholesale broadband access services of all speeds delivered over copper/fibre and cable within the relevant market.

4.74 In our June 2017 WBA consultation, we said that the uncertainty that existed in 2014 about the competitive impact of fibre-based services has now been resolved. We noted that BT has continued to deploy fibre-based broadband services across the majority of the UK, including in many rural areas, and that there has been strong take-up of fibre-based services. As shown in figure 4.2 below, fibre now accounts for almost 50% of all Openreach based connections[168] and is expected to grow further.

---

[165] Ofcom, 2008 WBA Statement, paragraphs 3.265-3.266, https://www.ofcom.org.uk/__data/assets/pdf_file/0019/37603/wbamr07.pdf
[166] Ofcom, 2014 WBA Statement, paragraph 4.69.
[167] A reduction in the coverage threshold means that Virgin Media needs to cover fewer premises in an exchange area to be considered a PO in that area. Where an exchange area has only two POs (neither of which is Virgin Media), a reduction in the coverage threshold could make Virgin Media a PO in that exchange area, causing that exchange area to move from Market A to Market B.
[168] BT KPIs, Q4 2017/18, sheet 8. https://www.btplc.com/Sharesandperformance/Quarterlyresults/2017-2018/Q4/Downloads/KPIs/q418-KPIs.pdf

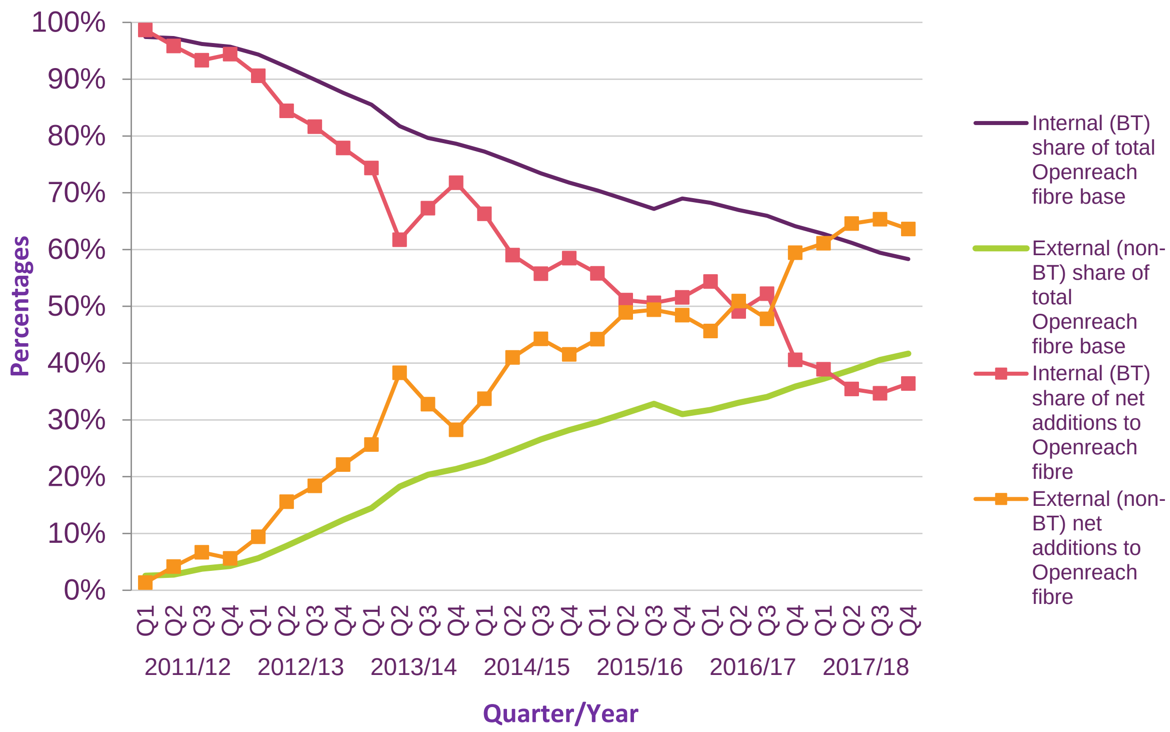
Figure 4.2: Proportion of copper-based and fibre-based Openreach connections



Source: BT KPIs Q4, 2017/18, *http://www.btplc.com/Sharesandperformance/Quarterlyresults/*

4.75 Competitor take-up of FTTC is also likely to continue as consumer demand for bandwidth grows and, we expect, stimulated by the reduction in wholesale charges following the control on the 40/10 VULA service in the March 2018 WLA statement. Growth in competitor take-up of fibre-services on the Openreach network is shown in Figure 4.3 below.

Figure 4.3: Share of Openreach fibre connections



Source: BT KPIs Q4, 2017/18, http://www.btplc.com/Sharesandperformance/Quarterlyresults/

4.76 The vast majority (over 98%) of POs' usage of fibre is based on FTTC. In the light of this and the above, we consider that there is now sufficient certainty around POs' provision of services over FTTC to take it into account for the purposes of our geographic market analysis. We consider FTTP services under the next heading below.

4.77 The inclusion of POs' use of FTTC leads to a larger Market B than would have been the case if we had only included copper-based services as in the 2014 WBA statement. This is because fibre-based access products available at a particular exchange can typically cover a wider geographic area than the copper-based access products at that same exchange.

4.78 This means that, while POs who offer copper-based broadband services using LLU are only able to provide copper-based services where they have unbundled the local copper exchange, they can offer fibre-based services in these and in any other local copper exchange areas that are connected to the same fibre exchange at which they are present. For sales to retail or wholesale customers, POs can offer fibre-based services outside exchange areas they have unbundled by purchasing WLR from Openreach and providing dual play services using WLR+GEA. Further, for sales to wholesale customers, POs can offer fibre-based broadband using GEA on a standalone basis (with the customer then purchasing WLR).

4.79 We have gathered evidence from the three POs that compete with BT using Openreach's GEA-FTTC services (i.e. Sky, TalkTalk and Vodafone). This has informed our view about whether the competitive constraint from POs' use of fibre is likely to extend throughout the area they are in principle capable of serving given their presence at fibre exchanges.

4.80 Vodafone uses WLR+GEA to serve its entire customer base[169], including those retail customers who take a SBB service. While Vodafone has unbundled some copper exchanges, this unbundling is used to serve business customers. Vodafone has confirmed to us that it serves end customers wherever it is present in a fibre exchange that can serve that customer.[170]

4.81 Sky stated that while it prefers to use MPF+GEA in exchange areas it has unbundled, it is willing to serve customers using WLR+GEA in off-net areas.[171]

4.82 TalkTalk told us that it does not offer FTTC-based retail broadband services to areas outside its MPF LLU footprint and therefore considered that it should not be included as a PO when assessing the level of competition in these areas.[172]

4.83 On the basis of TalkTalk's submissions to us we recognise that it only offers broadband services to retail customers that it can serve using MPF LLU, in other words, where it has unbundled the copper exchange. However, in relation to wholesale sales, TalkTalk is prepared to use its interconnection to BT's fibre exchanges to reach beyond premises only attainable from a copper exchange that TalkTalk has unbundled.

4.84 Information gathered from TalkTalk since the June 2017 WBA consultation shows that it has offered wholesale services to telecoms providers over WLR+GEA in the past[173] and, although it envisages a strategy where it will not do this going forward[174], it still has such connections at present. In addition, TalkTalk has stated that, going forward, it would offer TalkTalk WLR + fibre-based wholesale services outside exchanges it has unbundled in certain circumstances, for example where this is necessary to win a customers' business in unbundled areas because the customer requires coverage across both non-unbundled and unbundled areas.[175] Information provided by TalkTalk also shows that it currently supplies wholesale GEA-based FTTC services outside exchanges it has unbundled, over other provider's WLR lines, and that the volume of such services increased markedly in the twelve months to April 2018.[176]

4.85 We therefore consider that this is consistent with TalkTalk acting as a competitive constraint on BT's supply of WBA in areas where TalkTalk can serve fibre customers using GEA FTTC, including in areas where it has not unbundled the copper exchange.

---

169 With the exception of some legacy customers, who are served using WLR+WBA.
170 Vodafone has coverage of [✂] [over 95%] of premises nationally.
171 Sky response dated 23rd January 2018 to the 2nd WBA s135 request dated 9 January 2018
172 TalkTalk response to the June 2017 WBA consultation,
173 TalkTalk response dated 3rd May 2018 to the 3rd WBA s135 dated 12th April 2018
174 TalkTalk email dated 7th June 2018
175 TalkTalk email dated 7th June 2018
176 TalkTalk response dated 3rd May 2018 to the 3rd WBA s135 dated 12th April 2018. [✂]. The same request shows that TalkTalk's off-net GEA lines has increased by [✂] in the year to 12th April 2018.

4.86 We note that, were we to consider TalkTalk as not being present by fibre in exchange areas outside those it has unbundled, this would make little difference to our market definition – less than 0.1% of premises nationally.

4.87 We therefore take into account fibre coverage by Sky, TalkTalk and Vodafone, including in exchange areas that they have unbundled, subject to the PO having sufficient fibre coverage of the local copper exchange area. We discuss our choice of fibre coverage threshold below.

4.88 BT argued that the introduction of its single order GEA product (SOGEA) would negate the need for providers to purchase MPF or WLR services (to support FTTC access) and that this would therefore enable fibre-based broadband to be provided anywhere that fibre was available.

4.89 Openreach's new SOGEA product includes the copper bearer within the VULA service so that it can be purchased without also purchasing WLR or MPF. It is too early to say what its eventual market impact will be but, in any case, we have taken into account the areas which POs can serve using WLR+GEA in our assessment of competitive conditions.

Treatment of FTTP in the geographic market analysis

4.90 BT argued that we should take into account its FTTP deployment when assessing geographic markets. Although recognising that rollout was relatively low, BT argued that it was highly concentrated and could impact on whether an exchange was designated as being in Market A or Market B.

4.91 Unlike FTTC-based services, there is still very limited coverage of FTTP across the UK. BT's FTTP network is only available to 1.7% of premises nationally.[177]

4.92 We have considered whether POs using wholesale FTTP lines (on the basis of the regulated GEA service) are likely to act as a competitive constraint on WBA services, both now and over the review period.

4.93 Currently, Openreach has around 145,000 FTTP lines.[178] However, very few of these lines are provided to external telecoms providers (i.e. non-BT Group providers), with less than 100 lines (<0.1%) in total being taken by external providers on the Openreach network.

4.94 We have also sent information requests to Sky, TalkTalk and Vodafone asking about their plans for using BT's FTTP network over the review period, including any volume forecasts. All three providers suggested that their FTTP volumes may increase over the review period, with [✂] being unable to provide any committed volume forecasts. The lack of any specific forecasts by these POs suggests that take-up may not increase to a very material level over the review period and anyway it is subject to significant uncertainty.

4.95 Given the current very low take-up of FTTP by external providers on the Openreach network, and the lack of certainty regarding FTTP take-up over the review period, we have

[177] BT's response dated 9 January 2018 to question 2 of the 3rd WBA s135 notice dated 21 December 2017
[178] Data relates to 31st December 2017.

decided not to take wholesale usage of Openreach FTTP lines into account in our geographic market analysis.

4.96 We have also considered whether there is a need to take into account the FTTP deployments made by other providers. Several smaller providers, such as Hyperoptic and Gigaclear, have their own FTTP networks deployed in certain areas around the country. TalkTalk has also deployed an FTTP network in York (with CityFibre as the infrastructure provider).

4.97 We have decided not to take these FTTP deployments into account as part of our geographic market analysis for the following reasons:

- First, as explained above, we only take into account those providers (POs) who are able to act as a substantial competitive constraint on other providers. Due to their limited coverage and customer bases, smaller operators such as Hyperoptic and Gigaclear are unlikely to act as such a constraint at present. This approach is consistent with our approach in the 2008, 2010 and 2014 WBA market reviews. We therefore do not take into account FTTP deployments of providers that we have not found to be POs at present.
- Second, of the four POs other than BT, TalkTalk has deployed a local FTTP network in York, while Vodafone intends to build an FTTP network with Cityfibre in several UK cities. In the case of TalkTalk, the urban areas of York are already in Market B without taking this deployment into account.
- Thirdly, we do not take into account deployments where there is not yet sufficient certainty over where these networks will be deployed and when they will be able to serve end users and therefore act as a competitive constraint on BT.[179] We consider that this is the case for Vodafone's announced FTTP deployments.[180] This is consistent with our approach to planned LLU rollout, where we only take into account "committed" rollout.

4.98 Therefore, for the purposes of this review, we have not included FTTP deployments by any providers in our geographic market analysis.

The fibre coverage threshold for exchange areas with an FTTC presence

4.99 Assessing the competitive impact of broadband services over fibre in copper exchange areas faces similar challenges to that of evaluating the competitive impact from cable. Clearly where a PO is present in an exchange via LLU it is already considered to be present in that exchange area and will continue to be so even if the exchange becomes fibre-enabled. However, if the roll-out of fibre from a first exchange extends to cabinets in other exchange areas which the PO has not unbundled then the PO may also be considered

---

[179] For example, in relation to planned LLU rollout, we define committed rollout as rollout that reaches the third stage of Openreach's infrastructure planning process. See Annex 6, paragraphs A6.42-A6.44. [180] While we accept that Vodafone's rollout plans are committed in general terms, it is the lack of certainty over their exact locations that means we do not take them into account as part of our market analysis

[180] While we accept that Vodafone's rollout plans are committed in general terms, it is the lack of certainty over their exact locations that means we do not take them into account as part of our market analysis

present in the other exchange areas. It may however only have partial coverage of the other exchange areas; particularly if full coverage requires the PO to be present in more than one fibre-enabled exchange.

4.100 We recognise that with limited empirical evidence about the competitive impact of fibre providers on BT's share of WBA in copper exchange areas, we need to make a judgment about what threshold level is likely to indicate a sufficient competitive constraint.

4.101 In principle, the greater the coverage area, the more likely it is that a provider will act as a competitive constraint, and therefore this is more likely to be the case if the provider could address a majority of customers. In this context, we recognise that the lower the threshold the greater the risk of overstating the competitive constraints in a copper exchange area while, conversely, the higher the threshold the greater the risk of understating the competitive constraints.[181]

4.102 In our June 2017 consultation, we considered that the type of competitive constraint that broadband services over fibre can exert on broadband services over copper connections is likely to be similar to that from cable.[182] As with cable, we consider that a threshold of 65% fibre coverage would mean that a PO operating solely with WLA regulated fibre access (i.e. GEA FTTC) can address a clear majority of premises in an exchange area.

4.103 BT argued that, since more than one CP can enter the market on the basis of fibre, the competitive threat on the basis of fibre presence is greater than in the case of cable presence. BT considered that this means that in the case of fibre presence, a lower share of the exchange area needs to be covered to act as a competitive constraint than in the case of cable presence.

4.104 BT also argued that, since our analysis of PO presence at fibre handover points did not appear to include forecasts of future expansion of PO presence to further handover points, a 65% threshold based on today's PO presence is highly likely to miss many exchanges that over the course of the review period will pass the 65% threshold.

4.105 By contrast, Vodafone claimed the use of the 65% threshold for fibre and cable is inappropriate and potentially leaves 35% of premises in markets designated as competitive even though they have no choice of service. UKCTA made a similar comment in its consultation response, arguing that the up to 35% of non-FTTC customers should be included in Market A.

4.106 In order to test the sensitivity of the fibre coverage threshold to the size of Market A, we have updated our analysis from the June 2017 WBA consultation.

---

[181] This is consistent with the BEREC Common Position: we need balance the risks of "Type 1 errors", in which there is deregulation (or lighter regulation) where in fact regulation (or stronger regulation) would still be justified; and "Type 2 errors", in which there is regulation (or stronger regulation) where no (or lighter) regulation would be justified. See BEREC Common Position, paragraphs 168-172

[182] This is especially true as all packages currently offered over the cable network offer superfast speeds

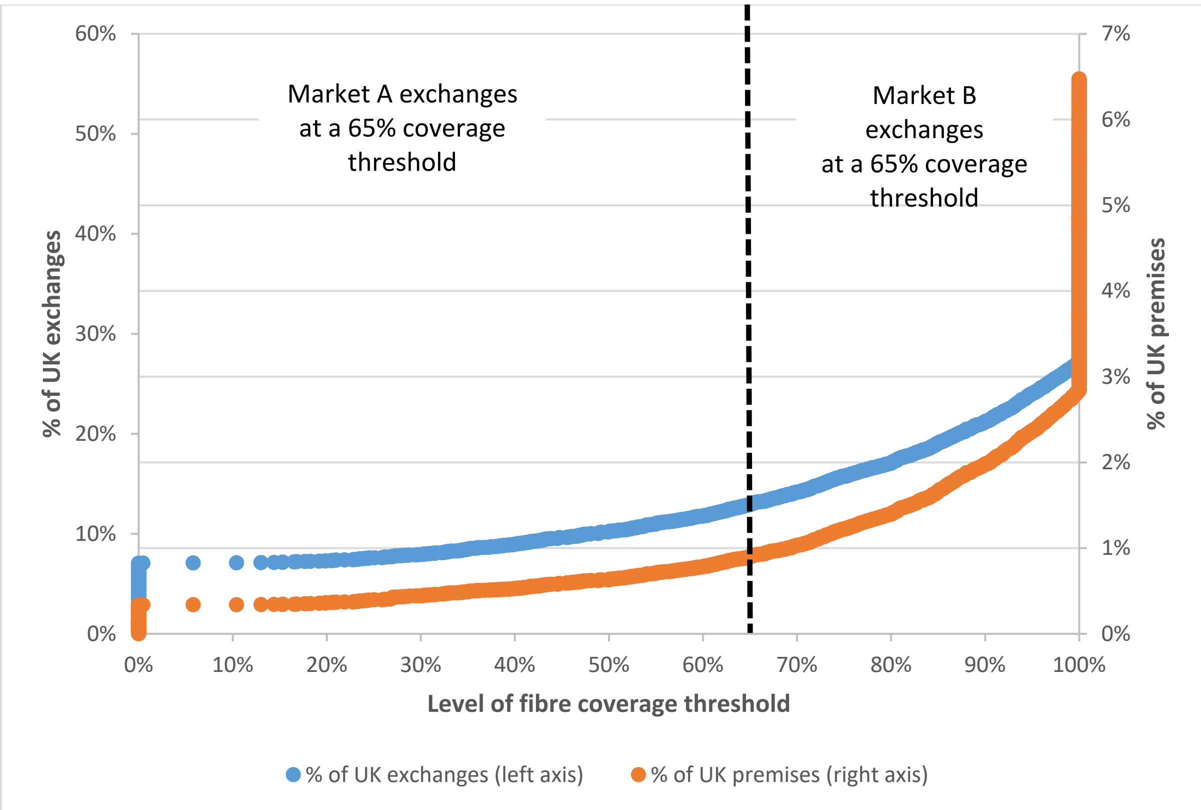
- Figure 4.4 below shows all the exchange areas that we would classify within Market A if we were to take no account of fibre coverage. They represent around 6.5% of all UK premises and 50% of all UK exchange areas.[183]
- As our base case, if we take a fibre coverage threshold of 65%, in line with our approach to cable, Market A corresponds to 0.9% of premises and 13% of all UK exchange areas.
- A reduction in the fibre coverage threshold to 50% results in a reduction in the size of Market A (relative to our base case).[184] Under this approach, Market A would correspond to 0.6% of premises.
- An increase in the fibre coverage threshold to 80% results in an increase in the size of Market A (relative to our base case). Under this approach, Market A would correspond to 1.4% of premises.
- At the upper extreme, if we took account of fibre coverage but only where an exchange area is completely covered by fibre (i.e. a 100% fibre coverage threshold), this would increase the size of Market A to 2.8%.

---

[183] While it appears from the chart below that there would be fewer exchange areas in this scenario, this is becausethe exchange values where fibre coverage is equal to 100% are obscured by the line showing percentage of premises. This scenario differs from the size of Market A using a fibre coverage threshold of 100% (2.8%) as there are certain exchange areas where, based on LLU, there are not two POs present in addition to BT, but that are completely covered by fibre. Unlike in our June 2017 WBA consultation, this is several percent below the size of Market A if fibre was not taken into account at all (6.5%). This appears to be due to the increased rollout of fibre in areas which previously had partial coverage, and the ability of POs to serve customers using these fibre lines.

[184] As is the case for cable, a reduction in the fibre coverage threshold means that an operator needs to cover fewer premises in an exchange area to be considered a PO in that area. Where an exchange area has fewer than three POs (and so is in Market A), a reduction in the fibre coverage threshold could mean that more fibre operators in that exchange area are now considered POs due to the lower threshold, causing that exchange area to move from Market A to Market B.

Figure 4.4: Impact on Market A of changes to the fibre coverage threshold



Source: Ofcom calculations based on data provided by Openreach and Virgin Media

4.107 We disagree with BT that the fibre coverage threshold should be lower than the cable coverage threshold. BT argued, firstly, that this was appropriate because multiple providers can compete using fibre whereas only one can compete based on cable coverage. We do not agree that this is a valid basis for a lower threshold for fibre, for a number of reasons:

- in areas where Virgin Media and a PO using LLU are present, all customers have at least one alternative to BT which may not be the case if there are two fibre operators each with less than 100% coverage;
- evidence suggests that Virgin Media's market share is higher within its footprint than the shares of POs using WLA inputs from BT; and
- where multiple providers are already present in an exchange area using fibre, this is separately taken into account when considering the number of POs present in that exchange area.

4.108 We also disagree with BT that lowering the fibre coverage threshold would be the appropriate way to take into account future fibre rollout by providers, for the following reasons:

- by its nature, there is uncertainty about where, when or even whether uncommitted roll-out will occur and therefore we do not consider that it can be relied on as a competitive constraint;

- we consider it important that GEA users are able to serve a clear majority of premises in the exchange area so that we can be sufficiently confident that they would impose a competitive constraint on BT;
- the 65% threshold is somewhat subjective but is consistent with our approach to Virgin Media since 2008, a period in which Virgin Media's network coverage was also expected to, and did, expand;
- we do not yet know what the long-term impact of GEA-based competition on BT's market share will be.

4.109 We acknowledge the point made by Vodafone that a 65% fibre coverage threshold may leave up to 35% of consumers in a given Market B exchange area without a choice of providers. As we set out in our June 2017 WBA consultation, a threshold of 65% allows a clear majority of premises to be addressed (as with cable). Furthermore, as always, we need to balance the risk of over-regulation with the risk of under-regulation. For the reasons set out above, we believe that a threshold of 65% strikes the right balance.

4.110 Provided BT's retail divisions do not price-discriminate within the exchange area, such consumers would benefit from the pricing constraint within the exchange area that arises from the partial fibre coverage. As set out above, our evidence suggests that BT's businesses do not differentiate their WBA or retail broadband prices within exchange areas. Therefore, provided that there is a competitive constraint on BT in a sufficient proportion of the exchange area, even consumers with less choice of provider would be expected to benefit from the pricing constraint on BT within that exchange area.

4.111 In relation to UKCTA's proposal, we consider that including premises not covered by FTTC in Market A would not address the absence of fibre and would be unnecessary if there was already enough competition from LLU alone (i.e. at least BT + 2 POs offering SBB).

4.112 While any threshold approach requires a weighing up of the risks of either overstating or understating the level of competitive constraints, for the reasons set out above, our judgement is that it is appropriate to consider a PO as present in an exchange area using wholesale fibre access where it is able to serve more than 65% of consumers within that exchange area.

Determining the presence of POs

4.113 Using the methodology described above, we next determine the number of POs that are present within each local exchange area. First, we count the number of POs that have unbundled each exchange. Next, we assess whether Virgin Media exceeds the 65% coverage threshold and if so add Virgin Media as an additional PO. Finally, we assess whether there are any POs with more than 65% coverage of premises in the copper exchange area using FTTC-based WLA products and add them to the number of POs present (except if they already offer broadband using LLU from the copper exchange in question). This provides us with a total number of POs present within each individual copper exchange area.

4.114 BT highlighted the need for us to take account of the best available information in our market analysis and made a number of suggestions in relation to our geographic modelling.[185] It noted that the data used in the 2017 WBA Consultation was around 12 months old and that if more recent data was used then the size of Market A would reduce to less than 1% of premises.[186]

4.115 We have updated the data on PO presence in BT copper exchanges which we have used for the purposes of our geographic modelling, as explained further in Annex 6.

Criteria for assessing competitive conditions in each exchange

4.116 Having determined the number of POs present in a copper exchange area, we now consider the competitive conditions within each exchange area.

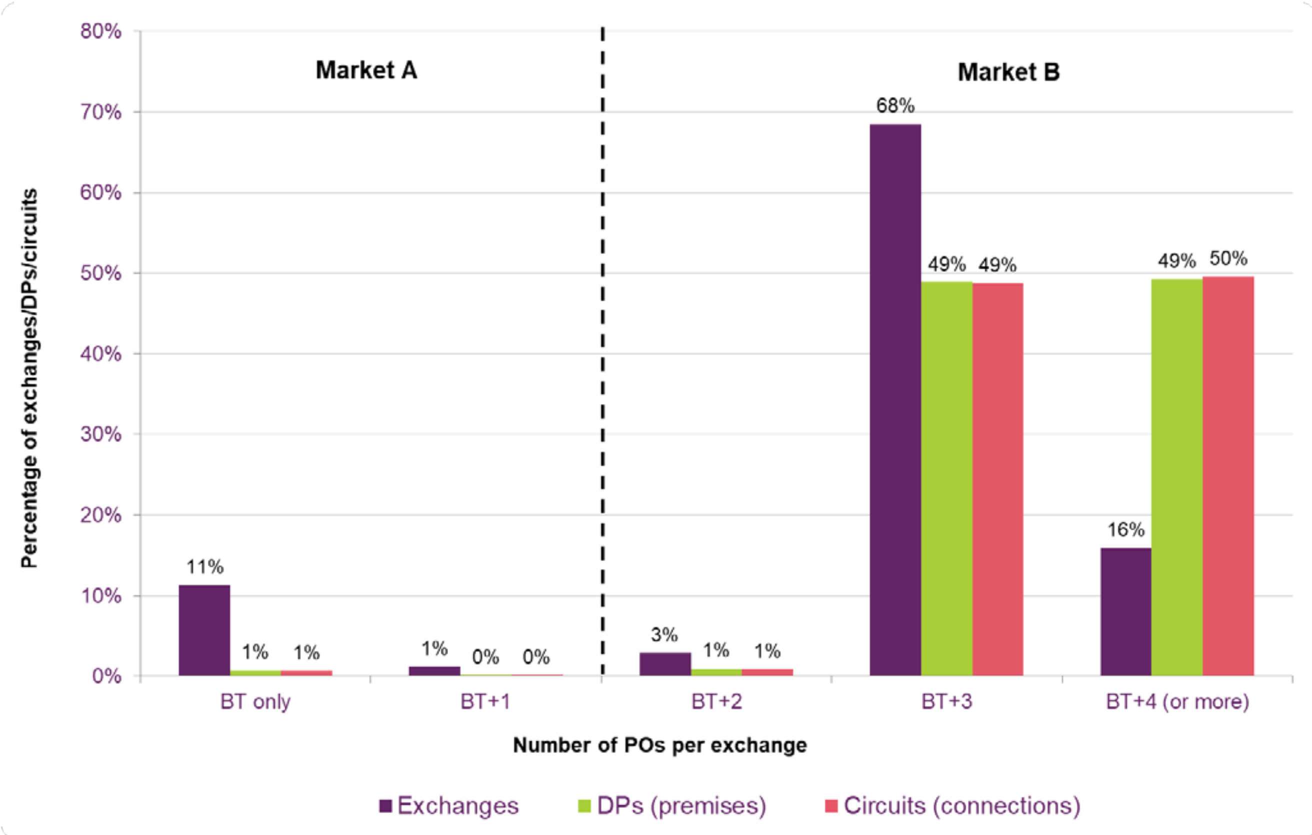
4.117 In the 2014 WBA Statement, we concluded that there were sufficiently similar competitive conditions in exchange areas where there were at least BT+2POs and that competitive conditions were materially different for exchanges which were BT-only or BT+1PO, which we considered fell within a separate geographic market. We had previously considered that market shares were an important factor in assessing the competitive conditions in an exchange with BT+2POs. We analysed the development of market shares over time in exchanges with BT+2POs and found that even where BT initially had a high market share, this fell to a level similar to that in exchanges with BT+3POs or more over the time period covered by a market review. As such, we grouped all exchanges with BT+2POs with exchanges with BT+3 or more POs, irrespective of BT's market share.[187]

4.118 Based on this analysis, we see no reason to reconsider the position from our last review when considering the competitive impact of providers present either via copper or via cable. As we are now including fibre-based services in our assessment, we have considered whether this has an impact on our grouping of exchanges into markets. As was shown in Figure 4.3 an increasing proportion of Openreach fibre services (now more than 40%) are used by external (non-BT) CPs. Given the increase in consumer demand for higher speeds and data usage over time, as well as with the introduction of the VULA 40/10 charge control (which we anticipate will flow through to retail prices), the migration of consumers on the Openreach network from SBB services to SFBB services is likely to continue. We therefore do not consider that the inclusion of fibre in our assessment should affect our grouping of exchanges into markets.

4.119 On this basis we show the distribution and classification of exchange areas in Figure 4.4 below.

[185] BT response to the 2017 WBA Consultation, Annex 3
[186] BT response to the 2017 WBA Consultation, Annex 3 paragraph 2.
[187] 2014 WBA statement, paragraphs 4.123-4.133

Figure 4.5: Number of POs per exchange



Source: Ofcom calculations based on data provided by BT and Virgin Media.

4.120 TalkTalk argued that in light of the product market concerns that it had raised (discussed in Section 3 above), Ofcom should reconsider whether Virgin Media should be included as a PO for the purposes of the WBA market analysis. In light of this, TalkTalk also suggested that Ofcom may need to reconsider whether a BT + 2 POs threshold should be used, or whether it would be more appropriate to move to a BT + 1 PO threshold.

4.121 Additionally, in Vodafone's proposed "Market X" (which appears to be its alternative to Market B), only at least one LLU-based provider or cable-based provider needed to be present in addition to BT.

4.122 We consider that the use of a BT+1 PO threshold would be inconsistent with our view, supported by evidence from our 2014 WBA statement[188], academic studies, competition cases and other market reviews, that markets with only two providers are unlikely to be effectively competitive.[189]

---

[188] See paragraph 4.117 above

[189] In general, the number of firms necessary to generate effective competition will vary from market to market and a case specific assessment needs to be made. Academic studies, competition cases and other market reviews suggest that *at least* three firms are required for effective competition though, in some cases, four or more may be needed: As an economic policy note prepared for the Dutch NRA concluded: "there is no "magic number" for the minimum number of competitors necessary for effective competition. One way to approach this is to look at the rules of thumb used by competition

4.123 As set out above, we consider that cable-based retail broadband services are a strong indirect constraint on broadband services over copper- and fibre-based connections, and we therefore include Virgin Media in the relevant product market and as a PO in our geographic analysis. We therefore disagree with TalkTalk that Virgin Media should not be considered as a PO, and so do not consider whether the absence of Virgin Media from our list of POs would make it more appropriate to move to a BT+1 threshold.

Common pricing constraint

4.124 In accordance with the approach recommended in the BEREC Common Position[190], we have first looked for evidence of variations in competitive conditions between different geographic areas. We have found significant geographic variations in the number of providers of wholesale broadband access services. For the reasons set out above, we also consider that there are distinct differences in competitive conditions where BT and at least two other POs are present compared with areas where only BT, or BT+1 PO are present. This suggests that competitive conditions in the UK outside the Hull Area are not homogeneous.

4.125 Given there are strong indicators of an absence of homogeneity in competitive conditions, our analysis above would suggest that there are sub-national geographic markets at the WBA level. However, in its consultation response, BT argued that the small size of our proposed Market A, combined with the impact of pricing in Market A on its competitive position in Market B, means that BT no longer has the ability or incentive to separately target these areas and it is therefore appropriate to define a single national market for the UK. In effect, BT is arguing that there is a common pricing constraint which means that, absent regulation, it would not set higher prices in Market A.

4.126 We have considered whether a common pricing constraint would exist in the WBA market in the absence of regulation. In doing so, we take account of the BEREC Common Position, which states:

> "If prices of the incumbent and alternative operators are geographically uniform, that is, do not differ between geographical areas, this may be an indication of insufficient geographical variations in competitive conditions to justify the definition of subnational geographical markets. An NRA should always check underlying facts possibly indicating the opposite. If the prices of the incumbent are geographically uniform but the prices of the alternative operators with national coverage differ between geographical areas, particularly between competitive and less competitive areas, the indications for a national market are less clear. In this situation, the

authorities. The European Horizontal Merger Guidelines declare markets with an HHI below 2000 as normally non-problematic. Although very roughly, this suggests that between 5 and 6 market players with similar market shares might provide effective competition. The practice of the European Commission shows that 3-to-2 mergers are normally viewed as problematic, whereas 5-to-4 mergers are typically only regarded as problematic in particular circumstances.

[190] BEREC Common Position, paragraph 46

common pricing constraints may not be a good argument for a national market despite the existence of a national uniform price of the incumbent operator."[191]

4.127 We have therefore examined whether prices of both WBA services and retail services are geographically uniform. As we can only observe actual prices, we use these to make inferences about prices in the absence of regulation, bearing in mind the modified Greenfield approach (which requires an abstraction from wholesale regulation). We find that:

- At the wholesale level, while BT's Market B list prices for WBC are the same as its list prices in Market A, in practice BT offers [✂] discounts on the list prices for WBC services in Market B.[192]
- Whilst the list price of IPStream is higher in Market B than in Market A, which is somewhat contrary to a priori expectations (given Market B areas are more competitive) this is consistent with BT encouraging migration from IPStream to WBC where WBC is available and the fact that IPStream has been subject to a charge control in Market A.
- In its consultation response, BT also suggested that it negotiates pricing with individual customers in Market B. The outcome of such negotiations may not be a single national price, even for a given customer. Moreover, as different customers may purchase WBA in different areas, price differences between customers may also reflect variations in the strength of competition in those areas.
- At the retail level, we find that while BT largely charges the same price nationally for its main 'BT' brand,[193] EE has only started doing so fairly recently, and Plusnet continues to charge different prices in different geographic areas.[194] Historical evidence on pricing also suggests that BT set prices that varied between areas depending on the extent of competition. For example, BT disaggregated its WBA prices (from a previously national WBA price) in response to competitive entry from telecoms providers using LLU in 2005.[195]

4.128 The varying approaches adopted by BT to national pricing both at the wholesale level and at the retail level suggest that BT does not have a uniform geographic pricing approach. While price differentials that reflect cost differentials would be consistent with a common pricing constraint and a single national market, the main factors behind BT's price differentials set out above appear to be related to differences in competition rather than cost differences.

---

[191] BEREC Common Position, paragraph 49

[192] For example, the list price of BT's fibre bandwidth charge is £40 per Mbit/s, but we find in practice the average charge is [✂].

[193] As we explain in section 6, para 6.72, there is [✂].

[194] Plusnet has historically aligned its higher prices with Ofcom's Market A areas, including a recent price change where it now charges its higher prices in those areas that we classified as Market A in our June 2017 WBA consultation.

[195] In April 2005, BT started offering rebates which it applied automatically to customers of its broadband products (DataStream and IPStream), at so-called qualifying exchanges (or "dense cells"). At the time BT classified 561 of its exchanges as qualifying and, in general, they are the ones that serve the most homes and businesses. See Ofcom, Review of the Wholesale Broadband Access Markets: Final statement, 21 May 2008, paragraphs 2.20-2.29, https://www.ofcom.org.uk/__data/assets/pdf_file/0028/42697/statement.pdf

4.129 We therefore consider that BT is willing to depart from national pricing in practice, both at the wholesale level and at the retail level. To understand whether BT would be likely to do so in the absence of regulation of WBA services, it is appropriate to consider BT's incentives as they apply to the WBA market. These will differ from BT's incentives in the WLA market, where BT faces significantly less competition (and at best only one alternative provider for around half of premises), and where we found a single national market.

4.130 As we set out above, the detailed analysis we carried out for the 2014 WBA Statement led us to conclude that exchanges with BT+2 POs were markedly more competitive than those with BT+1 PO or which were BT only. These significant geographic differences in the presence of competitors in the WBA market are likely to create incentives for BT to set prices which differ between areas. It is likely to be profit-maximising for BT to raise prices where it has a very high market share and to meet competition by cutting prices in areas where competition is strongest.

4.131 In our 2018 WLA statement, we noted that BT would have a strategic incentive to set a national price in order to soften competition in the more competitive areas.[196] However, this is of less relevance to the WBA market than it is to the WLA market. This is because the differences in market structure make such behaviour more likely to succeed in the WLA market. BT may prefer uniform pricing of local access since it commits BT to price less aggressively than it otherwise would within areas where there is a rival local access network provider (i.e. in areas where a cable network is present). However, in the WBA market, where BT faces competition from two or more operators in the overwhelming majority of the country, the setting of a national price is less likely to persuade multiple rival operators not to compete on price (whereas in WLA, there would be no competitor in half or more of the country at the retail level absent regulation).

4.132 Whilst price differences based only on differences in competition could pose risks to BT’s brand image, we note that BT has a number of retail brands each of which has at various times operated a somewhat different pricing strategy.[197] Brand image may be one reason why BT’s main brand does price nationally, whilst BT uses its other brands to compete more aggressively in the areas which are competitive at the WBA and retail levels, because of the presence of multiple operators using regulated WLA products. Concerns about brand image do not necessarily lead to national pricing in the presence of significant geographic variations in competitive conditions. Instead, they may encourage the use of multiple brands, allowing multiple pricing strategies to be adopted.

4.133 Another factor which may influence the prices BT sets is regulation or the threat of regulation. For example, in the presence of WBA regulation, BT may believe that, if it raised retail prices markedly in the regulated market area, entry would occur by competitors using the regulated WBA product or, alternatively that the regulator would intervene to seek to prevent BT from charging excessive retail prices in that area. In this situation,

[196] See 2018 WLA statement, paragraph 3.161 and footnote 182
[197] April 2018 WLA statement paragraph 3.160

setting a national price may have advantages for BT. As these factors would not be relevant in a modified Greenfield scenario, they should not be taken into account when considering market definition.[198]

4.134 Finally, we note that in its consultation response, BT appears to suggest that if the EOI obligations were removed, it would pursue bespoke prices that vary according to the identity of the purchaser rather than uniform prices. We address BT's arguments relating to EOI in more detail in section 6, but we note that the suggestion that BT would negotiate bespoke prices with individual customers in the absence of WBA-level regulation does not support an argument for a single national market, for the reasons set out above.

4.135 Overall, while we cannot be definitive about what pricing would emerge in the WBA market in the modified Greenfield scenario, faced with competition from telecoms providers using regulated WLA products in some, but not all, areas we consider that there is insufficient likelihood of common national pricing at the WBA level at present. Whilst this could be due to a [✂] in the unregulated WBA market areas, this does not provide compelling counter-evidence to the different conditions of competition we see based on PO presence in different exchange areas. Moreover, evidence from retail offers shows that not all POs are present nationally (and most offer lower retail prices than BT in the areas where they have a presence), and while BT's main brand is priced the same nationally, it has invested in at least one other brand that only offers lower prices in areas with the greatest competition from POs. This retail pricing evidence is more consistent with the different competitive conditions we observe.

4.136 We therefore do not find a single geographic market for the UK excluding the Hull Area.

Conclusion

4.137 The geographic dimension of the WBA market is significantly driven by a consideration of competitive conditions in different geographic areas – since considerations of demand-side and supply-side substitution will typically lead to fairly narrow geographic market boundaries. We have used BT's local exchange areas as the geographic unit of our analysis and start by counting Principal Operators (PO) that have a presence in that exchange area using local loop unbundling (LLU). We consider the cable network as present in these areas if it is able to supply more than 65% of the premises and consider the other POs of Sky, TalkTalk and Vodafone as present using regulated access to Openreach fibre to the cabinet (FTTC) if it is available to more than 65% of the premises in a copper exchange area. We have accounted for future entry based on the POs' committed plans.

4.138 The number of copper, cable- and fibre-based POs is a key determinant of competitive conditions in these exchange areas. We find that competitive conditions are likely to vary significantly between areas with BT+2 POs and areas with BT-only or BT+1 PO. We do not consider that there is a sufficiently strong common pricing constraint between these areas

[198] Although such considerations may be relevant when designing remedies

to over-ride the differences in competitive conditions such that we would then find a single geographic market across all BT exchange areas.

4.139 We have therefore classified the supply of WBA in the UK excluding the Hull Area (accounting for 99.4% of UK premises) into separate geographic markets as follows:

- Market A (0.9% of premises) – areas in the UK (excluding the Hull Area) where there is limited or no competition in WBA (i.e. exchange areas which are BT-only or BT+1PO); and
- Market B (98.5% of premises) – areas in the UK (excluding the Hull Area) where there is effective competition in the provision of WBA services (exchange areas which have at least BT+2POs).

5. Market Power Assessment

Summary

5.1 In this Section we set out our assessment on whether there is significant market power (SMP) in the relevant markets identified in Sections 3 and 4.

5.2 Based on our analysis we conclude that in:

- Market A (0.9% of UK premises) – BT has SMP; and
- Market B (98.5% of UK premises) – no provider has SMP.[199]

Approach to market power assessment

5.3 SMP is defined in the Act as being equivalent to the competition law concept of dominance, that is, a position of economic strength affording a telecoms provider the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers.

5.4 The EC SMP Guidelines set out a non-exhaustive list of criteria to be considered in an SMP assessment, and state that a dominant position may derive from a combination of these criteria, which taken separately may not necessarily be determinative. Evidence on the most relevant SMP criteria should be considered in the round, and findings should not be based on assessment of a single criterion. We regard the following criteria as particularly relevant to the assessment of SMP in the wholesale broadband access market:

- market shares,
- pricing and profitability,
- barriers to entry and expansion, and
- countervailing buyer power.

5.5 Above we have defined the relevant market for WBA and, consistently with the EC Framework and the 2017 BCMR judgment, we have done so before the assessment of market power. We also recognise that market definition is not an end in itself, rather it is a tool to help assess whether any telecoms provider possesses market power. In principle, products which are outside the market can still exert some constraining effect on suppliers within the defined market and we therefore also consider these, under the heading "external constraints" below.

5.6 In section 3, we defined the relevant product market as wholesale broadband access services provided at a fixed location, with wholesale broadband access for these purposes comprising asymmetric broadband access and any backhaul as necessary to allow

[199] The remaining 0.6% of UK premises are in the Hull Area. As explained in Section 2, this statement focuses on the WBA market in the UK excluding the Hull Area. We have today published a separate statement on our findings of SMP and remedies in the Hull Area in both the WLA and WBA markets. See https://www.ofcom.org.uk/consultations-and-statements/category-1/wholesale-local-broadband-access-market-reviews-hull

interconnection with other telecoms providers, which provides an always-on capability and allows both voice and data services to be used simultaneously**.** In section 4, we defined two sub-national geographic markets – Market A and Market B. Hence, consistent with the regulatory framework, in this section we consider whether any provider has SMP in these relevant markets.

5.7 When assessing SMP, it is appropriate to take account of the existing regulation that is upstream of the market which is being considered. As explained in paragraph 3.8, in the context of this review, we have assumed that LLU and VULA remedies will continue to be in place in the WLA market during the next review period (as confirmed in the March 2018 WLA Statement).[200]

Assessment of market power in Market A

5.8 As explained in Section 4, Market A comprises those BT local exchange areas where there are no more than two Principal Operators (POs), including BT, present or forecast to be present based on committed roll-out plans, over the period of the market review.

Summary of consultation proposals

5.9 In the June 2017 WBA Consultation we provisionally concluded that BT has SMP in Market A in light of its substantial market share and the expectation that there would be limited further LLU or fibre roll-out in the areas covered by this market during the period of the review.

Responses to the June 2017 WBA Consultation

5.10 Most respondents agreed with our assessment that BT holds SMP in the provision of WBA services in Market A. TalkTalk, UKCTA and Vodafone all argued that the size of Market A was larger than we have identified (as discussed in section 4 of this statement) but all agreed that, regardless of its size, BT holds SMP in this market.[201]

5.11 Vodafone suggested that there were signs of market failure as since the 2014 WBA review, Virgin Media, TalkTalk and Sky had all exited the provision of SBB in Market A. Vodafone noted that this had reduced consumer choice and the competitive intensity in these areas.

5.12 Vodafone also highlighted that two of BT's three retail brands (EE and Plusnet) charged more to serve Market A customers than those in Market B and that there were more than twice the number of deals available in Market B compared to Market A. Vodafone claimed that BT has a retail market share of 90% in Market A areas and that this, coupled with the (then proposed) absence of a charge control on higher GEA speeds, would favour BT when customers in Market A upgrade to SFBB.[202]

---

[200] Ofcom, March 2018 WLA Statement, Section 7, https://www.ofcom.org.uk/__data/assets/pdf_file/0020/112475/wla-statement-vol-1.pdf.
[201] TalkTalk response to the June 2017 WBA Consultation, paragraph 3.1.
[202] Vodafone response to the 2017 WBA Consultation, paragraphs 2.3 - 2.5.

5.13 BT argued that its ability and incentive to exert market power in Market A are constrained and that it is therefore questionable as to whether it holds SMP in this area. BT claimed that it would not risk imposing unfair conditions on such a small market area given that the customers that purchase wholesale broadband services in this area also purchase them in the competitive Market B area.[203] BT argued that, if it raised prices in Market A, this would cause customers to switch to alternative suppliers in Market B, where it stood to lose a much greater volume of business. Since external customers buy 16% of their current volumes in Market A, the threat of losing business in the much larger Market B areas would allow BT's customers to counteract any market power of BT in Market A areas.

5.14 BT also argued that our arguments relating to the pricing of IPStream were a misleading interpretation of the evidence, and that pricing IPStream at a higher level relative to WBC is consistent with incentivising migration.

Assessment

Market shares

5.15 The EC SMP Guidelines note that "market shares can provide a useful first indication for the NRAs of the market structure".[204] The EC SMP Guidelines also state that:

- dominance is not likely if the undertaking's market share is below 40%;[205]
- concerns can also arise at lower shares depending on the difference between the market shares of the undertaking in question and that of its competitors;[206]
- very large market shares in excess of 50% are in themselves evidence of a dominant position, save in exceptional circumstances; and

5.16 Our calculation of market shares corresponds to the share of active broadband connections supplied by each telecoms provider. Active connections include broadband connections provided via MPF and SMPF on BT's copper network (either by BT or by a PO using LLU), via VULA on BT's fibre network, or by Virgin Media using its cable network. As we set out in Section 3 above, in our assessment of the WBA market we include telecoms providers who might not actually offer a WBA product to third parties, but rather are self-supplying (as we understand to be the case with Virgin Media).[207]

5.17 Our market share calculations take account of current and committed LLU and VULA roll-out to the extent it exists.[208] We assume that an LLU or VULA provider can migrate customers onto its own network within the review period after entering an exchange area. Therefore, where LLU or VULA roll-out is forecast, we have assumed that a PO's customer

[203] BT response to the 2017 WBA Consultation, paragraph 3.40.
[204] EC SMP Guidelines, paragraph 54.https://ec.europa.eu/digital-single-market/en/news/communication-smp-guidelines .
[205] EC SMP Guidelines, footnote 55
[206] EC SMP Guidelines, footnote 55, Staff Working Paper - Explanatory Note to the EC SMP Guidelines Document, footnotes 78 and 85
[207] See Section 3, paragraphs 3.38
[208] See Annex 6, paragraphs A6.42-A6.49

base will be transferred to an LLU- or VULA-based product and we have therefore included such connections in the PO's market share.

Current market shares

5.18 Table 5.1 shows wholesale market shares within Market A based on our calculations using data from BT and Virgin Media. BT holds a share of [✂] above 90%. The combined share of all other providers in Market A is [✂] less than 10%, with the single largest of these having a share of [✂].

Table 5.1: Market A WBA share of active broadband connections

Provider	Market A Shares
BT	[✂] >90%
Other providers	[✂] <10%

Source: Ofcom calculation from data provided by Openreach and Virgin Media[209]

5.19 BT's market share is above 90% [✂], which is significantly above the 50% threshold referred to in the EC SMP Guidelines which gives rise to a presumption of dominance.

5.20 Trends in market shares can also be an important indicator of market power. According to the EC's SMP guidelines, "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… *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".*[210]

5.21 BT's share of Market A as defined in the June 2014 WBA Statement was 88.8% using September 2013 data. As the boundary of Market A has changed (i.e. the number of exchange areas falling in this market has reduced significantly since 2014), it is not indicative of a trend, but BT's share is now higher than the corresponding figure in 2014, when BT was also found to have SMP.

Future market shares

5.22 We do not believe that it is likely there will be substantial market share gains by the POs that are currently, or plan to be, present in Market A areas via LLU or VULA. Only a small number of Market A exchanges have, or are expected to have over this review period, another PO present and even if they significantly increased their customers in those areas, this would not have a significant impact on overall Market A shares. As discussed in section 4 above, our market analysis takes into account committed LLU and fibre roll-out and therefore we do not expect entry into the market to substantially affect market shares.

---

[209] Ofcom calculations based on BT's responses to the 38th WLA WBA s.135 Notice dated 19 September 2017 and Virgin's response to Virgin Media response to WBA WLA s.135 Notice dated 16 January 2018. Market shares include FTTP. BT's market share includes connections provided by EE and Plusnet.

[210] EC SMP Guidelines, paragraph 55 and 56.

5.23 Overall, we interpret BT's likely high future market share over the course of the market review period as strong evidence that BT will hold a position of SMP in Market A. Nevertheless, consistent with the EC SMP Guidelines, it is appropriate to consider other factors.

Pricing and profitability

5.24 As explained in Annex 4, the ability to price at a level persistently and significantly above the competitive level is, in principle, an indicator of market power.

5.25 With respect to wholesale prices, BT has been constrained by a cost-based charge control on a reference (IPstream) service in Market A. We note that BT has been pricing close to the level of the charge control for almost all of the IPstream services. This suggests that absent regulation BT may be able to increase charges which would be consistent with it holding SMP (unless the charge control had been set below the competitive level, which we do not believe to be the case for the reasons below).

5.26 On the face of it, BT's reported return on capital employed for WBA services in Market A (as defined in 2014) appears high at around 55%.[211] However, given the heavily depreciated nature of certain assets in Market A, we do not consider that these accounting returns represent an accurate picture of the economic returns in this market. Adjusting for this in a similar way to the way we set the current charge control on IPstream, BT's RFS indicate that returns in Market A (as defined in 2014) would be around 25% in 2016/17 (rather than 55%),[212] which remains above the benchmark cost of capital (i.e. the WACC of 9.8% pre-tax nominal applicable in 2016/17).[213]

5.27 On a forward-looking basis we note that, there are a number of factors that are likely to affect BT's returns in Market A, potentially having opposing effects. As discussed in Section 2 and as BT notes in its consultation response, BT is planning to upgrade all exchanges to WBC within this review period. This product currently has higher returns than the legacy IPstream service and there may also be cost savings associated with decommissioning the IPstream network within the review period. However, WBA costs in Market A may be higher due to the fact that new WBC assets will replace depreciated IPstream assets. In addition, as discussed in Section 4, we have found that the size of Market A has significantly reduced compared to the 2014 review (which forms the basis of the reported returns in BT's current RFS). In this area the unit costs are likely to be higher due to the fact that the remaining customers in Market A are likely to be located in more remote and less densely populated geographic areas. Overall, it is difficult for us to estimate what BT's

---

[211] BT, RFS, 2016/17, Table 5.1 shows an estimate of the return on mean capital employed for WBA services of around 55% in 2016/17.

[212]This is based on returns calculated using a hypothetical ongoing network (HON) adjustment, consistent with our anchor pricing approach when imposing the charge control in 2014. On this basis the return on mean capital employed on WBA using the 2014 definition of Market A was 25.4% in 2016/17 (BT, RFS 2016/17, Appendix 3.2). [213] We have taken the benchmark cost of capital corresponding to the same year as the returns (2016/17). See, BT, RFS, 2016/17, page 12.[214] WLA 2018 statement, paragraphs 4.56-4.62

[213] We have taken the benchmark cost of capital corresponding to the same year as the returns (2016/17). See, BT, RFS, 2016/17, page 12.[214] WLA 2018 statement, paragraphs 4.56-4.62

profitability on WBA products in Market A will be over the review period, in view of the changes to network technology and the smaller size of Market A. However, given the level of returns on WBA services overall, we consider, on balance, that this evidence on pricing and returns supports the presumption of SMP that would follow from BT's high market share and barriers to entry in this market.

Barriers to entry

5.28 We now consider whether there is the prospect of competitive constraints stemming from future PO entry.

5.29 There are two broad options available to a telecoms provider wishing to compete in WBA. The first is to build a local access network, which could provide end customer broadband connections directly. As we set out in our March 2018 WLA statement[214], barriers to entry into WLA are significant, particularly in less densely populated areas (such as those we define as falling in Market A at the WBA level). This is because:

- any investment in local access will require significant costs to be sunk (in the hundreds of millions of £s) and take several years to complete.
- Investment needs to be made before customers can be won and revenue earned and it will then take time for the entrants to win customers and grow their revenue base.
- Even in the areas where investment by new entrants occurs, the result is likely to be a market served by a small number of providers. The prospects for subsequent entry will be even more difficult as any later entrant will need to make similarly substantial sunk investments but facing, in each case, an additional existing competitor.

5.30 The second option for those wishing to compete in broadband markets is to take advantage of the upstream access remedies. These remedies, imposed on BT in the WLA market, mean that providers seeking to enter downstream broadband markets, such as WBA, do not have to incur the costs of building a local access network. Instead, such providers can purchase regulated access to BT's network on a wholesale basis and use this to provide broadband services for their own use or for supply to third parties. However, this can still require significant sunk costs, including co-location at BT's exchanges and securing access to backhaul services.

5.31 The significant sunk costs incurred through unbundling exchanges mean that LLU-based entry is unlikely to be profitable in exchanges where the number of customers served by the exchange is small. We recognise that over time, the costs associated with unbundling such as equipment costs (i.e. MSANs) have been falling, lowering the sunk costs required for LLU and therefore the barriers to LLU entry. However, the exchanges which form Market A (which have not been unbundled by more than one telecoms provider and most of which have not been unbundled at all) serve an average of 368 premises, and the majority (95%) serve fewer than 1,000.[215] This compares to an average of just under 6,000 premises for Market B exchanges. Due to the small size of exchanges in Market A, their

[214] WLA 2018 statement, paragraphs 4.56-4.62

[215] Ofcom calculations based on Openreach's responses to the 3rd WBA s.135 Notice, Q1.2, dated 21 December 2017.

geographical locations (which tend not to map well to POs' backhaul networks) and the increasing focus on fibre broadband, we believe it is unlikely to be economically attractive for POs to roll-out LLU in these exchanges over the market review period. The allocation of exchanges to Market A already takes account of POs' committed LLU roll-out plans, to the extent that they have such plans.

5.32 POs may also be able to offer services to more premises in Market A if there is additional fibre roll-out by BT (facilitating the availability of VULA). We set out how we take into account fibre roll-out in Section 4 above.[216]

5.33 Given our approach to considering further rollout in our geographic market analysis (see Section 4 above), we do not consider that the threat of entry or expansion by POs would significantly alter the competitive conditions in WBA Market A during this review period.

Countervailing buyer power

5.34 In general, purchasers may have a degree of buyer power where they purchase large volumes and have a credible threat to switch supplier or to meet requirements through self-supply. In order for the threat to be effective, the volumes that are or can credibly be met from another source of supply need to have a material impact on the supplier's profitability. Practically, this requires volumes to be significant and to represent a material proportion of a supplier's total volumes.

5.35 BT's position in Market A is unlikely to be constrained by countervailing buyer power. No other potential providers of WBA services have any significant presence in Market A on the basis of their own infrastructure (or actual or expected use of regulated WLA services provided by BT). Therefore, buyers (i.e. retail providers) do not have a credible alternative source of supply. As a result, a retail provider wishing to serve Market A via WBA would still have no choice but to purchase from BT in the vast majority of Market A. In addition, BT Consumer is the largest user of BT WBA services in Market A, and it is unclear that BT would supply third parties in Market A in the absence of regulation.

5.36 We disagree with BT that the threat of losing business in Market B allows buyers to counteract any market power of BT in Market A. In Market B, CPs will purchase from BT if it is the best option. Even though Market B is effectively competitive (in the sense of no provider being designated as having SMP – as we explain below), it is unlikely to be worthwhile to switch to an inferior offer from a different provider in Market B as reaction to BT increasing prices or offering unfavourable terms of access in Market A. Such switching by a retail provider would leave them worse off in Market B where they make most of their purchases and would lose all margins from the forgone sales in Market A (since in nearly all cases there would be no alternative wholesale provider in Market A).

5.37 We therefore do not consider that BT is likely to face any significant countervailing buyer power that would affect our assessment of SMP in Market A.

[216] See Section 4, paragraphs 4.71-4.112.

External constraints

5.38 Our market power assessment aims to take all relevant competitive constraints, whether inside or outside the market as defined, into account. We consider external constraints – i.e. out-of-market products which some customers might regard as substitutes to in-the-market products – and their individual and joint impact on competition for in-the-market products as part of our assessment. External constraints by their nature tend to be relatively weak, but they can, when taken together and in combination with competition within the market, constrain a firm's ability to exercise market power.

5.39 We consider two services which may, in principle, be a potential source of external constraint on BT's market power in Market A. These are fixed wireless access (FWA) services and mobile broadband services.

5.40 In its consultation response, BT argued that retail services provided using alternative networks such as mobile or fixed wireless may be directly viable alternatives for products in the relevant market (typically lower speed products).

5.41 In the case of LoS FWA services, we found that take-up by consumers had so far been limited, even in geographic areas where the quality of services provided over fixed access connections tended to be relatively low. This suggested that consumers do not yet regard any FWA services as an adequate substitute for services provided over a copper/fibre or cable access connection. We also noted that technological developments mean that higher quality FWA services are likely to be introduced in future, and these might be seen by consumers as a sufficiently good alternative to retail broadband packages delivered over a copper/fibre or cable connection to be included in the same market. However, we consider that this will not impact on our market power findings in this review period.

5.42 As we set out in Section 3,[217] the low take-up of LoS FWA, even in the areas where available, suggests that existing FWA services are not a close substitute for broadband services over a copper/fibre or cable connection. It is more likely that, as we considered in previous reviews, these LoS FWA services are generally considered as an 'in-fill' technology that can be used to provide services in 'not-spots' where cable and ADSL technologies cannot provide satisfactory services due to technical and/or economic reasons. This suggests that the number of consumers who would switch from broadband services over copper/fibre or cable to services over LoS FWA is unlikely to be material, even in Market A.

5.43 As in the rest of the UK, for the great majority of customers, mobile services are used in addition to services over a copper/fibre or cable connection, rather than as a substitute. Mobile broadband service characteristics and prices suggest that the great majority of fixed broadband customers are unlikely to view these as an adequate substitute. Whilst it is possible that mobile services may become a stronger substitute in future (with the development of services over 5G wireless networks), the timing and extent to which this happens are uncertain. Furthermore, mobile coverage in rural areas (where most Market A

[217] See paragraphs 3.68-3.70

exchanges are located) is likely to be worse than the national average, especially when taking into account indoor coverage.[218] This will further reduce the extent of the constraint from mobile services on fixed line broadband in Market A areas.

5.44 In the light of this, we consider that external constraints from FWA services and mobile services in Market A are weak. As market shares, pricing and other evidence indicate that constraints from within the market are also weak, we consider that external constraints are insufficient to counteract a finding of SMP in WBA Market A in the current review period.

Conclusion on SMP in Market A

5.45 Given BT's substantial market share, the expected limited further roll-out of LLU and lack of certainty of further fibre roll-out, the likely limits to countervailing buyer power, and evidence on pricing and returns, we consider that BT has (and will continue to have for the duration of the market review period) a position of economic strength in Market A affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers. We therefore find that BT has SMP in the market for wholesale broadband access services provided at a fixed location in Market A.

Assessment of market power in Market B

5.46 Market B comprises those BT exchange areas where there is BT and at least two more POs present. As set out in Section 4, we have taken into account "committed" roll-out of LLU, cable and fibre during the period of the market review. Taking these into account, 4,862 exchanges fall into Market B. These exchanges serve 98.5% of UK premises. The main competitive constraints in Market B are likely to come from POs using LLU, VULA and cable.

Summary of the consultation proposals

5.47 In the 2017 WBA Consultation we provisionally concluded that, in light of the significant amount of market entry and the success of BT's competitors in gaining market share, no provider has SMP in Market B.

Responses to the 2017 WBA Consultation

5.48 Most stakeholders did not comment on our finding that no provider has SMP in Market B, although TalkTalk and Vodafone both agreed with our proposal. While agreeing that no telecoms provider holds SMP in relation to the provision of residential WBA services in Market B, one respondent [✂] argued that BT holds SMP in this market in relation to business services. It claimed that the lack of competitive pressure on BT for the provision

[218] Our Connected Nations 2017 report shows that indoor 4G coverage is worse in rural areas than in urban areas. See Ofcom, Connected Nations 2017 Summary Report, figure 12
https://www.ofcom.org.uk/__data/assets/pdf_file/0024/108843/summary-report-connected-nations-2017.pdf

of business grade wholesale broadband services provided an opportunity for BT to distort the market in its favour.[219]

5.49 Verizon noted that it was not its experience that there were several potential suppliers of WBA services. It commented that there seems little interest from providers other than BT and TalkTalk to engage in pro-active discussion about the provision of WBA services and that their options in this regard were highly limited.[220]

Assessment

Market shares

Current market shares

5.50 Table 5.2 shows shares of WBA connections in Market B. No PO, including BT,[221] has a market share greater than the 50% threshold referred to in the EC SMP Guidelines above which concerns about single firm dominance are most likely arise.[222]

5.51 We have addressed the comments by[✂] and Verizon in our product market analysis above.[223] As we set out there, we do not consider that there are separate product markets for business and residential services, partly because many business customers are willing to, and do, use residential packages. In addition, a number of suppliers market packages with service features designed for business users. Even if some of these choose not to sell wholesale products to other telecoms providers we consider that competition, or the threat of it, at the retail level is likely to be sufficient to protect business customers.

5.52 We therefore interpret this as an indication that it is likely that no telecoms provider holds a position of SMP in Market B.

Table 5.2: Market B WBA shares by provider

Provider	Market B Shares
BT	[✂] <40%
Sky	[✂] 15-25%
TalkTalk	[✂] 15-25%
Virgin Media	[✂] 15-25%

[219] [✂].
[220] Verizon response to the June 2017 WBA Consultation, paragraphs 19 and 20.
[221] BT's share of residential and small business broadband connections (including EE) at the end of Q4 2017 was 35.9%. See Ofcom, Telecommunications market data tables Q4 2017, 26 April 2018, https://www.ofcom.org.uk/__data/assets/pdf_file/0012/113430/telecoms-data-update-q4-2017.pdf.
[222] See paragraph 55 of the EC SMP Guidelines. In addition, the Guidelines note that dominance is not likely if the undertaking's market share is below 40% in the relevant market – see footnote 55.
[223] See paragraphs 3.80-3.84

Provider	Market B Shares
Other providers	[✂] <10%

Source: Ofcom calculations from data provided by Openreach and Virgin Media[224]

Future market shares

5.53 Given the current distribution of market shares and the level of competition within Market B, we do not expect the future market shares to change over the course of the market review to the extent that any telecoms provider would have a share in excess of 50%, thereby leading to a presumption of SMP.

Pricing and profitability

5.54 We have reviewed BT's prices for WBA services in Market B relative to those in Market A. For WBC services, we find that the list prices in Market B are the same as those in Market A. However, this does not take into account discounts provided to consumers in Market B. When we review average revenue per user for WBC services in Market B relative to Market A, we find that this is [✂] lower for customers in Market B. For example, external fibre WBC end user rental charges in Market B are [✂] whereas in Market A they are [✂].

5.55 At the retail level, we find that average revenue per user in Market B is [✂] in Market A.

5.56 Overall, our evidence on pricing in Market B suggests a finding of no SMP. We have not examined the profitability of WBA services in Market B in detail because evidence on other factors in this section suggests effective competition, such that evidence on profitability would not alter our conclusion.

Barriers to entry

5.57 Barriers to entry and expansion in Market B are much lower than in Market A. For example, as noted above, Market B exchanges tend to serve a much larger number of premises than Market A exchanges. Therefore, there is not such a barrier to entry for providers entering or expanding in Market B. There is also more infrastructure competition in Market B – for example, Virgin Media has a significant presence in Market B but only has enough of a presence to be classified as a PO in one exchange area in Market A.

Countervailing buyer power

5.58 Given the number of POs present in Market B and their wide coverage, any potential buyer of WBA services has alternative potential suppliers from which it could seek access. This may give retail providers some degree of negotiating power when seeking to obtain access. For example, the Post Office moved supplier from BT to TalkTalk in the financial year

---

[224] Ofcom calculations based on BT's responses to the 38th WLA WBA s.135 Notice dated 19 September 2017 and Virgin's response to Virgin Media response to WBA WLA s.135 Notice dated 16 January 2018. Market shares include FTTP. BT's market share includes connections provided by EE and Plusnet.

2013/14.[225] While not all POs sell to third parties, we consider Market B to be effectively competitive based on the range and scale of competing providers at the retail level who do not rely on BT for WBA services because they either have their own local access network or use products regulated in the upstream WLA market. Therefore, as in our 2014 WBA Statement, it is not necessary to conclude on countervailing buyer power since, even if it were limited, competition in Market B at the WBA and retail level would still be effective.

External constraints

5.59 Given that the evidence on other factors in this section suggests effective competition, we do not consider the impact of external constraints in Market B.

Conclusion on SMP in Market B

5.60 Given the significant amount of entry that has occurred across Market B exchanges and the success of the POs using LLU and VULA, as well as POs using their own local access networks (like and Virgin Media) in securing market share, we conclude that no provider has (or will have during the market review period) a position of economic strength in Market B affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers.

5.61 We therefore find that no provider has SMP in the market for wholesale broadband access services provided at a fixed location in Market B.

Conclusions on SMP

5.62 In summary, we conclude that:

- BT holds a position of SMP in wholesale broadband access services provided at a fixed location in Market A; and
- no provider holds a position of SMP in wholesale broadband access services provided at a fixed location in Market B.

[225] TalkTalk Annual Report 2014, Page 8.

6. Remedies

Summary

6.1 In this Section we set out the competition concerns that we have identified as a result of our competition assessment and finding that BT has SMP in Market A. We then consider whether competition law would be sufficient to address these concerns and discuss the options for remedies and our decisions.

6.2 In summary, we have decided to impose the following remedies on BT in Market A:

- provision of network access on reasonable request (including on fair and reasonable terms, conditions and charges);
- no undue discrimination;
- publication of a reference offer;
- notification of changes to charges, terms and conditions;
- notification of changes to technical information;
- publication of quality of service information (if directed to by Ofcom); and
- regulatory financial reporting requirements (in relation to accounting separation and cost accounting).

6.3 Consistent with our proposed approach in the June 2017 WBA consultation we are not imposing a charge control on a reference WBA product.

Introduction

6.4 In this section, we first set out our view of the competition problems we have identified that arise from BT's SMP in Market A and then set out the remedies we are imposing to address these. We consider that the remedies will achieve our statutory duties and satisfy the relevant legal tests. In reaching these conclusions, we have taken account of our regulatory experience from previous market reviews, recent developments in these markets, and planned developments over the course of the market review period. Our decisions on the appropriate remedies to put in place also reflect our long-term vision for ensuring the quality and availability of communication services in the UK, as set out in our Strategic Review of Digital Communications.[226] Of particular importance for this WBA review is our strategy to deregulate and simplify regulation where possible, whilst ensuring consumers are protected.

6.5 As set out in Section 2, WBA remedies in the UK have previously been used to support investment in LLU roll-out as they allowed telecoms providers to build up a customer base in geographic areas before investing in their own equipment to unbundle an exchange. This was successful in much of the UK, but we have now reached the point where significant further LLU roll-out is unlikely. Our approach to remedies has therefore focused

---

[226] Ofcom, *Making communications work for everyone – Initial conclusions from the Strategic Review of Digital Communications*, 25 February 2016, https://www.ofcom.org.uk/__data/assets/pdf_file/0016/50416/dcr-statement.pdf.

on protecting existing competition in Market A, rather than promoting further entry based on regulated access at the WBA level.

Assessment of the competition issues in Market A

Potential competition concerns

6.6 In light of our SMP analysis set out in Section 5, we consider, consistent with our provisional conclusions in the June 2017 WBA Consultation, that in the absence of appropriate *ex ante* regulation, BT would have the incentive and ability to:

- refuse to provide network access to other providers (or refuse to provide access on reasonable terms, conditions and charges), which could restrict competition in the provision of retail services to the detriment of consumers;
- discriminate in favour of its downstream retail businesses to the detriment of competition in retail broadband services (including by price and/or non-price discrimination), and ultimately to the detriment of consumers; and
- fix and maintain some or all of its WBA prices at an excessively high level or engage in a price squeeze.[227]

6.7 We set out in more detail below why we consider that each of the remedies that make up the package of *ex ante* remedies we have decided to impose will help to address the competition problems we have identified and discuss the comments that we have received in response to the consultation in relation to each specific remedy. As set out in Article 8(4) of the Access Directive, our package of *ex ante* remedies must be based on the nature of the competition problems identified and must be proportionate and justified in light of the objectives in Article 8 of the Framework Directive.

Effectiveness of competition law

6.8 Prior to imposing any *ex ante* remedies in a market where we have found a telecoms provider to have SMP, we first need to consider whether the competition concerns we have identified could be sufficiently addressed through competition law. To do this we have considered whether competition law, in particular the rules prohibiting the abuse of a dominant position, would be effective in responding to the competition concerns identified above.

6.9 Competition law focuses on preventing the abuse of a dominant position (or anti-competitive agreements) and may not be sufficient on its own to address the competition concerns that we have identified. In contrast, our experience is that *ex ante* regulation at the wholesale level can better facilitate and sustain downstream competition. Second, *ex ante* regulation can be better tailored to the particular circumstances in the market and services provided in order to address the competition concerns during the review period.

[227] TalkTalk agreed with our assessment of the competition concerns in light of our provisional finding of SMP in Market A. TalkTalk response to the 2017 WBA Consultation, paragraph 4.2. No other stakeholder commented on this issue.

6.10 Third, we consider that providing certainty in the wholesale market is important, both to BT and to its competitors, as this underpins competition in the retail market, which delivers benefits for consumers. We consider this is best achieved through *ex ante* regulation which, in comparison to reliance on *ex post* competition law alone, would:

- provide greater clarity on the type of behaviour that is/is not allowed; and
- can facilitate more timely enforcement due to the greater certainty and specificity provided by *ex ante* obligations.

6.11 On this basis, while competition law enforcement may be used in appropriate circumstances, in the present and expected circumstances of Market A over the market review period, we consider that competition law alone would be insufficient to address the competition problems we have identified.

The impact of Openreach reform

6.12 Another element of our Strategic Review was to secure greater operational and strategic independence for Openreach. On 10 March 2017 BT notified Ofcom of voluntary commitments (Commitments) to reform Openreach under section 89C of the Communications Act 2003 (Notification).[228] These Commitments mean Openreach will become a distinct company with its own staff, management, purpose and strategy.

6.13 In a July 2017 Statement[229] we confirmed our decision to release BT from the undertakings that it offered to Ofcom in 2005 when Openreach was originally created (2005 Undertakings), once the new Commitments are fully in place. We consider that the new arrangements, established by the Notification, provide Openreach with significantly more independence to take its own decisions about the strategic direction and operation of the network, acting with a clear focus on the equal treatment of all its customers, not just the needs of BT Group.

6.14 Having received the section 89C notification from BT, we are required by section 89C(4) of the Act to consider, as soon as reasonably practicable, the impact on SMP conditions set in relation to markets, which in our opinion, will be affected.

6.15 WBA is provided to BT's retail divisions and other telecoms providers by BT Wholesale (rather than Openreach), and therefore we do not consider that the new arrangements introduced under the section 89C notification would have a direct impact on the way in which BT provides WBA services. However, WBA services are based on inputs supplied by Openreach. In addition, WLA products and services supplied by Openreach, such as LLU and VULA, are a key input into our competition assessment and the level of competition for WBA services in different geographic areas. We have therefore considered whether the

---

[228] BT 2017, Proposals agreed with Ofcom. https://www.btplc.com/UKDigitalFuture/Agreed/index.htm Accessed on 15 June 2018

[229] Ofcom, 2017. *Delivering a more independent Openreach.* https://www.ofcom.org.uk/__data/assets/pdf_file/0020/104474/delivering-independent-openreach.pdf

arrangements set out in BT's section 89C notification will impact the SMP conditions we are putting in place in this statement.

6.16 In accordance with the Undertakings and existing SMP regulation in the WLA market, Openreach currently provides WLA products on an EOI basis to the rest of BT (including BT Wholesale) and other telecoms providers. The new arrangements build upon and enhance the current functional separation of Openreach (through the creation of Openreach Limited with a majority independent board which should secure greater operational and strategic independence for Openreach). As we explained in the 2018 WLA Statement, we are continuing to impose SMP conditions, including EOI, on BT in the WLA market, and we consider that the arrangements under BT's section 89C notification will sit alongside and complement such new SMP regulation.[230]

6.17 Consequently, we do not consider that the arrangements being put in place under BT's section 89C notification are likely to have a material impact on the need for, or the way in which BT provides, WBA services in Market A. To the extent that the WBA market is affected, we do not consider that the commitments will have an impact on the SMP conditions that we are imposing on BT in Market A for the reasons set out below.

Assessment of remedies in Market A

6.18 In this subsection, we discuss our June 2017 proposals, stakeholder responses, our reasoning and decisions for each of the specific remedies for Market A that were designed to address the competition concerns identified above. In addition, we received some responses from stakeholders that relate to the overall proportionality of our proposed set of remedies and some specific points on implementation. We discuss these more general comments on the proposed remedies below.

6.19 The legal instruments that give effect to our remedies are set out in Annex 1.

Overall impact of remedies

Our proposals

6.20 In summary we proposed the following remedies on BT:

- A requirement to provide network access on reasonable request and on fair and reasonable terms, conditions and charges;
- A prohibition against discriminating unduly in the supply of services and equivalence of inputs (EOI);
- A requirement to publish a reference offer, notify terms conditions or charges and changes to technical information in advance;
- A requirement to publish quality of service information (if directed to by Ofcom); and
- Cost accounting and accounting separation obligations

[230] Ofcom, 2018 WLA Statement, paragraph 5.81.

Stakeholder responses

6.21 Vodafone considered that even in a declining market, regulatory protection should be extended where there is little or no wholesale competition.[231]

6.22 BT considered that consumers in Market A are sufficiently protected by the competitive pressures in Market B and that ex ante regulation would be an ineffective tool to address the key concerns affecting customers in Market A i.e. the speed and availability of services. It believed that most SMP regulation of Market A is no longer warranted in light of the fact that:[232]

a) further LLU rollout is unlikely so it is improbable that regulation of Market A will incentivise additional retail competition;

b) BT's national pricing policy at the retail level protects consumers in Market A from excessive pricing and BT has no commercial incentive to change this policy for less than 2% of the total market;[233]

c) regulation in Market A has the sole purpose of protecting existing choice and competition in Market A which Ofcom admits is very limited; and

d) BT's voluntary universal broadband proposal is a more appropriate means of securing the improvements that Ofcom is seeking for consumers in Market A than further SMP regulation and that Ofcom should consider how such network enhancements within the review period would affect its assessment.

6.23 BT also argued that if our only purpose for regulating Market A was to protect existing competition and given the benefits of regulation were limited, the proposed suite of remedies was disproportionate. It considered any regulatory burden arising from the remedies must be extremely low to justify their imposition.[234] BT noted Ofcom's duty to ensure that any remedies imposed are proportionate and that for this to be the case we must show that they are appropriate, necessary, the least onerous option available and that they do not produce disproportionate adverse effects. BT argued that this necessitated a balancing exercise and claimed that there was no evidence of this assessment in the consultation, beyond brief references to the proportionality of individual remedies.[235]

6.24 In addition, BT considered that heavy handed regulation in Market A would be harmful to consumer outcomes in both Market A and Market B (particularly referencing the impact of EOI). It believed that if we felt compelled to continue with any regulation, it should be no more than a light touch reporting obligation.[236]

---

[231] Vodafone response to the 2017 WBA Consultation, pages 15 and 16.
[232] BT response to the 2017 WBA Consultation, paragraphs 2.3, 4.6 - 4.12 and 4.20.
[233] BT noted that in addition to pricing on a national basis, BT and EE offer customers in Market A the same advertised acquisition offers as customers in Market B: BT response to the 2017 WBA Consultation, paragraph 4.9.
[234] BT response to the 2017 WBA Consultation, Annex 4 paragraphs 31 - 34.
[235] BT response to the 2017 WBA Consultation, paragraphs 4.21 - 4.24.
[236] BT response to the 2017 WBA Consultation, paragraphs 4.11.

6.25 Following BT's response to consultation, BT has further clarified its position and provided some additional information to Ofcom on the costs associated with the proposed remedies. In particular, it informed us that the impact of the proposed EOI and notification remedies combined to impact BT's ability to compete in the competitive Market B areas (given it has one broadband network across both markets). It said that imposing these remedies could potentially restrict innovation and the services available in Market A (for example, if it were to split its product/service offerings in the regulated and non-regulated markets and only introduce new services in the non-regulated areas).[237]

6.26 For example, where it is looking to develop new retail services or enhancements to current services in Market B, BT claims that it cannot do so without giving its main competitors (who all buy at least a small amount of WBA Market A services)[238] advance notice of the changes it is making. In particular, BT considered the 90 day advance notification requirement for technical changes allows its competitors to develop and launch a competing product before its own product is launched (should they wish to do so).[239]

6.27 BT was also concerned that its retail businesses were unable to use the end-to-end broadband testing platform without it also offering similar access to the platform for all its WBA customers. It considered this was not something any company would agree to absent regulation as it would give its competitors insight into its network performance and this would represent an unfair competitive advantage. BT considered that this meant that BT product testing was hampered compared to its competitors that purchase LLU and VULA to provide their broadband services and which would have the ability to test new services across their network unimpeded.[240]

6.28 As part of this engagement BT told us that it considered obligations to provide network access and to publish a reference offer were the only remedies that would be needed to protect customers.[241]

6.29 Finally, BT was concerned that Ofcom's proposals might inadvertently introduce regulation on Market A child exchanges where the handover point is in Market B. BT noted that previously we had explicitly disapplied remedies from fibre where the handover is in Market B on the basis that competitive conditions differed in the circumstances. BT claimed that the current proposals would require it to reconfigure its network to separate traffic by geographic markets and that this would be disproportionate.[242]

---

[237] BT response to Wholesale Broadband Access s.135, dated 16 May 2018 and BT presentation to Ofcom dated 4 May 2018.
[238] Despite the fact that TalkTalk and Virgin Media have sold their off-network customer bases and Sky has confirmed that it is not offering retail services to new customers that are not on its network, [✂] or for Sky existing customers.
[239] BT response to the 2017 WBA Consultation, Annex 4, BT response to Wholesale Broadband Access s.135, dated 16 May 2018 and BT presentation to Ofcom dated 4 May 2018.
[240] BT response to the 2017 WBA Consultation, Annex 4 and BT presentation to Ofcom dated 4 May 2018.
[241] BT presentation to Ofcom dated 4 May 2018.
[242] BT response to the 2017 WBA Consultation, paragraphs 4.26 - 4.29.

Our reasoning

6.30 We have set out above our competition concerns given BT's SMP in Market A. We continue to consider that it is appropriate and proportionate to put some remedies in place in WBA Market A to address these competition concerns for the benefit of consumers in these areas. However, as discussed in Section 2, out of the large telecoms providers who have a near national presence, Virgin Media and TalkTalk have sold their off-network customers to Daisy and Sky is not offering services to new customers if they are not on its network (i.e. cannot be reached using Sky's investment in LLU or VULA). Given this, the reduced size of Market A and the fact that there has not been significant further entry in Market A areas since the last market review (even though the regulated market was much larger then – around 10%), we consider there is unlikely to be significant additional retail competition in Market A areas over the market review period regardless of the remedies that we put in place. Therefore, we have focussed our remedies on protecting existing competition and, in turn, consumers' choice of telecoms provider.[243]

6.31 Having taken account of stakeholder responses to the consultation and additional information provided by stakeholders on the costs and benefits of both the proposed individual remedies and their overall impact, and in light of our statutory duties, we have carefully assessed whether the suite of remedies we proposed remains appropriate and proportionate. We discuss this below in relation to each proposed remedy including the impact of each remedy in combination with the other remedies we have decided to impose.

6.32 In addition, we acknowledge that the remedies that we are putting in place will not address all of Market A broadband users' concerns. In particular (as noted by stakeholders), there are concerns about the availability and speed of broadband services in these areas. We note that the Government has decided to introduce a broadband USO which will give eligible homes and businesses a right to a decent broadband connection at an affordable price, with minimum download speeds of at least 10Mbit/s. We consider this should help to improve the speed and availability of broadband when it is in place. As discussed in paragraph 1.13, we have not taken account of the impact of the broadband USO in our assessment of the market as the precise form, timing and impact of implementation is not yet clear.

6.33 Finally, we note BT's concern about the potential extension of regulation to Market B exchanges that provide fibre services to some cabinets in Market A exchange areas (where we consider the level of fibre competition is not sufficient for the entire exchange to be moved into Market B – see Section 4). For the avoidance of doubt, we do not consider it is appropriate for the remedies we are putting in place to apply to any WBA-based fibre services provided by BT from Market B exchanges, including where the point of handover is in Market B but the cabinets are associated with a 'child' exchange located in Market A. This is because the provision of such fibre-based services will be subject to the competitive

[243] As discussed in Section 2, this includes remaining customers from the large telecoms providers as well as some smaller providers such as Daisy.

constraints which apply at the level of the parent Market B exchange and so our competition concerns do not apply. However, our concerns do apply to services provided from Market A exchanges, as by definition, if the exchange is in Market A, we have not found a sufficient presence from competing Principal Operators (POs), including on the basis of fibre-access (for example, if the fibre access covers 65% of premises or less – see Section 4). We are therefore only imposing regulation on services provided from Market A exchanges to protect consumers in these areas.

Requirement to provide network access on reasonable request and to provide such access on fair and reasonable terms, conditions and charges

Our proposals

6.34 In our June 2017 consultation we proposed an obligation on BT to provide network access in Market A on fair and reasonable terms and conditions, including charges. Given our objective to protect competition in Market A, we did not consider that it was appropriate to impose a wholesale charge control on BT's prices in Market A.[244]

Stakeholder responses

Refusal to provide access

6.35 BT argued that, absent regulation, it would not have an incentive to refuse to offer wholesale services in Market A. It claimed that the loss of goodwill and brand damage that it would suffer if it refused to offer wholesale services in Market A would be greater than any retail gains that it would achieve.[245]

6.36 Vodafone questioned why Ofcom had not proposed to impose an obligation requiring BT to put in place a statement of requirements process in Market A.[246]

Risk of price squeeze

6.37 BT noted Ofcom's view that it would not be profitable for it to squeeze competitors' margins through reducing retail prices (at least for its main brand services) and argued that it was also implausible that it would margin squeeze by raising wholesale prices. BT contended that any attempt to increase wholesale prices in Market A would result in telecoms providers moving away from purchasing BT WBA services in Market B and the cost of this would offset any potential gains from Market A.[247]

---

[244] In the 2014 WBA market review we imposed a charge control on BT's IPStream services which lapsed at the end of March 2017. In the interim period, while we carried out our assessment of the WBA markets, BT voluntarily committed to maintaining current prices (CPI – CPI) for IPstream services until 31 December 2017, see https://www.ofcom.org.uk/phones-telecoms-and-internet/information-for-industry/telecoms-competition-regulation/narrowband-broadband-fixed), and subsequently extended this commitment to 31 March 2018.
[245] BT response to the 2017 WBA Consultation, paragraph 4.14.
[246] Vodafone response to the 2017 WBA Consultation, pages 15 and 16.
[247] BT response to the 2017 WBA Consultation, paragraph 4.16.

6.38 TalkTalk argued that higher WBA prices in Market A would likely lead to a reduction in scale or exit of the few existing competitors in these areas. It claimed that the use of an equally efficient operator (EEO) test may not allow smaller retailers to remain in the market as they are not as efficient as BT (and there are no scale operators providing services in Market A). It also argued that our approach effectively relies on general competition law, which it considered "is slow-moving, complex, and is unlikely to come into effect before smaller, weaker operators have been crushed."[248]

Risk of excessive pricing and removal of price controls

6.39 BT strongly supported our proposal to remove charge controls in Market A as it considered wholesale price controls were not necessary to protect consumers given it has maintained a retail national price. It asserted that it was inconceivable that it would move away from its retail national price in such a small residual market. BT argued that the risk of CPs withdrawing business in Market B and the reputational damage to its brand as well as the marketing and sales costs if it were to charge higher prices in Market A would more than outweigh any potential benefits.[249]

6.40 BT also said that if we were to impose a charge control in Market A, we would need to be able to reliably identify the costs and profitability in Market A and the available accounting information would require a series of adjustments before it could be used to provide even an indicative measure of profitability.[250]

6.41 UKCTA, TalkTalk and Vodafone disagreed with our proposal to remove the charge control on BT's WBA prices in Market A.

6.42 UKCTA noted that customers in Market A already suffered below average speeds and higher fault rates as well as paying higher prices for their standard broadband services. It argued that a proportionate charge control remedy is necessary to safeguard consumer interests given many suppliers have decided not to offer services in Market A (or exited the market) rather than provide a retail product over which they have little control.[251]

6.43 TalkTalk argued that our analysis of BT's ability to increase prices in Market A was wrong and failed to properly reflect BT's incentives and ability to set excessive prices absent a charge control. In particular, it considered that our analysis of BT's incentives to move away from a national price for its main brand (based on its behaviour over the past few years) ignored several market developments:

- The fact that TalkTalk and Sky only stopped offering broadband services in their off-net areas recently – therefore it considered BT was more likely to regionally disaggregate its retail prices during the next market review period;

[248] TalkTalk response to the 2017 WBA Consultation, paragraphs 4.12 and 4.13.
[249] BT response to the 2017 WBA Consultation, paragraph 4.15.
[250] BT response to the 2017 WBA Consultation, paragraph 4.55.
[251] UKCTA response to the 2017 WBA Consultation, paragraphs 3 - 10.

- EE offered broadband on a national basis, including in Market A areas, prior to its acquisition by BT and was therefore a competitive constraint on BT's retail pricing that has now been eliminated since the merger; and
- The existence of the WBA charge control meant that it was easier for other telecoms providers to offer services in these areas at a competitive price. In the absence of a charge control TalkTalk argued that BT could make retail entry unprofitable and set excessive retail prices for consumers.[252]

6.44 TalkTalk also disagreed with our view that disaggregating prices geographically would result in additional marketing and sales costs and would represent a brand risk for BT (particularly given political concerns about rural broadband pricing). It said that these potential additional costs and risks had not prevented BT's EE and Plusnet brands from offering geographically different prices and argued that there was therefore nothing to prevent BT from also following this practice with its main brand.

6.45 In addition, TalkTalk considered that BT could engage in geographic price disaggregation through below the line discounting in Market B, as well as direct retail price disaggregation e.g. not offering customers retention discounts in Market A areas due to the limited competition it faces.[253]

6.46 TalkTalk noted that we had not undertaken any analysis of BT Retail's margins in Market A areas and that there were very high levels of profitability in WBA products, which it considered suggested that BT was able to flex its offer locally to exploit customers, even in the presence of the current charge controls.[254]

6.47 TalkTalk considered that higher wholesale broadband prices in Market A areas would be likely to lead to the reduction in scale or exit of the few existing competitors such as the Post Office.[255]

6.48 Finally, TalkTalk argued that it was inappropriate for Ofcom to speculate that imposing a charge control might compromise incentives to invest due to the potentially higher unit costs of serving the remaining areas in Market A. It argued that we should have used our information gathering powers and modelling to ascertain the unit costs of serving Market A.[256]

6.49 Vodafone was concerned that there remained a sizeable number of customers in Market A who require protection from high wholesale prices and that, absent a charge control, there would be nothing to prevent BT from unilaterally raising its WBA prices. It said that there was significant evidence of BT over-recovery in WBA, namely that BT had earned excess

---

[252] TalkTalk response to the 2017 WBA Consultation, paragraphs 4.4 and 4.5.
[253] TalkTalk referred to the Competition Commission's *Groceries* market investigation, where it considered the Competition Commission had rejected contentions that national pricing policies were a necessary feature of the market, and said that similar circumstances were likely to apply in an unregulated Market A. TalkTalk response to the 2017 WBA Consultation, paragraphs 4.8 - 4.10.
[254] TalkTalk response to the 2017 WBA Consultation, paragraph 4.11.
[255] TalkTalk response to the 2017 WBA Consultation, paragraph 4.12.
[256] TalkTalk response to the 2017 WBA Consultation, paragraph 15.

profits in Market A of around £166m[257] in 2016/17 and had £311m lower capital employed than allowed for in the charge control. It claimed that this meant that customers were over-paying as well as having a lack of choice and lower speeds (compared to the rest of the country). Vodafone argued that a charge control on the IPstream/WBC product (with a starting charge adjustment to ensure that prices are set at FAC) in conjunction with its proposed changes to how Market A is defined (see paragraphs 4.19 to 4.20), would protect consumers in these areas and create incentives for BT to upgrade its network.[258]

6.50 Vodafone also argued that the proposed fair and reasonable pricing obligation was problematic as Ofcom has never defined a cost standard for what we would consider to be fair and reasonable charges. It proposed that if we did not put a price control in place we should prescribe a cost standard in the SMP conditions or through a direction.[259]

6.51 Finally Vodafone claimed that the negotiating position of BT relative to other CPs remains "hugely unequal" and raised concerns about the effectiveness of dispute resolution in these circumstances (since the Supreme Court's "ladders" judgment[260] in particular). It proposed the following amendments to the SMP conditions to address these concerns:

a) to stop BT from being able to unilaterally increase prices for services that are not subject to a charge control or a basis of charges obligation;

b) to reserve Ofcom's rights to determine contractual terms in BT's reference offers where BT is unable to come to a consensus with other CPs in the industry; and

c) to prevent BT from being able to increase prices for products that are subject only to a fair and reasonable charges obligation, without the consent of its customers.[261]

Our reasoning and decisions

6.52 As discussed above, given BT's SMP in Market A, we remain concerned that it might refuse to offer WBA services to other telecoms providers in Market A, engage in a price squeeze and/or set excessively high wholesale prices. We discuss each of these concerns in turn below.

Refusal to provide access

6.53 As discussed in Section 5, we consider the level of investment required by a third party to replicate BT's broadband access network in Market A is a significant barrier to entry. This is particularly the case given the reduction in the size of the market and we are not expecting much additional rollout of LLU or infrastructure investment by third party telecoms providers in Market A.

---

[257] Vodafone's estimate of BT's excess profits in Market A above its weighted average cost of capital (WACC) allowed for in the charge control.
[258] Vodafone response to the 2017 WBA Consultation, paragraphs 5.2 to 5.4.
[259] Vodafone response to the 2017 WBA Consultation, page 16.
[260] *British Telecommunications Plc v Telefonica 02 UK Ltd & Others* [2014] UKSC 42.
[261] Vodafone response to the 2017 WBA Consultation, pages 16 and 17.

6.54 Given this we consider that an obligation requiring BT to provide WBA network access to third parties on reasonable request is necessary to maintain current competition in retail broadband services in Market A. We also consider that, in the absence of such a requirement, BT could have the incentive and ability to refuse access to WBA services (or offer services on terms where other telecoms providers could not compete) thereby foreclosing the prospect of retail competition to the detriment of end consumers.

6.55 BT argued that the loss of goodwill and brand damage related to any refusal to offer wholesale services in Market A would outweigh any potential gains. However, the large retail fixed broadband providers (such as Virgin Media, Sky and TalkTalk) either do not offer services in Market A or are not offering services to new customers.[262] Further, there is little threat of alternative wholesale supply to BT in Market A and so any retail provider wishing to purchase there would be reliant on BT, even if it is also a customer in Market B where there is a greater alternative choice of wholesale provider. Further, BT would be uniquely placed in Market A to pick up retail residential and business customers if there were wholesale refusal to supply by its upstream division and so there could even be advantages to the main BT brand from such refusal to supply. We therefore remain of the view that a network access obligation is necessary to ensure that WBA services are available to competing telecoms providers in Market A.

6.56 In addition, we consider there is a risk that BT would be able to achieve the same effect as a refusal to supply WBA services by setting the terms and conditions of access in such a way that meant no other telecoms provider could compete. We therefore also consider it is appropriate to require it to provide access on fair and reasonable terms, conditions and charges (we discuss our view on the appropriate remedies for charges below).

6.57 However, we do not consider that it is appropriate to require BT to provide any type of network access requested by third parties. A requirement to provide any type of network access could result in BT being requested to develop multiple products at potentially high costs with limited benefits for end consumers. Therefore, we consider it is only appropriate to require BT to meet those requests that are reasonable (having regard to factors such as the expected customer demand, and cost of development).

6.58 In respect of Vodafone's proposed further amendments to the SMP conditions, we disagree that it is necessary to prevent BT from making unilateral changes to terms and conditions of the Reference Offer and/or that Ofcom should approve any changes to terms and conditions. We consider that an obligation on BT to ensure its terms and conditions are fair and reasonable will be sufficient to ensure that telecoms providers can buy WBA products in Market A which allow them to compete with BT. In the event that such telecoms providers did not consider that the terms and conditions set by BT were fair and reasonable, they could raise this with Ofcom.

6.59 In relation to the contractual terms of the reference offer, in the event there is no satisfactory agreement between BT and other telecoms providers, Ofcom will have the

---

[262] We understand that these telecoms providers do provide some customers retail services in Market A using WBA products [✂]. BT response dated 9 January 2018 to question 2.1 of the 3rd WBA s135 notice dated 21 December 2017.

power (through the network access condition and the reference offer condition discussed below) to direct BT to make amendments to the terms and conditions of network access and/or the reference offer itself.

6.60 We also consider it is appropriate for this condition to include the power for Ofcom to give directions to BT so that we can secure the supply of services and, where appropriate, fairness and reasonableness in the terms, conditions (and charges as discussed below) of network access. We have therefore decided to include in this condition a requirement for the dominant provider to comply with any such direction(s).

6.61 We have also decided to include an ability for BT to request consent from Ofcom to disapply this condition in appropriate circumstances, consistent with the approach we have taken in the WLA market. We consider this could give BT additional flexibility, for example not to introduce a particular WBA service in Market A areas, which it may not be proportionate for BT to do given the size of the market now only accounts for about 1% of UK premises. We would consider any request from BT for an exemption to this condition on a case by case basis and we would consult on any specific exemptions that we proposed to agree as required in accordance with the statutory framework.

6.62 Finally, we do not consider that it is necessary or proportionate to impose a prescriptive statement of requirements obligation (SoR) on BT in respect of the development of new products. We did not impose an SoR obligation on BT in the 2014 WBA market review, when the size of the regulated market was significantly larger, and there has been no suggestion to Ofcom that BT has failed to engage with requests for new forms of WBA services in the intervening period.

Risk of price squeeze

6.63 As discussed above, we consider there is a risk that, absent regulation, BT could engage in a price squeeze with the effect of foreclosing retail competition in Market A. Theoretically this could be through either increasing the wholesale price or decreasing the relevant retail price so that an efficient operator could not compete. However, given that BT is a vertically integrated provider with established retail pricing policies (in particular national pricing for its main brand and EE and differential pricing between "low-cost" and "non-low cost" areas by Plusnet), an increase in wholesale prices is a less costly means to price squeeze. Therefore, we consider that a price squeeze is more likely to occur as a result of increases in wholesale prices.

6.64 BT argued that it would not be profitable for it to engage in a price squeeze by raising its wholesale prices given the possible impact this could have on its Market B revenues. We disagree with BT that increasing its wholesale prices in Market A would lead to some of its customers moving away from purchasing WBA services in Market B in retaliation. As discussed in relation to our market power assessment and the risk BT would refuse to supply access in Market A, we consider there is likely to be limited incentive for customers affected by a price squeeze in Market A to switch away from BT in Market B. To do so would involve taking supply from a provider that was not otherwise the first choice in

Market B, but the volumes purchased in Market B are generally significantly higher than those in Market A.[263]

6.65 Therefore, given the lack of wholesale competition in Market A and the main objective of our regulation in these areas to protect existing retail competition, we consider it is appropriate to require BT to provide network access on fair and reasonable charges to address the risk that BT could engage in a price squeeze.

6.66 As set out in the 2017 WBA consultation,[264] when considering the differential between retail and wholesale prices, our starting point would be the evaluation of costs and margins consistent with that which would be adopted in a margin squeeze assessment under *ex post* competition law. We consider this would mean allowing for a minimum retail margin sufficient to cover the long-run incremental retail costs (including customer acquisition), assessed by reference to an equally efficient operator (EEO) standard.

6.67 We note TalkTalk's concerns about the use of the EEO standard. However, we consider that an alternative standard such as the reasonably efficient operator (REO) standard would not be appropriate in the circumstances of WBA Market A. This is because the purpose of the REO standard is to facilitate entry by setting a larger minimum margin than would be required by the EEO standard. This may mean that some inefficient entry occurs, since operators with higher downstream costs than the regulated firm can enter and make a profit. Therefore, the REO standard is only likely to be appropriate where entry is expected to result in dynamic benefits in the longer term sufficient to offset any initial efficiency losses. However, as our main aim in this review is to protect current retail competition rather than to promote entry (given the low likelihood of entry in a small and diminishing market), any initial efficiency losses from using the REO standard are unlikely to be offset by future dynamic efficiency gains.[265]

6.68 We therefore continue to consider that our starting point should be the evaluation of costs and margins consistent with that which would be adopted in a margin squeeze assessment under *ex post* competition law.[266]

Risk of excessive pricing

6.69 Although we consider there remains a risk that BT would have the ability and incentive to fix and maintain some or all of its WBA prices at an excessively high level (as noted at paragraph 6.6 above), for the reasons explained below, we consider the risk that this would result in adverse consequences for retail consumers, such as high retail prices for a sustained period, is low. The impact that any increases in wholesale charges may have for retail customers in Market A is the most important consideration for the purpose of

[263] See paragraph 5.36.
[264] Ofcom, 2017 WBA Consultation, paragraph 6.29.
[265] Use of the REO standard is likely to make little practical difference when economies of scale in retail costs are limited. We found in the VULA margin review that BT did not have material advantages in retail costs including sales, general and administration (SG&A), overhead or advertising costs: "*Fixed Access Market Reviews: Approach to the VULA margin*", statement, 19 March 2015, paragraphs 6.207, 6.209, 6.416. Retail providers are also likely to be able to spread their costs across both Markets A and B.
[266] This is consistent with the approach taken in November 2017 Narrowband Statement, paragraph 8.48.

determining whether a remedy (such as a wholesale charge control) is required to address this risk. Having carefully considered the risk of adverse consequences for retail customers in Market A, we do not consider it is necessary to impose a wholesale charge control to address this risk.

6.70 We note, as highlighted by TalkTalk, that TalkTalk and Virgin Media have sold their retail customer bases in this market, Sky is not offering services to new customers in its off-network areas, and EE is no longer a competitive constraint on BT's retail prices as a result of its purchase by BT. However, we consider that consumers in Market A are likely to be protected by being able to purchase broadband packages at prices no higher than that of the main BT brand. "BT" branded broadband is priced at the same level nationally and in the overwhelming majority of the country competes against the broadband packages offered by rival telecoms providers such as Virgin Media and those using regulated access to WLA services (i.e. LLU and VULA). A charge control at the WBA level is unlikely to stimulate further retail entry into Market A areas in such a way as to drive down prices in this small and diminishing market area.

6.71 While, as TalkTalk and UKCTA suggest, it is possible that BT could look to exploit its market power in Market A and raise its retail prices in these areas only, we consider this is unlikely as:

- BT has maintained its retail national price (for its main branded product) even when the size of Market A, and therefore the benefit to it of disaggregating its prices, was significantly higher. Given our finding on the size of Market A now (around 1% of UK premises), the additional revenue it could now earn from disaggregating retail prices for its main brand would be relatively small.
- BT has informed us that its Consumer division does not set retail broadband prices on a regional basis and has not discussed doing so. In addition, BT's EE brand has recently aligned its pricing across Market A and Market B.
- There would be a risk to BT's brand reputation if it were to raise prices in Market A, due to the potential for negative publicity in what are typically remote and rural geographic areas. The speed and quality of rural broadband is already of concern to consumers and politicians.[267]
- There is a threat of further regulation if BT priced in this way (as we explain below).

6.72 We note TalkTalk's concern that BT could engage in geographic price disaggregation through the use of discounts. The evidence we have gathered from BT indicates that this is not currently happening to any material extent for the main BT-branded services. For example, the proportion of BT's Market A residential broadband customers that receive a discount is similar to the proportion of Market B residential broadband customers that receive a discount.[268] Analysis of the criteria that BT uses to determine whether discounts

[267] For example, see https://hansard.parliament.uk/Commons/2017-02-21/debates/0C03865D-039B-4AFA-8E73-007369D196A0/SuperfastBroadbandRuralCommunities.
[268] [✂] BT response dated 30 January 2018 to Question 3 of the s.135 Notice sent to BT on 21 December 2017.

are offered on residential broadband prices indicates that geographic location is not a direct factor in determining whether a discount is offered.[269] Although it may have an indirect effect in terms of what products the consumer is able to purchase and the level of competitor activity, of more relevance are other factors [✂].[270] Even if BT's price disaggregation between Markets A and B was significant, in the circumstances of Market A we do not consider that a wholesale charge control would be likely to address this.

6.73 Therefore, although BT does have different price offers for its Plusnet brand and for some business services between Market A and Market B, we consider the likelihood that consumers and small businesses will pay excessively high retail prices in Market A (as a result of BT de-averaging its main-brand retail prices) is low.

6.74 If BT were to start charging differential retail prices between Markets A and B for its main brand in the future, we would review the degree of consumer harm in Market A and reconsider the effectiveness of our WBA remedies and whether alternative forms of regulation would better protect retail consumers.

6.75 We note Vodafone's concern about the excessive profits that it considers BT is already making in Market A areas (which is based on accounting information for Market A as defined in the 2014 WBA Market Review). However, as explained in Section 5 (see paragraph 5.26) BT's current return on capital employed reflects the depreciated assets in use in Market A. Adjusting for this more than halves the reported returns. We further note that the size of Market A will now be around one-tenth of the size estimated in 2014, meaning that the level of any returns above the cost of capital will be much reduced. In any event, we do not consider that a wholesale charge control would have a significant impact on BT's returns on broadband in Market A (as we explain below).

6.76 A wholesale charge control caps the level of price increases and provides greater certainty over future prices, but it will only constrain retail pricing if there is sufficient, or at least the threat of, entry using the access product which, in turn, drives retail price competition. The current wholesale charge control (and other remedies that we have in place) have resulted in limited retail broadband competition in Market A. Given the reduced size of the market and the full or partial withdrawal of some major rivals to BT, we do not expect that a wholesale charge control would result in significantly greater retail competition in Market A going forward.

6.77 We note the concern from TalkTalk that we had not analysed the unit costs in the revised size of Market A. Given we do not believe that a charge control would be likely to result in additional retail competition in Market A areas (as discussed above), we do not consider that it is necessary to undertake a detailed analysis of unit costs in the revised Market A. We also note the point explained above (and in section 5) that it is difficult for us to estimate what the costs of supply in Market A will be over the review period, in view of the changes to network technology and the smaller size of Market A going forward.

---

[269] [✂]

[270] BT response dated 30 January 2018 to Question 3.2 of the s.135 Notice sent to BT on 21 December 2017.

6.78 Given our assessment of these issues in the round, we consider, on balance, that a wholesale charge control would not provide significant additional benefits to retail competition or consumers compared to the form of fair and reasonable charges condition we are imposing.

6.79 Finally, in relation to Vodafone's suggestion that we should impose a condition preventing BT from unilaterally increasing its prices, we do not consider that such a condition is appropriate in the circumstances of this market. As the scale of the market declines and as legacy broadband networks are replaced by new technology, we do not wish to ossify the existing level or structure of prices.

6.80 However, if excessive wholesale prices were to translate into a price squeeze we would be concerned and it is this risk we wish to guard against with the fair and reasonable charging obligation. We have explained the approach we would expect to adopt when assessing a price squeeze above (namely by reference to an EEO standard).

Our decision

6.81 Having taken into consideration all the comments received in response to the consultation, we remain of the view that it is necessary and appropriate to impose an obligation on BT in Market A to provide network access on fair and reasonable terms, conditions and charges. While we do not consider it is necessary or appropriate to put a wholesale charge control on WBA Market A prices, we are (as discussed below) imposing a cost accounting obligation on BT to allow us to monitor its costs and revenues. This will assist us in monitoring the impact and effectiveness of our regulation and understanding how BT is using its additional pricing freedom.

6.82 We are therefore imposing an SMP obligation requiring BT to provide network access[271] on reasonable request and on fair and reasonable terms, conditions and charges. In considering what fair and reasonable means in relation to charges, our starting point for any assessment would be that charges were set at such a level so as to not constitute a price squeeze.

6.83 This obligation would apply to all WBA services in Market A whether supplied using ADSL/copper or VDSL/fibre services (aside from fibre services where the handover is in Market B – see paragraph 6.33). In practice, however, these requirements will largely apply to copper WBA products as there are limited handover points for fibre services within Market A.

Legal tests

6.84 Section 87(3) of the Act authorises Ofcom to set SMP conditions requiring the dominant provider to provide such network access as Ofcom may from time to time direct. These conditions may, pursuant to section 87(5), include provision for securing fairness and

---

[271] Network access is defined in sections 151(3) and (4) of the Act. We consider that a requirement to provide network access would, therefore, include any ancillary services as may be reasonably necessary for a third party to use the services. To make this clear, we have included a specific obligation to this effect in the SMP condition – see Annex 1, Schedule 1.

reasonableness in the way in which requests for network access are made and responded to and for securing that the obligations in the conditions are complied with within periods and at times required by or under the conditions. Section 87(9) of the Act also authorises Ofcom to set SMP conditions imposing on the dominant provider price controls and rules on the recovery of costs and cost orientation connected with the provision of network access (subject to the conditions of section 88 being satisfied).

6.85 We have also taken into account the factors set out in section 87(4) of the Act. In particular, the obligation would require BT to meet requests that are reasonable only, for example because the terms of access are technically and economically viable, and feasible. The requirement on BT only to meet reasonable network access requests also ensures that due account is taken of the investment made by BT initially in providing the network whilst seeking to ensure that effective competition is secured in the long term.

6.86 We are also required to ensure that the condition satisfies the tests set out in section 88 of the Act as the requirement places controls on network access pricing, insofar as charges are required to be fair and reasonable.

6.87 Section 88(1)(a) of the Act requires that Ofcom must not impose price control conditions unless it appears to them from the market analysis carried out for the purpose of setting that condition that there is a relevant risk of adverse effects arising from price distortion. We have discussed above that we consider that, in the absence of price regulation requiring prices to be 'fair and reasonable', BT may impose a price squeeze so as to have adverse effects for end-users of public electronic communications services, and therefore believe that there is such a risk. However, for the reasons set out above, we consider that the likelihood of there being a relevant risk of adverse effects for end-users from BT fixing or maintaining its WBA prices at an excessively high level is low. As we explain above, we do not consider it is necessary to apply the fair and reasonable obligation to address this risk.

6.88 Section 88(1)(b) of the Act provides that Ofcom must not set a price control condition unless it appears to it that the setting of the condition is appropriate for the purposes of:

- promoting efficiency;
- promoting sustainable competition; and
- conferring the greatest possible benefits on the end users of public electronic communications services.

6.89 We consider that the provision of network access on fair and reasonable terms, conditions and charges will promote efficiency and sustainable competition in that it will help protect existing competition in Market A, in particular by providing a safeguard against the risk of a price squeeze.

6.90 We are also required, under section 88(2) of the Act, to consider the extent of investment by BT in the matters to which the condition relates. Given BT's current pricing and expected returns (against accounting costs) in this market, we do not consider that a fair and reasonable charges obligation to avoid a price squeeze would compromise BT's ability to recover the cost of past investments in this market. This condition is therefore an appropriate basis upon which to control BT's prices.

6.91 We consider that the condition meets the criteria set out in section 47(2) of the Act. The condition is:

- objectively justifiable, as it will secure effective competition by ensuring third parties are able to obtain WBA services in areas where they are unable to replicate BT's network;
- not unduly discriminatory, as it is imposed on BT and BT is the only provider found to hold SMP in Market A;
- proportionate, as it is directly targeted at addressing the market power we consider that BT holds in this market, does not require BT to provide access where it is not technically feasible or reasonable and no more onerous than required to address the competition concerns we have identified; and
- transparent, in relation to what it is intended to achieve as it is clear that the intention of the condition is to ensure that BT provides access to its networks in order to facilitate competition.

6.92 We have considered our duties under section 3 of the Act and consider that the condition will further the interests of citizens and consumers in relevant markets by the promotion of competition.

6.93 We have taken account of the Community requirements as set out in section 4 of the Act. We consider that this obligation will promote competition in relation to the provision of electronic communications networks by enabling providers of wholesale services in Market A to compete at the downstream level and by protecting against distortions/restrictions of competition, resulting in the maximum benefit for retail consumers of broadband internet access services.

6.94 In addition, we consider that the condition is consistent with the BEREC Common Position on WBA,[272] including the best practice remedies falling under the objectives "Assurance of access" (BP1 to BP9), "Assurance of co-location at delivery points" (BP10), and "Fair and coherent access pricing" (BP42).

6.95 We have also had regard to BP36 and BP40.[273] We consider that the combination of remedies in terms of network access on fair and reasonable terms and charges (to protect against a price squeeze) and, as discussed below, the no undue discrimination obligation

[272] BEREC, BEREC common position on best practice in remedies on the market for wholesale broadband access (including BitStream access) imposed as a consequence of a position of significant market power in the relevant market, BoR (12) 128, 8 December 2012, http://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/1126-revised-berec-common-position-on-best-pr_0.pdf.

[273] BP36 "Where appropriate and proportionate, NRAs should require SMP operators to provide regulated products based on an explicit pricing obligation. Price control obligations can be implemented in different degrees, ranging from a requirement for prices to be cost-oriented and subject to rate approval through to specific charge controls such as a price cap, retail minus etc." BP40 "The effective price granted by the SMP operator should not be discriminatory and should be offered to all operators that meet the established conditions."

are such that an additional *ex ante* pricing obligation in the form of a charge control, is not required in this case.

6.96 For the reasons set out above, we consider that the condition is appropriate to address the competition concerns identified, in accordance with section 87(1) of the Act.

Requirement not to discriminate unduly and Equivalence of Inputs (EOI)

Our proposals

6.97 In the June 2017 consultation, we proposed to retain the requirement for BT to provide network access on an EOI basis for services that were already provided on an EOI basis at the time of the 2014 WBA market review and for any new services. We also proposed a no undue discrimination obligation on all other WBA services in Market A to prevent BT from offering network access on terms and conditions that discriminated in favour of its own retail divisions.

Stakeholder responses

6.98 TalkTalk agreed that it was necessary and proportionate to impose a requirement on BT not to discriminate and to provide WBA services on an EOI basis in Market A. It considered that without these remedies, BT would have a further mechanism for eliminating downstream competition.[274]

6.99 BT argued that any incentive it had to discriminate in such a small residual market was very weak, even if it were to assume that its retail businesses would gain all customers lost by other telecoms providers as a result of any discrimination. It considered that the risks that its wholesale customers would withdraw their business in Market B and/or to its reputation would more than outweigh any benefits. Furthermore, BT argued that customers that have previously switched away from it were unlikely to choose to switch back, potentially moving to other technologies (such as mobile) instead.[275]

6.100 BT considered that our analysis of the proportionality of the EOI remedy omitted certain critical aspects and that if these were taken into consideration, the imposition of a strict EOI remedy for 2% of UK premises would not be justified.[276] BT claimed that there were wider costs than just the direct costs of imposing EOI that should be taken into consideration:

a) The EOI requirements imposed in Market A will also affect BT in Market B as it runs a single network, impacting on its ability to compete in this market and reducing its incentives to extend innovation and investment for Market B into Market A.[277] It said this happened for the following reasons:[278]

---

[274] TalkTalk response to the 2017 WBA Consultation, paragraph 4.18.
[275] BT response to the 2017 WBA Consultation, paragraph 4.15.
[276] BT response to the 2017 WBA Consultation, paragraph 4.32.
[277] BT response to the 2017 WBA Consultation, paragraphs 4.33 and 4.34 and Annex 4.
[278] BT response to the 2017 WBA Consultation, Annex 4, paragraphs 8-23.

- Any change or new product introduced across the entire network must be consulted on and published 90 days in advance of launch, such that even if a product is expected to be relevant mainly, or solely, in Market B areas, if it will or may be launched in Market A, BT must still comply with these obligations. BT considered this meant its competitors gained a competitive advantage from having insight into BT's plans for Market B well in advance, giving them time to react, or to learn from BT's innovations that they otherwise would not have had access to;
- Loss of competitive advantage means BT is incentivised to design, where feasible, network changes or products in such a way that they do not get extended into Market A areas, to avoid having to make public its innovation plans, which it considered means that, especially as Market A shrinks, BT may need to consider whether network improvements or new products should ever be extended into Market A, as the costs of losing a competitive advantage in Market B is higher than the benefits gained from offering an improved product in a tiny fraction of the market. BT gave two examples of how it said that EOI could negatively affect product development – in relation to its TV Connect product life cycle and in relation to access to its testing platform in support of all-IP voice product development.

b) Ofcom has incorrectly based its assessment of the costs of compliance with an EOI obligation on the fact that BT is already supplying products on an EOI basis. Firstly, BT considered that EOI supply is costly as it requires it to maintain processes and systems and there would be a significant saving if they no longer had to be maintained.[279] Secondly, since the Undertakings are falling away as a consequence of the Openreach reforms Ofcom is putting in place, BT could not rely on the rules and systems of information sharing established under the BT Undertakings to ensure compliance with a SMP EOI remedy. It considered this would lead to additional costs (to replicate these systems) and we should take account of these in any assessment of the proportionality of the EOI remedy.[280]

6.101 BT also questioned whether the proposed EOI remedy was proportionate. It noted that for a measure to be proportionate, it must:

a) be effective to achieve the legitimate aim in question;

b) be no more onerous than is required to achieve that aim;

c) be the least onerous, if there is a choice of equally effective measures; and

d) not produce adverse effects which are disproportionate to the aim pursued.[281]

6.102 BT considered that EOI was not the most appropriate remedy to protect against any risk of undue discrimination. Given the constraints imposed by Market B on Market A and BT's incentives to treat customers fairly, it argued that a no undue discrimination remedy was

[279] BT response to the 2017 WBA Consultation, paragraphs 4.38 - 4.40 and Annex 4, paragraphs 35-36.
[280] BT response to the 2017 WBA Consultation, paragraphs 4.38 - 4.40 and Annex 4, paragraphs 54-55.
[281] BT response to the 2017 WBA Consultation, Annex 4 paragraphs 41 and 42.

sufficient and asserted that this remained a less onerous remedy than EOI as it allows for a more flexible and practical approach.[282]

6.103 BT also argued that if the relevant regulatory barriers were removed (which included EOI as well as the charge control), its customers may negotiate national charges (rather than only negotiating prices in Market B as is currently the case). It considered this might encourage other telecoms providers to move to a retail national price.[283]

Our reasoning and decision

6.104 A non-discrimination obligation (including EOI) is intended as a complementary remedy to the network access obligation, principally to prevent the dominant provider from discriminating in favour of its own downstream divisions and to ensure that competing providers are placed in an equivalent position. Without such an obligation, BT could have an incentive to provide the requested wholesale network access service on terms and conditions that discriminate in favour of its own retail divisions. For example, BT could provide the same services but within different delivery timescales, which could have an adverse effect on competition.

6.105 Discriminatory behaviour by BT in the supply of WBA products and services could undermine a level playing field in the related downstream markets to the detriment of competition and consumers. A non-discrimination remedy would help to maintain a level playing field between BT's downstream businesses and other CPs who wish to use BT's WBA services in Market A. We therefore consider that to meet our objective of protecting existing competition and choice for retail customers in Market A, it is necessary and proportionate to put a form of non-discrimination obligation in place. Absent such a condition, BT could discriminate and distort competition both on a price and non-price basis (e.g. through charging higher prices to competitors than its retail divisions or providing better quality services).

6.106 Non-discrimination can, however, have different forms of implementation. A strict form of non-discrimination – i.e. a complete prohibition of discrimination – would result in the SMP provider providing exactly the same products and services to all telecoms providers (including its own downstream divisions) on the same timescales, terms and conditions (including price and service levels), by means of the same systems and processes and by providing the same information. Essentially, the inputs available to all telecoms providers (including the SMP provider's own downstream divisions) would be provided on a truly equivalent basis, an arrangement which has become known as EOI. An EOI obligation removes any degree of discretion accorded to the nature of the conduct. The concept of EOI was first identified in Ofcom's 2004/05 Strategic Review of Telecoms as one of our key policy principles to ensure that regulation of telecommunication markets is effective. Following this review, a specific form of EOI was implemented in 2005 through the BT

[282] BT response to the 2017 WBA Consultation, Annex 4 paragraphs 43 - 52.
[283] BT response to the 2017 WBA Consultation, paragraphs 4.54.

Undertakings which applied, among other things, to WBA services supplied by BT.[284] An EOI obligation was also imposed on BT as an SMP condition in relation to WBA services in Market A in the 2014 WBA Market Review.

6.107 On the other hand, a less strict implementation of non-discrimination than EOI – for example, a requirement not to discriminate unduly against particular persons or classes of persons – may allow for some flexibility and result in a more practical and cost-effective implementation of wholesale inputs in cases where it is economically justified (sometimes called equivalence of outcome (EOO)). Such a more flexible non-discrimination obligation does, by its very nature, allow for certain discriminatory conduct provided that the discrimination in question is not undue.

6.108 In our June 2017 Consultation, we proposed that BT should provide any existing or new WBA services on an EOI basis (excluding those services not provided on an EOI basis at the time of our 2014 WBA Statement which we proposed should be subject to a no undue discrimination obligation) unless Ofcom had consented otherwise. The main reasons for our proposals were that we considered EOI was the most effective form of non-discrimination and BT was already providing network access for almost all of its WBA products and services on an EOI basis.[285] We argued that it generates better incentives on BT to improve the services it offers to competitors, provides greater transparency, addresses the issue of information asymmetry and improves certainty for telecoms providers. We did not consider, in principle, that it would be more costly or disproportionate for BT to continue offering current, or develop any new, WBA services on an EOI basis.[286] Nevertheless, we did not consider it would be proportionate to require BT to re-engineer services which it already provides on a non-EOI basis.

6.109 In its response to our June 2017 Consultation, additional information provided to Ofcom and subsequent meetings with Ofcom, BT set out its concerns about the impact of the EOI condition in conjunction with the advance notification requirements on its costs and ability to compete in Market B areas. In particular, given that it currently has a single network for Markets A and B, it was concerned that the combination of the 28 and 90 day advance notification and EOI requirements limited its ability to differentiate in Market B (other than in relation to price where it could offer discounts). In particular it considered it was not able to launch new services in Market B, which it also might launch in Market A, without giving notice to its main competitors, leading to a loss of competitive advantage by BT. As a result, BT informed us that it was considering developing separate broadband products in Market A and Market B at a wholesale level so that it can better compete on a level playing field with other telecoms providers.[287]

---

[284] As noted by BT in its response to the consultation, Ofcom decided in July 2017 that it was appropriate to remove the 2005 BT Undertakings when the new voluntary commitments relating to the legal separation of Openreach are fully implemented.

[285] At the time of the 2014 WBA market review, BT provided certain WBA products, including IPStream Connect, as well as successor products (including WBC) on an EOI basis by virtue of its obligations under the 2005 BT Undertakings.

[286] Ofcom, June 2017 WBA Consultation, paragraphs 6.59 – 6.61.

[287] BT response to Wholesale Broadband Access s.135, dated 16 May 2018.

6.110 To understand the costs associated with the EOI remedy, we requested information from BT on its actual and future expected costs of complying with this condition using our statutory powers. BT said that it had "no specific costs directly related to complying with the EOI obligation".[288] However, BT set out some costs that it has incurred or would incur if it was to develop the capability to manage broadband product performance differently between Market A and Market B and develop separate broadband products in Markets A and B at the wholesale level. In particular, BT noted that it had spent [✂] on systems development for separating its networks and expected to spend a further [✂]. It also provided an estimate of the potential benefits to it from this separation in the form of additional profitability it considered its downstream divisions could earn (and therefore considered this to be an indicator of the scale of the opportunity currently forgone by its downstream divisions). It said it could earn at least an [✂] EBITDA in its retail divisions if it were to go ahead with its plan.[289]

6.111 We disagree with some of BT's assessment of the impact of complying with an EOI remedy (particularly in conjunction with the advance notification requirements discussed in the next section). We note that the proposed EOI and no undue discrimination obligations would only apply to WBA services provided in Market A. They would not require BT to adopt the same systems and processes in respect of its provision of WBA services in Market B, where BT can benefit from additional commercial flexibility in these more competitive areas. For example, if BT was concerned that an advance notification requirement for changes to technical information or changes to charges, terms and conditions would allow its competitors to gain a competitive advantage ahead of BT's product launch, it could launch the product into Market B areas prior to offering the service in Market A. This would be consistent with a no undue discrimination requirement as long as when BT decided to launch the new service (or modification to the existing service) in Market A, it gave other Market A WBA customers (i.e. other telecoms providers offering retail services in Market A using WBA services) appropriate notice in compliance with its obligations in Market A, allowing them to use the new (or modified) service if they chose to do so.

6.112 We note that currently BT operates the same broadband network across Market A and Market B and has the same contract across both Market A and Market B. As a result, BT gives the same notice of product launches or developments across Markets A and B. We also note that BT has explained that it is currently considering separating its WBA offerings across Market A and Market B because of the prospect of ongoing EOI and notification obligations in Market A. It is open to BT to do this if it wishes to take advantage of additional commercial flexibility it benefits from in Market B areas where SMP regulation does not apply. If BT chooses to do this, we would expect that this would be on the basis that BT, acting as a rational economic operator, has assessed that the benefits it would receive would outweigh the costs associated with the relevant systems development. In

[288] BT has since said that that it could not identify any specific direct costs that could be split from the general costs of complying with its regulatory obligations.
[289] BT response to Wholesale Broadband Access s.135, dated 16 May 2018.

addition, the fact that our proposed SMP regulation might have unintended consequences on BT's actions in Market B areas (as a result of BT operating the same broadband network throughout the UK) does not mean that it would be appropriate for Ofcom to remove all discrimination remedies in Market A, thus leaving BT's competitors and consumers in Market A areas exposed to the risk that BT will discriminate in favour of its downstream divisions to their disadvantage.

6.113 We have carefully considered what form of non-discrimination remedy would be most appropriate and proportionate in Market A in the relevant market circumstances in order to address our concern that BT would have the incentive and ability to discriminate in favour of its own downstream divisions and negatively impact existing competition and consumers in Market A.

6.114 As noted above, an EOI remedy is likely to provide greater certainty and transparency for telecoms providers and would often be a more effective safeguard against discrimination where we are seeking to promote entry.[290] While BT has not identified specific direct costs associated with maintaining an EOI remedy for existing WBA products or with introducing new WBA products on an EOI basis, Market A is now significantly smaller compared to competitive Market B areas than when we carried out our last market review (and has also decreased in size since our consultation). We have therefore reconsidered our assessment of whether an EOI obligation remains appropriate and proportionate for this market. We now consider that, in the circumstances of WBA in Market A, an EOI obligation would not be likely to result in additional retail competition or provide significant additional benefits to consumers in Market A compared to a no undue discrimination obligation.

6.115 In our guidelines on how we interpret undue discrimination by SMP providers,[291] we explain that the aim of a no undue discrimination condition is to ensure that a vertically integrated SMP operator does not treat itself in a way that benefits itself, its subsidiaries or its partners in such a way as to have a material adverse effect on competition. Furthermore, we explain that undue discrimination: "describes when an SMP provider does not reflect relevant differences between (or does not reflect similarities in) the circumstances of customers in the transaction conditions it offers, and where such behaviour could harm competition."[292]

6.116 In the circumstances, we consider that a no undue discrimination obligation would be sufficient to address our competition concerns and meet our objective of maintaining existing competition within Market A. Such an obligation, would potentially allow BT a certain amount of additional flexibility to innovate compared to an EOI obligation, as well as reducing the risk that BT decides to only introduce new services or improvements to services in Market B only (or delays their introduction in Market A), which would not be in the interests of consumers in Market A.

---

[290] As recognised for example in the EC Costing and Non-discrimination Recommendation, paragraph 7, http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=2735.

[291] Ofcom, 2005. Undue discrimination by SMP providers. https://www.ofcom.org.uk/__data/assets/pdf_file/0021/46038/contraventions4.pdf.

[292] Ibid, paragraph 3.5.

6.117 Having taken account of the responses to consultation and additional evidence provided by BT, we have therefore decided to require that all current and future WBA services in Market A should be subject to a no undue discrimination requirement.

6.118 In line with our guidelines on how we interpret undue discrimination by SMP providers, we would expect BT to consider carefully whether any changes to its practices and processes for how it provides WBA in Market A or to the terms and conditions for WBA services in Market A result in differences in transaction conditions between BT's downstream divisions and third party telecoms providers, and, as discussed in our undue discrimination guidelines,[293] any such non-price differences would need to be objectively justified and not have a material adverse effect on competition.

6.119 We have also decided to include in the no undue discrimination condition, the ability for BT to apply to Ofcom for consent to an exemption from the no undue discrimination requirements where the circumstances warrant it, in line with our approach in the 2018 WLA Statement.

Legal tests

6.120 Section 87(6)(a) of the Act gives us a power to impose "a condition requiring the dominant provider not to discriminate unduly against particular persons, or against a particular description of persons, in relation to matters connected with network access to the relevant network or with the availability of the relevant facilities".

6.121 We have considered our duties under section 3, and all the Community requirements set out in section 4, of the Act. The obligation is aimed at promoting competition and furthering the interests of consumers through the maximisation of choice in downstream markets by seeking to ensure a level playing field and by preventing BT from leveraging its SMP through discriminatory behaviour into related downstream markets, and therefore preventing distortions of competition.

6.122 We also consider that the condition meets the criteria set out in section 47(2) of the Act.

- The condition is objectively justifiable as it provides a safeguard to prevent BT from favouring its own retail businesses, to the disadvantage of its competitors, and will prevent BT from favouring particular telecoms providers over others who lack any available substitutes.
- It is not unduly discriminatory as it is imposed on BT and BT is the only provider which we have found to hold SMP in Market A.
- It is proportionate in that it enables telecoms providers to compete effectively with BT at the retail level for the benefit of consumers. The no undue discrimination requirement will give BT more flexibility in determining how it complies with this

[293] In particular, Annex 1 of the guidelines give some guidance on the type of non-price transaction conditions that may be the basis of undue discrimination and circumstances where giving two customers different conditions may be difficult to objectively justify. This includes, for example, a vertically integrated SMP provider selling a retail product (that is built on a wholesale product) before the wholesale product is available externally, or so soon after the wholesale product becomes available, that there is insufficient time for a competitor to create a competing retail product.

condition (in comparison to a strict EOI condition) particularly given the relatively small size of Market A. This may allow it to implement more practical and cost effective services (or changes to current services). The condition allows BT to discriminate only where this is not undue.

- It is transparent, in relation to what it is intended to achieve as the condition is clear that the intention is to prevent undue discrimination.

6.123 In setting the SMP condition, we have taken due account of the EC's Costing and Non-Discrimination Recommendation. There are a number of recommendations of particular relevance in this regard:

- that NRAs should ensure that the SMP operator provides wholesale inputs on at least an EOO basis;
- that, although EOI is in principle the best way to ensure effective protection from discrimination from a vertically integrated dominant undertaking, EOI may be disproportionate in some cases;
- that NRAs should ensure that when a non-discrimination obligation is imposed, access seekers can use the relevant systems and processes with the same degree of reliability and performance as the SMP operators' own downstream retail arm; and
- that NRAs should require SMP operators subject to a non-discrimination obligation to provide access seekers with regulated wholesale inputs that allow the access seeker to effectively replicate technically new retail offers of the downstream retail arm of the SMP operator, in particular where EOI is not fully implemented.

6.124 We consider that the no undue discrimination obligation we are imposing is consistent with the Costing and Non-discrimination Recommendation. This makes clear that we should ensure that whatever the systems and processes used by access seekers, the end result provides the same degree of reliability and performance to that enjoyed by the SMP operator's own downstream retail division. For the reasons outlined above, we consider that the no undue discrimination obligation should secure this outcome. We do not consider it appropriate or proportionate to impose a technical replicability test in addition to the no undue discrimination obligation, as we consider that the existing regulated forms of WBA network access ensure that competitors in Market A can technically replicate BT's retail offerings in Market A areas.

6.125 For the reasons outlined above, we also consider that the condition is consistent with the BEREC Common Position on WBA. In relation to achieving the objective of a level playing field, the BEREC Common Position identifies, amongst other things, as best practice that:[294]

[294] See http://berec.europa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/common_approaches_positions/1126-revised-berec-common-position-on-best-practice-in-remedies-on-the-market-for-wholesale-broadband-access-including-bitstream-access-imposed-as-a-consequence-of-a-position-of-significant-market-power-in-the-relevant-market, pages 7 and 8.

"BP13 NRAs should impose an obligation on SMP operators requiring equivalence, and justify the exact form of it, in light of the competition problems they have identified.

BP13a NRAs are best placed to determine the exact application of the form of equivalence on a product-by-product basis. For example, a strict application of EOI is most likely to be justified in those cases where the incremental design and implementation costs of imposing it are very low (because equivalence can be built into the design of new processes) and for certain key legacy services (where the benefits are very high compared to the material costs of retro-fitting EOI into existing business processes). In other cases, EOO would still be a sufficient and proportionate approach to ensure non-discrimination (e.g. when the wholesale product already shares most of the infrastructure and services with the product used by the downstream arm of the SMP operator)."

6.126 For all the reasons set out above, we consider that the condition is appropriate to address the competition concerns identified, in accordance with section 87(1) of the Act.

Transparency and notification obligations

6.127 Requirements for transparency and notification of terms, conditions and charges for services in which one operator is dominant are complementary to network access and non-discrimination requirements and ensure that telecoms providers are able to make effective use of the dominant provider's network access. We explain below our decisions to reimpose on BT:

- a requirement to publish a reference offer;
- a requirement to notify changes to charges, terms and conditions at least 28 days in advance;
- a requirement to notify changes to technical information at least 28 days in advance; and
- a requirement on BT to publish information on quality of service (if directed by Ofcom).

Requirement to publish a reference offer

Our proposals

6.128 We proposed retaining the requirement on BT to publish a reference offer in relation to the provision of WBA services in Market A. We considered this was necessary to provide transparency on the WBA services available in Market A and confidence to users that these can be purchased on non-discriminatory terms and conditions.

Stakeholder responses

6.129 No stakeholder commented on our proposal to require BT to publish a reference offer. Vodafone was concerned about the unequal negotiating position of BT relative to other telecoms providers. It suggested that Ofcom should determine contractual terms where there was not a consensus and restrict BT's ability to unilaterally change its reference offers.[295] Our rationale for not making the changes suggested by Vodafone is set out in the section on the requirement to provide access on fair and reasonable terms, conditions and charges above (see paragraph 6.79).

Our reasoning and decision

6.130 As set out in the June 2017 consultation, the main reasons for requiring the publication of a reference offer are:

- to assist transparency for the monitoring of potential anti-competitive behaviour; and
- to give visibility to the terms and conditions on which other providers will purchase wholesale services.

6.131 We continue to consider a requirement on BT to publish a reference offer would help maintain competition in Market A as it would offer confidence to those customers that are already using WBA products in Market A that they can continue to buy those products on non-discriminatory terms and conditions. It potentially allows for quicker negotiations and for possible disputes to be avoided. In addition, no stakeholder raised any issues with our proposed remedy.

6.132 We have therefore decided to re-impose the condition on BT to publish a reference offer for the provision of WBA services in Market A. Consistent with BT's current requirements, the condition requires that the reference offer includes, at a minimum:

- a clear description of the services on offer, including technical characteristics;
- terms and conditions for the provision of network access, including charges, terms of payment and billing procedures, ordering and provisioning procedures, dispute resolution procedures, details of relevant intellectual property rights, details of duration and renegotiation of agreements and confidentiality provisions;
- information relating to technical standards for network access, interfaces and points of interconnection and conditions for access to ancillary, supplementary and advanced services (including operational support systems, information systems or databases); and
- conditions relating to maintenance and quality e.g. service level agreements and guarantees, timescales for acceptance or refusal of a request for supply and delivery of services and support services, compensation payable and provisions on limitation of liability and indemnity and procedures for service alterations.

6.133 Having considered the points made in response to our consultation and for the reasons set out above, we remain of the view that it is appropriate for us to impose a requirement on BT to publish a reference offer in relation to WBA services in Market A.

---

[295] Vodafone response to the 2017 WBA Consultation, pages 16 and 17.

Legal tests

6.134 Section 87(6)(c) of the Act authorises the setting of SMP services conditions requiring the dominant provider to publish, in such a manner as Ofcom may direct, the terms and conditions on which it is willing to enter into an access contract. Section 87(6)(d) also permits the setting of SMP services conditions requiring the dominant provider to include specified terms and conditions in an access contract. Finally, section 87(6)(e) permits the setting of SMP services conditions requiring the dominant provider to make such modifications to the reference offer as may be directed from time to time.

6.135 For the reasons set out above and summarised below, we are satisfied that the condition meets the relevant tests set out in the Act.

6.136 We consider that the condition satisfies our duties under section 3, and all the Community requirements set out in section 4, of the Act.

6.137 The requirement to publish a reference offer would, in combination with the non-discrimination obligations, facilitate service interoperability and protect existing competition in the market. Further, the obligation would enable buyers to adjust their downstream offerings in competition with BT in response to changes in BT’s terms and conditions. Finally, the obligation would make it easier for Ofcom and other telecoms providers in the relevant market to monitor any instances of discrimination. Therefore, we consider that the condition would further the interests of consumers in relevant markets by promoting competition in accordance with section 3 of the Act.

6.138 We also consider that the condition meets the Community requirements set out in section 4 of the Act. In particular, the condition would promote competition and encourage the provision of network access and service interoperability for the purpose of securing efficiency and sustainable competition for the maximum benefit of consumers. The publication of a reference offer will mean that other telecoms providers will have the necessary information readily available to allow them to understand the terms, conditions and charges upon which WBA services will be offered and facilitate decisions relating to providing retail services in Market A.

6.139 Section 47(2) of the Act requires conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. The condition is:

- objectively justifiable, in that it requires that terms and conditions are published in order to encourage competition, provide stability in markets and help us to monitor compliance with the non-discrimination obligations;
- not unduly discriminatory, in that it applies only to BT, which is the only provider we have found has SMP in Market A;
- proportionate, in that only information that is considered necessary to allow providers to make informed decisions about competing in downstream markets is required to be provided; and
- transparent, in that it is clear in its intention to ensure that BT publishes details of its WBA service offerings.

6.140 Article 9(4) of the Access Directive requires that where network access obligations are imposed, NRAs shall ensure the publication of a reference offer containing at least the elements set out in Annex II to that Directive. We are satisfied that the requirements we are imposing will ensure that this requirement is met.

6.141 We consider that the condition is consistent with the BEREC Common Position on WBA, including the best practice remedies falling under the objectives "Transparency" (BP21 and BP22); "Reasonable quality of access product – technical issues" (BP23 and BP24); and "Reasonable quality of access product – operational quality" (BP25 and BP26).

6.142 For the reasons set out above, we consider that the condition is appropriate to address the competition concerns identified, in accordance with section 87(1) of the Act.

Requirement to notify changes to charges, terms and conditions

Our proposals

6.143 We proposed requiring BT to notify any changes to the charges, terms or conditions for its WBA services in Market A 28 days in advance of the change coming into effect.

Stakeholder responses

6.144 TalkTalk agreed that price notification obligations were necessary.[296]

6.145 BT questioned whether there was a need for the price notification remedy given that its contractual terms (which apply across both Markets A and B) require it to give 28 days notice of changes to terms and conditions.[297] In particular, it was concerned about the situation where this requirement constrained its flexibility to introduce beneficial changes in less than 28 days (e.g. where it is reacting to notifications from Openreach in relation to prices or special offers on WLA services).[298]

6.146 BT noted that its competitors in Market B are able to amend their offers and take advantage of the Openreach price changes as soon as they take effect, whereas it must work out what changes it wishes to make to the pricing of its own services and then give 28 days notice before beneficial changes can be implemented. BT considered this had the potential to distort national competition for broadband services.[299]

6.147 Vodafone suggested a number of changes to the proposed condition on notification of charges and terms and conditions. These included adding requirements to publish the notification of changes to terms, conditions or charges (rather than just notify all access customers), a 90 day notice period for price increases (if a charge control or cost orientation obligation was not implemented), a 90 day notice period for other changes to terms and conditions, and dispute resolution process if a third party objected (including suspension of the price increases if prices are not agreed or suspension of other changes

[296] TalkTalk response to the 2017 WBA Consultation, paragraph 4.19.
[297] BT response to the 2017 WBA Consultation, paragraph 4.48.
[298] BT response to the 2017 WBA Consultation, paragraph 4.44.
[299] BT response to the 2017 WBA Consultation, paragraphs 4.45 - 4.47.

which materially adversely affect the supply of network access where a third party objects to such change). We have addressed Vodafone's concerns about BT unilaterally making changes to its WBA contracts and the lack of a charge control in paragraphs 6.79 and 6.69 to 6.78 respectively. We discuss the suggestion of a 90 day notice period for price increases and changes to terms and conditions below.

Our reasoning and decision

6.148 A remedy that requires BT to notify changes to terms, conditions and charges complements the network access and non-discrimination requirements to address the competition concerns arising from our finding that BT has SMP in WBA Market A.

6.149 Notification of changes to charges at the wholesale level has the joint purpose of assisting transparency for the monitoring of potential anti-competitive behaviour and giving advance warning of changes to the charges for competing providers who buy WBA services. The latter purpose ensures that competing providers have sufficient time to plan for such changes, as they may want to restructure the prices of their downstream retail offerings in response to price increases at the wholesale level. We consider that such a requirement will help to maintain existing competition in Market A.

6.150 There may be some disadvantages to such notifications, particularly in markets where there is some wholesale competition. It can lead to a 'chilling' effect where other CPs follow the dominant provider's prices rather than acting dynamically to set competitive prices. Given the limited wholesale competition in Market A, we do not consider, on balance, that this consideration undermines the rationale for imposing an obligation in relation to notification of changes to charges (or terms and conditions) in this market.

6.151 It is also appropriate to require the notification of changes to terms and conditions as we consider this will also ensure transparency and provide advance warning of changes, in order to allow competing providers sufficient time to plan for them.

6.152 We note BT's concern that the 28-day notification period has the potential to distort competition in certain circumstances and Vodafone's suggestion that the notice period for changes to charges, terms or conditions should be 90 days. BT told us that it has a 28 day notice period in its WBA contracts in Market B (as it said that it does not vary its contractual terms between Market A and Market B areas currently).[300] We would expect BT's contractual terms in Market B to reflect the level of competition in Market B. We consider that a 28 day notice period in Market A, which would be aligned with the current contractual notice period in competitive Market B areas, is unlikely to result in a significant competitive disadvantage to BT. Similarly, as it appears that a 28 day notice period is sufficient for BT's wholesale customers in Market B where there is a choice of wholesale provider, customers in Market A are unlikely to need a longer notice period (the appropriate notice period for changes to technical specifications is discussed below).

[300] BT response to Wholesale Broadband Access s.135, dated 16 May 2018, Question 4.

6.153 We therefore consider that 28 days remains an appropriate period of notice for changes to charges, terms and conditions as it allows other CPs sufficient time to plan for changes and adjust their own offerings without being a significant burden on BT (or unduly holding up its changes).

6.154 Therefore, having considered the comments made in response to our consultation and for the reasons set out above, we remain of the view that it is appropriate to require BT to provide at least 28 days' notice before making changes to the prices, terms and conditions for its WBA services in Market A. We consider that the notification requirement continues to be necessary for the joint purpose of assisting transparency for the monitoring of potential anti-competitive behaviour and giving advance warning of changes to the charges for competing providers who buy WBA services. The WBA Access Change Notice should set out:

a) a description of the network access in question;

b) a reference to the location in the Dominant Provider's current Reference Offer of the terms and conditions associated with the provision of that network access;

c) the current and proposed new charge and/or current and proposed new terms and conditions (as the case may be); and

d) the date on which, or the period for which, the Access Change will take effect.

6.155 We have also made a change to the wording of the Condition to clarify that there is no requirement to publish a WBA Access Change Notice in addition to sending it to all WBA access customers in Market A. However, BT will still be required under the Reference Offer obligation discussed above to publish terms, conditions and charges as part of the Reference Offer, and to update its published Reference Offer when changes to the terms, conditions and charges are made.

Legal tests

6.156 Section 87(6)(b) of the Act authorises the setting of SMP services conditions which require a dominant provider to publish, in such manner as Ofcom may direct, all such information, for the purpose of securing transparency. Section 87(6)(c) of the Act authorises the setting of SMP services conditions requiring the dominant provider to publish, in such a manner as Ofcom may direct, the terms and conditions on which it is willing to enter into an access contract.

6.157 For the reasons set out above and summarised below, we are satisfied that the condition meets the relevant tests set out in the Act.

6.158 We consider that the condition satisfies our duties under section 3, and all the Community requirements set out in section 4, of the Act. In particular, the condition is aimed at promoting competition, and securing efficient and sustainable competition and the maximum benefits for consumers. This is achieved by ensuring that telecoms providers have the necessary information about changes to terms, conditions and charges sufficiently in advance to allow them to make informed decisions about competing in downstream markets.

6.159 Section 47(2) of the Act requires conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. The condition is:

- objectively justifiable, in that there are benefits from the notification of changes to contractual terms, conditions and charges in terms of ensuring that providers are able to make informed decisions within an appropriate time frame about competing in downstream markets;
- not unduly discriminatory, as it applies only to BT which is the only provider we have found has SMP in Market A;
- proportionate, as a 28-day notification period allows other telecoms providers sufficient time to plan for changes to charges, terms and conditions and to adjust their own offerings, while not being unduly burdensome on BT; and
- transparent, in that it is clear in its intention to ensure that BT provides notification of changes to its charges, terms and conditions.

6.160 We consider that the condition is consistent with the BEREC Common Position on WBA, including the best practice remedies falling under the objective "Transparency" (BP21).

6.161 For the reasons set out above, we consider that the conditions are appropriate to address the competition concerns identified, in line with section 87(1) of the Act.

Requirement to notify changes to technical information

Our proposals

6.162 We proposed to continue the current requirement on BT to publish any new or modified technical characteristics, points of network access and technical standards within a reasonable time period and at least 90 days in advance (unless Ofcom otherwise consents).

Stakeholder responses

6.163 TalkTalk agreed that advance notification of technical changes was necessary.[301] Vodafone noted that changes to technical requirements could have a material impact on other telecoms providers and considered that Ofcom should only consent to these changes being made where it is objectively reasonable to do so (based on pre-defined criteria). It also argued that these changes should be notified sufficiently in advance and BT should be required to workshop major changes in technology, standards and network access locations with its wholesale customers in advance. Vodafone also suggested some drafting changes for clarity.

6.164 BT said that as it operated a single network across Market A and Market B (as discussed above in relation to the no undue discrimination obligation), any changes to the technical

[301] TalkTalk response to the 2017 WBA Consultation, paragraph 4.19.

characteristics of the WBA services would impact both markets. It considered that this requirement was disproportionate with such a small size of the regulated Market A.[302] In discussions with Ofcom, BT clarified that it was the combination of this obligation and the EOI obligation which resulted in competitive disadvantages for it in Market B. It said that the combination of these obligations mean that if a technical change applied to a feature of a WBA product offered only in Market B, it would still need to be notified across Market A and Market B.[303]

6.165 BT also argued that this requirement is often triggered by changes to Openreach's fibre and copper services which are subject to a WLA EOI obligation and that it was unnecessary that BT's WBA services required an additional 90 days formal notification (when its competitors can launch services much earlier).[304] BT considered that if this requirement were removed, it would continue to have incentives to provide technical information to customers so they could buy its broadband products,[305] and it would be able to implement advantageous changes in less than 90 days and compete with LLU users if this requirement was not in place.[306]

Our reasoning and decision

6.166 Any requirement to notify changes to technical information would complement the requirement to publish a reference offer and ensure that telecoms providers buying WBA services in Market A were provided with appropriate advance notification of changes to technical characteristics. This is to ensure that telecoms providers have sufficient time to respond to changes that may affect them. For example, a provider may need to introduce new equipment, or modify existing equipment or systems, to support a new or changed technical interface. Similarly, a provider may need to modify its network in order to support changes in the points of network access or configuration.

6.167 We consider this remedy is important in the WBA market to ensure that telecoms providers who compete in Market A areas downstream are able to make effective use of existing wholesale services provided by BT. Technical information therefore includes new or amended technical characteristics, including information on network configuration, locations of the points of network access and technical standards (including any usage restrictions and other security issues).

6.168 We continue to consider that BT should give Market A customers reasonable notice of any changes to its technical information for WBA products. However, given the responses to consultation, in particular BT's claim that the combination of our EOI and notification requirements impact its ability to compete in Market B areas, we have reconsidered what the appropriate minimum notice period should be. To inform our decision we required BT

[302] BT response to the 2017 WBA Consultation, paragraph 4.49.
[303] BT response to Wholesale Broadband Access s.135, dated 16 May 2018.
[304] BT response to the 2017 WBA Consultation, paragraph 4.50.
[305] BT presentation to Ofcom dated 4 May 2018.
[306] BT response to the 2017 WBA Consultation, paragraphs 4.49 - 4.51.

to provide us with the details of its contracts for the competitive market areas. BT confirmed that it has the same contractual terms for customers buying WBA in Markets A and B and that the notice period for all changes to charges, terms and conditions – including in relation to technical information – is a minimum of 28 days' notice.[307]

6.169 It is likely that the minimum period WBA customers need will depend on the circumstances of the change that BT is making to its technical characteristics. To ensure that the regulation we put in place is the least onerous to meet our concern of ensuring telecoms providers who compete in Market A downstream are able to make effective use of existing wholesale products provided by BT, we consider it appropriate to align the minimum notice period required for these changes to BT's contracts agreed in non-regulated areas (i.e. 28 days). We would expect that where customers need to make changes to their systems and processes as a result of the change, the requirement for BT to give notice within a reasonable period of time would require BT to give its customers greater than 28 days' notice to implement the changes (in both Markets A and B). If customers considered the notice given was insufficient to implement a certain change, they could raise concerns with Ofcom about whether the notice period was reasonable. We also consider that, in line with notification to other terms and conditions (and charges) it is sufficient that BT notifies current Market A customers in advance of any change to technical characteristics coming into effect in respect of the services they are buying, rather than publishing this information more widely (although it will need to update the published reference offer before the change takes effect).

6.170 In addition, we have considered whether this condition should apply to new services as well as changes to current services. As customers do not have to make any technical changes to their systems and processes for new services (in the way that they would for existing services to continue supplying their customers with a retail broadband service) and our main objective in this market is to maintain existing competition (given that we think the prospect of further significant retail competition is limited), we do not consider that in the circumstances of this market it is appropriate to continue requiring BT to give advance notice of the technical information for new services that it is launching. However, we would expect that BT would share this information at a suitable time in advance of any product launch to ensure that customers are able to make effective use of the product. In addition, BT will remain subject to a no undue discrimination obligation in relation to Market A. Therefore, as discussed above, if BT were to introduce a new service in Market A, we would expect that it would ensure that it does so in a way that is compatible with its no undue discrimination obligation, including giving sufficient notice before supplying the service so that all of its customers are able to make effective use of the service in Market A.

6.171 We note Vodafone's concern about Ofcom consenting to a change in the technical specifications for WBA Market A services. We do not consider it is appropriate that BT has to obtain our approval for any technical changes to its services. We do not require BT to

[307] BT response to Wholesale Broadband Access s.135, dated 16 May 2018, Question 4.

obtain any such consent to technical changes in any regulated market and do not consider this to be necessary in Market A, especially given its relative size. WBA customers are able to raise a concern with Ofcom if they do not consider any change (or current term and condition) is reasonable. We also do not consider it appropriate for us to prescribe precisely how BT works with its customers to implement changes to technical characteristics. However, we would expect BT to engage constructively with telecoms providers when it is planning major changes.

6.172 Having considered the points made in response to our consultation and for the reasons set out above, we have decided to reimpose the requirement on BT to give advance notice to its customers of changes to technical information. We consider that it is appropriate for BT to give its customers reasonable notice and at least 28 days' notice in order to give them sufficient time to modify their network to support a changed technical interface, a new point of access or network configuration. We have also decided not to impose this advance notification requirement on BT with respect to new services. BT will, however, continue to be required to publish an updated reference offer and not discriminate unduly in favour of its own retail divisions in Market A areas (as discussed above).

6.173 We have also retained the flexibility for BT to request an exemption from this advance notification requirement in particular circumstances.

Legal tests

6.174 Section 87(6)(b) of the Act authorises the setting of SMP services conditions which require a dominant provider to publish, in such manner as Ofcom may direct, all such information as Ofcom may direct for the purpose of securing transparency. Section 87(6)(d) also permits the setting of SMP services conditions requiring the dominant provider to include specified terms and conditions in the reference offer.

6.175 For the reasons set out above and summarised below, we are satisfied that the condition meets the relevant tests set out in the Act.

6.176 We consider that the condition satisfies our duties under section 3, and all the Community requirements set out in section 4, of the Act. In particular, the condition is aimed at promoting competition and securing efficient and sustainable competition for the maximum benefits of consumers by ensuring that providers have sufficient advance notice of technical changes to WBA services to enable them to compete in downstream markets.

6.177 Section 47(2) of the Act requires conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. The condition is:

- objectively justifiable, in that it enables telecoms providers to make full and effective use of network access to be able to compete in downstream markets;
- not unduly discriminatory, as it applies only to BT which is the only provider we have found has SMP in Market A;
- proportionate, in that a reasonable, and at least 28 day, notice period allows telecoms providers sufficient time to react to proposed changes without imposing an

unnecessarily long notification period on BT that may restrict its ability to develop and deploy new features or products; and

- transparent, in that it is clear in its intention that BT must notify changes to technical information in advance.

6.178 We consider that the condition is consistent with the BEREC Common Position on WBA, including the best practice remedies falling under the objective "Transparency" (BP22).

6.179 For the reasons set out above, we consider that the condition is appropriate to address the competition concerns identified, in line with section 87(1) of the Act.

Requirement to publish quality of service (QoS) information

Our proposals

6.180 We proposed a remedy that gives us the power to direct BT to publish quality of service information where we consider it is appropriate.

Stakeholder responses

6.181 Vodafone questioned why Ofcom had not proposed QoS or key performance indicator (KPI) reporting requirements on BT in Market A. Vodafone argued that even in a declining market, regulatory protection should be extended where there is little or no wholesale competition.[308]

6.182 BT argued that this obligation was redundant as Ofcom had never required BT to publish any KPIs.[309]

Our reasoning and decision

6.183 As discussed in our March 2018 Statement on the Quality of Service for WLR, MPF and GEA,[310] we have concerns about the overall quality of broadband and telephone services. While many of these concerns relate to service failures in the WLA and Narrowband markets, some of the issues that could lead to such service failures could also lead to service failures for end customers of WBA services, given WBA services are in large part based on the same infrastructure.

6.184 The remedies we have put in place in the WLA and Narrowband markets are expected to be sufficient to address any quality concerns at that level. However, it is still possible that there could be some WBA specific quality concerns; for example, if BT were to take a long time to migrate end customers from its own retail operations to telecoms providers who are competing in Market A using WBA services, or in the rate at which it upgraded

---

[308] Vodafone response to the 2017 WBA Consultation, pages 15 and 16.
[309] BT presentation to Ofcom dated 4 May 2018.
[310] Ofcom, *Quality of Service for WLR, MPF and GEA, Statement*, 28 March 2018, https://www.ofcom.org.uk/__data/assets/pdf_file/0007/112210/statement-qos-wlr-mpf-gea2.pdf.

wholesale customers from legacy to new WBA services.[311] Given this risk and the importance we placed on improving quality of service for end users in our Strategic Review, we consider it appropriate to maintain our power to direct BT to publish quality of service information where necessary.

6.185 We have also considered whether we should impose a requirement on BT to provide KPIs under this proposed requirement. In reaching our view, we have taken utmost account of BP27 of the BEREC Common Position on WBA, as well as due account of points 19 to 25 of the Costing and Non-Discrimination Recommendation. These provide that NRAs should impose a generic requirement on SMP operators to provide KPIs as a means to monitor compliance with a non-discrimination obligation.

6.186 We recognise that, in the absence of KPI data, it may be difficult for telecoms providers to assess whether to raise complaints regarding the provision of services on a non-discriminatory basis. However, given that no telecoms provider has raised any specific concern relating to quality of service or discrimination for WBA services with us, it would be difficult to design KPI data that would address potential future concerns in relation to WBA services. We are also mindful that any requirement on BT to publish information should be applied proportionately in response to a specific competition concern. It should be noted that, as set out above, we are requiring BT to provide its WBA services subject to a no undue discrimination obligation. As such, we expect concerns relating to the provision of these services in a non-discriminatory fashion to be raised via this mechanism. Therefore, we do not consider it proportionate to require BT to publish KPI information at the current time.

6.187 With regard to point 26 of the Costing and Non-Discrimination Recommendation, we would intervene if we had reasonable grounds to suspect that BT was not complying with its no undue discrimination obligation in relation to quality of service.

6.188 We do not consider that it is necessary to impose the additional requirements on BT that Vodafone has suggested. As noted above, we consider that the remedies that we have put in place in the WLA and Narrowband markets will be sufficient to address most of the quality of service issues that we have identified as affecting broadband services. While we can envisage quality concerns that could arise in Market A, there is no suggestion that these are arising at present. While it is therefore appropriate for us to retain the power to impose quality of service and KPI reporting requirements, we do not consider that it is currently necessary or appropriate for us to set specific requirements at this point in time. Should we receive complaints suggesting that quality of service issues are arising in Market A, we will revisit this question.

6.189 Having considered the points made in response to our consultation and for the reasons set out above, we have decided to retain the requirement on BT to publish such quality of service information that Ofcom may from time to time direct for the purpose of securing transparency in the quality of service provided to all telecoms providers. We do not

[311] If this was as a result of BT favouring its own retail services over other telecoms providers, we consider that this would be addressable through our conditions in relation to EOI and no undue discrimination.

consider that it is necessary or proportionate to make any specific directions, at this point in time.

Legal tests

6.190 Section 87(6)(b) of the Act authorises the setting of SMP services conditions which require a dominant provider to publish, in such manner as Ofcom may direct, all such information as Ofcom may direct for the purpose of securing transparency.

6.191 For the reasons set out above and summarised below, we are satisfied that the condition meets the relevant tests set out in the Act.

6.192 We consider that the condition satisfies our duties under section 3, and all the Community requirements set out in section 4, of the Act. In particular, the condition is aimed at promoting competition and securing efficient and sustainable competition for the maximum benefit of consumers by ensuring that if there were to be an issue in relation to quality of services in the future all telecoms providers would have sufficient transparency over BT's WBA quality of service performance.

6.193 Section 47(2) of the Act requires conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. The condition is:

- objectively justifiable, in that it will enable us to require BT to provide sufficient transparency to telecoms providers over its quality of service for WBA services if a specific problem were identified;
- not unduly discriminatory, as it applies only to BT which is the only provider we have found has SMP in WBA Market A;
- proportionate, in that we will only impose quality of service publication requirements if we consider there is an issue in relation to quality of service; and
- transparent, in that it is clear in its intention that BT must publish its actual achieved quality of service if directed to by Ofcom.

6.194 We have taken utmost account of the BEREC Common Position on WBA and the Costing and Non-Discrimination Recommendation as explained above. We consider that the condition is consistent with the BEREC Common Position on WBA, including the best practice remedies falling under the objectives "Transparency" (BP22).

6.195 For the reasons set out above, we consider that the condition is appropriate to address the competition and quality concerns identified, in line with section 87(1) of the Act.

Regulatory financial reporting requirements

6.196 As explained in the following sub-sections, we have decided to impose accounting separation and cost accounting requirements on BT in Market A. Our approach is in line with that taken in the 2014 WBA Statement. We have implemented these obligations by way of a single SMP Condition (see Annex 1, Condition [7]).

6.197 Our accounting separation and cost accounting obligations are underpinned by detailed requirements for regulatory financial reporting which specify what information we require BT to provide in relation to Market A.

6.198 Our approach to BT's regulatory financial reporting in this review follows the approach set out in our 2014 Regulatory Financial Reporting Statement which sets out our conclusions on the regulatory financial reporting policy that should be applied to BT across all regulated markets and the changes to the framework for BT's regulatory financial reporting. In Annex 2 to the 2014 Regulatory Reporting Statement we set out pro-forma SMP conditions which would implement the decisions made in that statement. We explained that in order to preserve the integrity and consistency of BT's regulatory financial reporting, we considered that our starting point should be that the changes be implemented across all regulated markets, subject to this being appropriate in the light of the market analysis in each review. We noted that there were significant advantages to BT and stakeholders of BT applying one set of accounting rules across all markets and we also noted that BT was broadly supportive of the principle of applying a consistent approach across all markets.[312]

6.199 Consistent with this approach, we have therefore considered whether it is appropriate to impose regulatory financial reporting obligations on BT in WBA Market A and, to the extent that it is, whether the pro-forma SMP conditions are appropriate in the light of our market analysis.

6.200 For the reasons explained below and noting the benefits of applying a consistent approach across all markets, our view is that it is appropriate to impose regulatory financial reporting obligations in Market A.

6.201 In the 2015 Directions Statement[313] we set out the necessary directions to give effect to other decisions made in the 2014 Regulatory Reporting Statement about changes to BT's reporting requirements, including imposing directions on BT in respect of the WBA market.[314] We discuss these further in Section 7.

Accounting separation requirements

Our proposals

6.202 In the consultation we proposed an accounting separation obligation on BT in relation to WBA services in Market A in order to ensure that the necessary financial information was available for the services that we regulate.

---

[312] Ofcom, May 2014, *Regulatory Financial Reporting Statement,* https://www.ofcom.org.uk/__data/assets/pdf_file/0025/78460/financial-reporting-statement-may14.pdf paragraphs 7.15 - 7.19.
[313] Ofcom, 30 March 2015, *Directions for Regulatory Financial Reporting*, http://stakeholders.ofcom.org.uk/binaries/consultations/financial-reporting/statement/statement.pdf.
[314] These directions were set out in Annexes 1 to 8 to the 2015 Directions Statement.

Stakeholder responses

6.203 TalkTalk agreed that accounting separation (and cost accounting) obligations were required in order to make it more difficult for BT to transfer costs from Market A to other regulated products.[315]

6.204 Vodafone argued that we should consider publishing one set of financial reporting requirements to deal with cross-portfolio matters common to all market reviews, then incorporate these by reference to each new set of SMP conditions following a market review.[316] We have addressed Vodafone's comments in Section 7 that sets out the detailed accounting separation requirements we are putting in place.

6.205 BT considered that as Market A is now such a small proportion of the country, it was disproportionate to require it to produce any accounting separation reporting (and it was of little value to other telecoms providers).[317] We discuss BT's comments on the proportionality of the financial reporting obligations in Section 7.

Our reasoning and decision

6.206 Paragraph 3 of Point 1 of the European Commission's 2005 Recommendation on accounting separation[318] (the 2005 EC Recommendation) states that:

> "The purpose of imposing an obligation regarding accounting separation is to provide a higher level of detail of information than that derived from the statutory financial statements of the notified operator, to reflect as closely as possible the performance of parts of the notified operator's business as if they had operated as separate businesses, and in the case of vertically integrated undertakings, to prevent discrimination in favour of their own activities and to prevent unfair cross-subsidy."

6.207 In Ofcom's 2014 Regulatory Reporting Statement, we considered the purposes of regulatory reporting which is supported by the imposition of an accounting separation obligation. We said that regulatory reporting "should provide us with the information necessary to make informed regulatory decisions, monitor compliance with SMP conditions, ensure that those SMP conditions continue to address the underlying competition issues and investigate potential breaches of SMP conditions and anti-competitive practices".[319] In addition, we said that it "should provide reasonable confidence to stakeholders that the SMP provider has complied with its SMP conditions and add credibility to the Regulatory Financial Reporting Regime".[320] We consider that

[315] TalkTalk response to the 2017 WBA Consultation, paragraph 4.20.
[316] Vodafone response to the 2017 WBA Consultation, page 18.
[317] BT presentation to Ofcom dated 4 May 2018.
[318] European Commission, Commission Recommendation of 19 September 2005 on accounting separation and cost accounting systems under the regulatory framework for electronic communications, recital 2. Available at: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32005H0698&from=EN.
[319] Ofcom, 2014 Regulatory Reporting Statement, paragraph 2.28.
[320] Ofcom, 2014 Regulatory Reporting Statement, paragraph 2.41.

imposing an accounting separation obligation, together with a cost accounting obligation (see below), would help ensure that these regulatory reporting objectives are met.

6.208 In order to carry out our duties it is important that financial information is available on the services and markets that we regulate. The availability of this information helps us understand the volumes, revenues, costs and returns of services and markets, which allows us to monitor the impact and effectiveness of, and (for certain remedies) compliance with, the remedies imposed as part of a market review. Transparency is an important element of regulatory financial reporting. For example, the 2005 EC Recommendation says that one of the objectives of imposing reporting obligations is to improve transparency, recommending that relevant accounting information is published at a sufficient level of detail, having due regard for commercial confidentiality.[321] We note that section 87(6)(b) of the Act also allows us to impose a condition requiring the dominant provider to publish information to secure transparency and Article 9(1) of the Access Directive specifies that such information can include accounting information.[322]

6.209 The accounting separation obligation is necessary to support transparency by providing a greater detail of information on the relevant market than that derived from BT's statutory financial statements.

6.210 The accounting separation obligation also requires BT to account separately for internal and external sales which allows Ofcom and stakeholders to monitor the activities of BT to ensure that, where relevant, it does not discriminate unduly in Market A in favour of its own downstream business. In practice this obligation requires BT to produce a financial statement that reflects the performance of Market A as though it were a separate business.

6.211 Requiring BT to produce a financial statement for Market A, combined with an obligation to attribute costs in a fair, objective and transparent way (via the cost accounting obligation) helps us to ensure that costs are not inappropriately loaded onto one set of regulated products to the benefit of BT, where such costs are more appropriately attributed to another set of regulated or unregulated products.

6.212 In respect of the specific accounting separation requirements we are imposing on BT in these markets, we have modified the condition set out in the 2014 Regulatory Financial Reporting Statement to remove the reference to the Regulatory Accounting Guidelines.[323]

---

[321] Recitals 2 and 4 and Point 5, 2005 EC Recommendation.

[322] Article 9 (Obligation of transparency) says that "National regulatory authorities may, in accordance with the provisions of Article 8, impose obligations for transparency in relation to interconnection and/or access, requiring operators to make public specified information, such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use, and prices".

[323] As explained in the 2016 BCMR Statement (paragraph 8.175 and Annex 28), we no longer consider that it would be useful to establish high-level guidelines and accounting rules in the Regulatory Accounting Guidelines by way of direction. Where we find concerns about BT's detailed application of cost attribution rules, in line with what we have done in the 2016 BCMR, we will direct BT as to the specific reporting requirements consistent with the Regulatory Accounting Principles arising from each regulatory decision. The wording of our proposed condition reflects our decision not to issue the Regulatory Accounting Guidelines. Each proposed condition therefore requires BT to prepare the RFS in accordance with the SMP conditions, the Regulatory Accounting Principles and the Accounting Methodology Documents.

This form of condition implements our policy decisions on regulatory financial reporting set out in that statement,[324] and will:

- give Ofcom an appropriate role over in the way that BT prepares its regulatory financial statements;
- ensure a clear presentation of the published financial statements and supporting documentation; and
- ensure that Ofcom and stakeholders have the information they need.

6.213 For the reasons set out above, we have decided to reimpose an accounting separation requirement on BT.

Legal tests

6.214 Section 87(6)(b) of the Act authorises the setting of SMP services conditions which require a dominant provider to publish, in such manner as Ofcom may direct, all such information, for the purpose of securing transparency.[325] Section 87(7) and 87(8) of the Act authorise Ofcom to impose appropriate accounting separation obligations on a dominant provider in respect of the provision of network access, the use of the relevant network and the availability of relevant facilities.

6.215 For the reasons set out above and summarised below, we are satisfied that the condition (as set out in Annex 1) meets the various tests set out in the Act.

6.216 We consider that this condition meets our duties under sections 3 and 4 of the Act. The imposition of an accounting separation obligation promotes competition in relation to the provision of electronic communications networks and services, ensuring the provision of network access and service interoperability for the purposes of securing efficient and sustainable competition and the maximum benefit for the persons who are customers of telecoms providers. This is because the imposition of the obligation ensures that other obligations designed to curb potentially damaging leverage of market power, in particular the requirement not to unduly discriminate, can be monitored and enforced.

6.217 We also consider that this condition meets section 47(2) of the Act which requires conditions to be objectively justifiable, non-discriminatory, proportionate and transparent. We consider the condition is:

- objectively justifiable, as it will ensure the no undue discrimination obligation is complied with, which is intended to provide a safeguard to prevent BT from favouring its own retail businesses to the disadvantage of its competitors;
- not unduly discriminatory, as we have imposed it only on BT, which is the only telecoms provider which we have found has SMP in Market A;
- proportionate, in that it is the least onerous obligation necessary as a mechanism to allow us and third parties to monitor potentially discriminatory behaviour by BT; and

[324] Ofcom, 2014 Regulatory Financial Reporting Statement, page 1.
[325] As noted above Article 9(1) of the Access Directive specifies that such information can include accounting information.

- transparent, in that it is clear that the intention is to monitor compliance with specific remedies and to provide transparency to users of BT's revenues, costs and profit for Market A. In addition, the particular accounting separation requirements of BT are clearly documented within the SMP condition.

6.218 For the reasons set out above, we consider that the condition is appropriate to address the competition concerns identified, in line with section 87(1) of the Act.

Cost accounting requirements

Our proposal

6.219 In the consultation we proposed a cost accounting obligation on BT in relation to WBA services in Market A.

Stakeholder responses

6.220 We received no comments on the proposed cost accounting requirements in response to the 2017 WBA Consultation, other than the general comments made by TalkTalk, BT and Vodafone noted above in relation to the accounting separation obligation.

Our reasoning and decision

6.221 As noted above (at paragraph 6.204), transparency is an important element of regulatory financial reporting.[326] Paragraph 2 of Point 1 of the 2005 Recommendation states that:

> "The purpose of imposing an obligation to implement a cost accounting system is to ensure that fair, objective and transparent criteria are followed by notified operators in allocating their costs to services in situations where they are subject to obligations for price controls or cost-oriented prices."

6.222 Recital 2 of the 2005 Recommendation also states that the purpose of imposing cost accounting obligations is "to make transactions between operators more transparent and/or to determine the actual costs of services provided" and that cost accounting systems may be used to "complement the application of other regulatory measures (e.g. transparency, non-discrimination, cost orientation)".

6.223 The imposition of a cost accounting obligation ensures that BT has in place a system of rules that support the attribution of revenues and costs to individual markets and services. It therefore supports the accounting separation obligation, which requires BT to prepare and report financial information relating to individual markets and services, by ensuring that the rules attributing revenues and costs to individual markets and services are fair, objective and transparent. A cost accounting obligation is an important means of ensuring that:

- Ofcom and stakeholders can have confidence in the financial information prepared and provided by BT on individual markets and services since the attribution processes and

[326] Recitals 2 and 4 and Point 5, 2005 EC Recommendation.

rules supporting that financial information are fair, objective and transparent. Where we do not consider that the attribution process and rules are fair and objective, transparency (via publication of the processes and rules followed by BT) allows us to effectively challenge them.

- Revenues and costs are attributed to individual markets and services in a consistent manner. This mitigates the risk of double recovery of costs or that costs might be unfairly loaded onto particular products or markets.
- BT records all information necessary for the purposes listed above at the time that relevant transactions occur, on an ongoing basis. Absent such a requirement, there is a strong possibility that the necessary information would not be available when it is required, and in the necessary form and manner.

6.224 We consider that it is appropriate to impose cost accounting requirements on BT in Market A in order to ensure that the processes and rules used by BT to attribute revenues and costs to individual markets and services are fair, objective and transparent and that this will help ensure the coherence of the regulatory financial accounting information that BT publishes and provides to Ofcom.[327] In addition, as we discussed above in relation to the risk of excessive pricing, we consider it is appropriate to impose a cost accounting obligation on BT to allow us to monitor its costs and revenues and therefore the impact and effectiveness of our regulation (including understanding how BT is using its additional pricing freedom).

6.225 The specific form of the cost accounting requirements we are imposing on BT in Market A is the same as set out in the 2014 Regulatory Financial Reporting Statement but modified to remove the reference to the Accounting Guidelines.[328] As noted above, this form of condition implements our policy decisions on regulatory financial reporting set out in that statement.

6.226 For the reasons set out above, we have decided to reimpose a cost accounting obligation on BT.

Legal tests

6.227 Section 87(6)(b) of the Act authorises the setting of SMP services conditions which require a dominant provider to publish, in such manner as Ofcom may direct, all such information, for the purpose of securing transparency.[329]

6.228 Section 87(9)(c) authorises conditions imposing such rules as we may make for the purposes of matters connected with the provision of network access to the relevant network, or with the availability of relevant facilities about the use of cost accounting

[327] The 2005 EC Recommendation states that "the imposition of accounting separation may cover markets where the operator does not have SMP, e.g. to ensure the coherence of data" (recital 5). We consider that the principle of coherence of data is equally applicable here, especially given that we have found BT to have SMP in WBA Market A, and is of relevance to cost accounting obligations in addition to accounting separation obligations, given that cost accounting obligations support an accounting separation obligation.

[328] See footnote 323 above.

[329] As noted above Article 9(1) of the Access Directive specifies that such information can include accounting information.

systems. Such conditions include conditions requiring the application of presumptions in the fixing and determination of costs and charges for the purposes of the price controls, rules and obligations imposed by virtue of that subsection (section 87(10)). Where such conditions are imposed, section 87(11) imposes a duty on us to set an SMP condition which imposes an obligation to make arrangements for a description to be made available to the public of the cost accounting system used in pursuance of that condition; and to include in that description details of:

- the main categories under which costs are brought into account for the purposes of that system; and
- the rules applied for the purposes of that system with respect to the allocation of costs.

6.229 In setting such conditions, we must be satisfied that the conditions about network access pricing set out in section 88 are also satisfied.

6.230 For the reasons set out above and summarised below, we are satisfied that the condition meets the various tests set out in the Act.

6.231 We consider that the condition fulfils our duty under section 87(11) in that the cost accounting conditions require the publication of a description of the cost accounting system used and the main categories of cost and the cost allocation rules applied.

6.232 We are imposing on BT an obligation to ensure its charges are fair and reasonable, which we consider, for the reasons set out above, meets the conditions in section 88; in particular we consider that, in the absence of price regulation requiring prices to be 'fair and reasonable', there is a relevant risk of adverse effects arising from a price squeeze. We also consider that the cost accounting condition will assist us in monitoring the effectiveness of the remedies we are imposing (which include a fair and reasonable charges obligation that allows BT additional pricing flexibility than a wholesale charge control), and thereby in promoting efficiency and competition, to the benefit of consumers, and would not undermine investment by BT.

6.233 We have considered our statutory obligations and the Community requirements set out in sections 3 and 4 of the Act. In particular, we consider that the imposition of the cost accounting obligation is necessary and appropriate to promote competition in relation to the provision of electronic communications networks and services and to ensure the provision of network access and service interoperability for the purpose of securing efficient and sustainable competition and the maximum benefit for the persons who are customers of telecoms providers. This is because it will ensure that the processes and rules used by BT to attribute revenues and costs to individual markets and services are fair, objective and transparent and it will help ensure the coherence of the regulatory financial accounting information that BT publishes and provides to Ofcom.

6.234 We consider that the condition meets the criteria set out in section 47(2) of the Act.

- The condition is objectively justifiable in that it is necessary to ensure the appropriate maintenance and provision of accounts in order to monitor BT's activities (where we have concluded that an obligation in relation to fair and reasonable terms and conditions in Market A should provide sufficient protection). It also provides transparency of the revenues, costs and margins BT is earning in Market A to other providers of retail services in these areas.

- It is non-discriminatory, in that BT is the only telecoms provider identified with SMP in WBA in the UK excluding the Hull Area.
- It is proportionate, in that it requires only information to be provided that is no more than necessary to monitor BT's activities with regard to the impact and effectiveness of our remedies.
- It is transparent, in that it is clear in its intention to ensure the appropriate maintenance and provision of accounts for the purposes set out above and the particular accounting separation requirements of BT are clearly documented.

6.235 For the reasons set out above, we consider that the condition is appropriate to address the competition concerns identified, in line with section 87(1) of the Act.

7. Regulatory Financial Reporting

Introduction

7.1 BT is currently subject to regulatory financial reporting requirements designed to provide us with the information necessary to make informed regulatory decisions, monitor compliance with SMP conditions, ensure that those SMP conditions continue to address the underlying competition issues and investigate potential breaches of SMP conditions.

7.2 As part of these requirements, each year BT prepares Regulatory Financial Statements (RFS). The RFS are prepared according to a defined framework and methodology and include published statements as well as information that is not published but submitted to us privately.

7.3 As set out in Section 6, we have decided to impose cost accounting and accounting separation obligations on BT in relation to Market A. In this section, we set out our decisions on the regulatory financial reporting requirements we have decided to impose on BT by way of directions made under those SMP conditions in order to support these obligations and the other SMP conditions that we have imposed on BT in Market A.

7.4 We begin by summarising the reporting requirements that are currently in place and the changes that we proposed making to these requirements, before discussing in more detail our conclusions as to the regulatory reporting requirements that BT should be subject to in the period covered by this review.

7.5 The directions in relation to our regulatory financial reporting requirements and detailed reporting requirements for the RFS are included in Annex 2.

7.6 Since the 2017 WBA Consultation and the 2017 Regulatory Financial Reporting Consultation we have made further changes to our reporting requirements. As discussed below, we consider that given the reduced size of the market we should ensure that the amount of public reporting remained proportionate. Following on from this and in light of the fact that the majority of the WBA revenues are from internal sales, we have reduced the proposed public reporting requirements. These changes are discussed in detail in paragraphs 7.70 – 7.118.

Regulatory reporting requirements on BT

7.7 In this sub-section we outline the regulatory reporting requirements that have been in place since 2014. These were imposed on BT in the 2014 WBA Statement[330] and the 2014

[330] Ofcom, Review of the wholesale broadband access markets: Statement on market definition, market power determinations and remedies, 26 June 2014, http://webarchive.nationalarchives.gov.uk/20160702183923/http://stakeholders.ofcom.org.uk/consultations/review-wba-markets/statement/.

Regulatory Financial Reporting Statement.[331] Specific directions relating to regulatory reporting were subsequently imposed on BT in the 2015 Directions Statement.[332]

7.8 We then summarise the proposed changes to these requirements that we consulted on in the 2017 WBA Consultation and the 2017 Regulatory Financial Reporting Consultation.[333]

Reporting requirements since 2014

7.9 The 2014 Regulatory Financial Reporting Statement set out our reasoning and policy decisions about the more detailed regulatory reporting requirements that we considered were appropriate for the RFS in all regulated markets and which we intended to implement by way of directions pursuant to any accounting separation and cost accounting obligations we subsequently imposed in such markets.[334] As noted in Section 6, the 2014 WBA Statement imposed accounting separation and cost accounting obligations on BT in relation to Market A.

7.10 Directions imposing specific regulatory reporting obligations on BT were made in the 2015 Directions Statement. Directions were imposed on BT in relation to Market A, relating to:

- the Regulatory Accounting Principles;[335]
- preparing the RFS on a Regulatory Asset Value (RAV) basis;[336]
- consistency with regulatory decisions;[337]
- transparency;[338]
- audit of the RFS;[339]
- the reconciliation report;[340]
- network components;[341]
- BT's adjusted financial performance;[342] and

---

[331] Ofcom, *Regulatory Financial Reporting, Final Statement,* 20 May 2014, https://www.ofcom.org.uk/__data/assets/pdf_file/0025/78460/financial-reporting-statement-may14.pdf.
[332] Ofcom, *Directions for Regulatory Financial Reporting, Statement*, 30 March 2015, https://www.ofcom.org.uk/__data/assets/pdf_file/0018/59112/statement.pdf.
[333] Ofcom, *Regulatory Financial Reporting: Consultation on proposed directions to BT arising from the Wholesale Local Access and Wholesale Broadband Access market reviews*, 24 November 2017, https://www.ofcom.org.uk/__data/assets/pdf_file/0022/108166/Regulatory-financial-reporting.pdf.
[334] In the 2016 Business Connectivity Market Review Statement we took a policy decision to remove the reference to Regulatory Accounting Guidelines. We still consider this approach to be right as a matter of policy and the conditions therefore do not reference the Regulatory Accounting Guidelines.
[335] The nature of this direction is explained at paragraphs 7.20 - 7.22 below.
[336] The nature of this direction is explained at paragraphs 7.23 - 7.28 below.
[337] Regulatory Accounting Principle number four requires regulatory decisions to be reflected in the RFS to ensure the RFS is consistent with our regulatory decisions. In the 2015 Directions Statement, we explained that we would specify the consistency requirements arising from market reviews and would issue directions accordingly. In relation to the WBA market, we imposed a direction on BT which required certain adjustments to be made in connection with the charge control we imposed on BT in Market A in the 2014 WBA market review.
[338] The nature of this direction is explained at paragraphs 7.29 - 7.31 below.
[339] The nature of this direction is explained at paragraphs 7.32 - 7.34 below
[340] The nature of this direction is explained at paragraphs 7.35 – 7.44 below
[341] The nature of this direction is explained at paragraphs 7.45 – 7.50 below
[342] In the 2015 Directions Statement, we noted that if not all regulatory decisions were reflected in the RFS, differences could arise between the reported view of BT's financial performance and the view we took when making regulatory

- the preparation, delivery, publication, form and content of the RFS.[343]

Proposed regulatory reporting requirements

2017 WBA Consultation

7.11 In the 2017 WBA Consultation we considered the regulatory reporting information that was necessary in light of our proposed conclusion that BT retained SMP in Market A and that it was appropriate to continue to impose cost accounting and accounting separation obligations on BT. We considered whether the directions imposed in the 2015 Directions Statement remained appropriate and proposed that we should re-impose on BT directions relating to:

- the Regulatory Accounting Principles;
- preparing the RFS on a RAV basis;
- transparency;
- audit of the RFS; and
- the preparation, delivery, publication, form and content of the RFS.

7.12 We explained that we did not consider it necessary to impose directions relating to (i) consistency with regulatory decisions, or (ii) BT's adjusted financial performance as we no longer considered them relevant in the context of Market A for the purposes of this review, because we were not proposing to impose a cost-based charge control on WBA Services in Market A.[344] There was therefore no need for us to direct BT to reflect any proposed changes to BT's costs because of our regulatory decisions within the RFS or in an Adjusted Financial Performance Schedule.

7.13 We further explained that we had not included proposals to require BT to publish a reconciliation report or requirements in relation to network components as we were considering changes to the requirements relating to the reconciliation report and the list of network components. We noted that we would consult on proposals in relation to both these requirements later in the year.[345] We did this in the 2017 Regulatory Financial Reporting Consultation.

2017 Regulatory Financial Reporting Consultation

7.14 In the 2017 Regulatory Financial Reporting Consultation[346] we set out proposals to re-impose directions relating to:

---

decisions. We therefore decided that BT must prepare the Adjusted Financial Performance Schedules as part of its Regulatory Financial Reporting to show the impact of certain regulatory decisions not reflected in the RFS. In relation to the WBA market, we imposed a direction on BT which required BT to report on the impact of adjustments made in relation to the charge control we imposed on BT in Market A in the 2014 WBA market review.

[343] The nature of this direction is explained at paragraphs 7.51-7.52 below.

[344] Ofcom, 2017 WBA Consultation, paragraph 7.11.

[345] Ofcom, 2017 WBA Consultation, paragraph 7.12.

[346] Ofcom, 2017 Regulatory Financial Reporting Consultation, Section 8.

- the reconciliation report;[347] and
- network components.[348]

7.15 The 2017 Regulatory Financial Reporting Consultation also considered what information on EOI inputs into services in the WBA market BT should be required to publish to enable stakeholders to assess whether BT was complying with its EOI obligation in the WLA market. Our conclusions on this point are set out in the 2018 WLA Statement.[349]

Our decisions on regulatory financial reporting requirements

7.16 In the following sections, we explain the seven directions that we proposed to impose in more detail, discuss any comments that we received in response to our consultations and set out our conclusions as to why each of the directions is required.

7.17 We explain at the end of this section why we consider that the directions we have decided to impose meet the relevant legal tests.

7.18 The relevant legal instruments imposing the directions are set out at Annex 2 to this Statement.

Timing of implementation

7.19 All the directions listed below, with the exception of the reconciliation report direction, are to be implemented for the 2018/19 financial year. The change to the reconciliation report direction will be implemented for the 2017/18 financial year. Further, whilst we implement a new list of network components in 2018/19, for reasons set out below, the introduction of additional duct and pole infrastructure network components will occur in 2019/20.

The Regulatory Accounting Principles (RAP) Direction

7.20 We decided to introduce the RAP in the 2014 Regulatory Financial Reporting Statement.[350] The RAP are a set of guiding principles with which BT's Regulatory Financial Reporting must comply.[351] To preserve the integrity and consistency of the RFS, we consider that the RAP should be implemented across all regulated markets (to the extent that each market review considers this to be appropriate) as there are significant advantages to BT and other stakeholders of BT applying one set of principles across all markets.

7.21 We received no stakeholder comments on our proposal to re-impose the RAP direction in respect of WBA Market A.

---

[347] The nature of this direction is explained at paragraphs 7.35 - 7.44 below

[348] The nature of this direction is explained at paragraphs 7.45 - 7.50 below.

[349] Ofcom, 2018 *WLA Statement*, https://www.ofcom.org.uk/__data/assets/pdf_file/0021/112476/wla-statement-annexes-1-9.pdf Annex 8, paragraphs A8.219 – A8.226,

[350] Ofcom, 2014 *Regulatory Financial Reporting Statement*, https://www.ofcom.org.uk/__data/assets/pdf_file/0018/59112/statement.pdf paragraph 1.12 and Section 3.

[351] The Regulatory Accounting Principles are: 1. Completeness, 2. Accuracy, 3. Objectivity, 4. Consistency with regulatory decisions, 5. Causality, 6. Compliance with the statutory accounting standards, 7. Consistency of the RFS as a whole and from one period to another.

7.22 We remain of the view that these principles are appropriate for WBA Market A and we have therefore decided to implement these requirements by giving a direction to BT in respect of WBA Market A as proposed in the 2017 WBA Consultation, which was in the form set out in the 2015 Directions Statement.

The Direction on preparing the RFS on a RAV basis

7.23 Principle number four of the RAP requires regulatory decisions to be reflected in the RFS to ensure the RFS is consistent with our regulatory decisions. This includes BT preparing its RFS on a RAV basis, consistent with our use of RAV valued access duct assets across all markets.

7.24 In the 2014 Regulatory Financial Reporting Statement[352] and the 2015 Directions Statement[353] we explained that we would specify the consistency requirements arising from market reviews and would issue directions accordingly.

7.25 For the purposes of some price controls we use the RAV of access duct.[354] However, prior to the 2014 Regulatory Financial Reporting Statement BT valued duct on a current cost accounting (CCA) basis, meaning that we had to make an adjustment for each charge control and investigation that included access duct to revalue it on a RAV basis. This made it difficult for stakeholders to see in the RFS the revised returns for markets where we apply the RAV adjustment. Therefore, in the 2014 Regulatory Financial Reporting Statement we decided that BT must prepare the RFS on a RAV basis.[355] To preserve the integrity and consistency of the RFS we consider that access duct associated with all regulated markets should be prepared on a RAV basis. Given that WLA services supplied by BT on an EOI basis are used as an input to provide WBA services, and those WLA services in turn include RAV valued access duct, we proposed to implement these requirements by giving a direction to BT in relation to Market A.

7.26 We received no stakeholder comments on our proposal to re-impose the direction on preparing the RFS on a RAV basis.

7.27 We remain of the view that it is appropriate to implement these requirements for the reasons set out above. We have therefore decided to give a direction to BT in respect of these requirements in WBA Market A as proposed in the 2017 WBA Consultation, which was in the form set out in the 2015 Directions Statement.

7.28 As explained in paragraph 7.12 above, our decision not to set a cost-based charge control on a reference WBA product (discussed in Section 6 above) means that we have not made any adjustments to BT's costs. We have therefore not imposed any other consistency requirements on BT.

---

[352] Ofcom, 2014 Regulatory Financial Reporting Statement, paragraph 3.38

[353] Ofcom, 2015 Directions for Regulatory Financial Reporting Statement, paragraph 1.7.

[354] The RAV is the value ascribed by Ofcom to access duct which was in existence prior to August 1997 (i.e. assets which were in existence prior to the change in valuation method from historical cost accounting to current cost accounting). For further details, see Section 6.2.5 of BT's 2015/16 Accounting Methodology Document.

[355] Ofcom, 2014 Regulatory Financial Reporting Statement, paragraph 3.91.

The Transparency Direction

7.29 One of the purposes of imposing a cost accounting obligation is to ensure that fair, objective and transparent criteria are used to prepare the RFS. We therefore proposed to impose a transparency direction to ensure that any information, material or explanatory document prepared by BT in respect of the RFS is sufficiently transparent such that a suitably informed reader can gain a clear understanding of the information presented. To preserve the integrity and consistency of the RFS we consider in principle that all markets should be subject to the same transparency direction.

7.30 We received no stakeholder comments on our proposal to re-impose the transparency direction on BT in respect of WBA Market A.

7.31 We remain of the view that it is appropriate to implement this requirement in the WBA market for the reasons set out above. We have therefore decided to implement these requirements by giving a direction to BT as proposed in the 2017 WBA Consultation, which was in the form equivalent to that set out in the 2015 Directions Statement.

The Audit of the RFS Direction

7.32 Audit of the RFS can help give users confidence that the information provides a fair reflection of financial performance, is free from material error and has been prepared following the accounting methodology statements published by BT and relevant directions issued by Ofcom.[356] To preserve the integrity and consistency of the RFS we consider that in principle all markets should be subject to the same audit direction.

7.33 We received no stakeholder comments on our proposal to re-impose the audit of the RFS direction on BT in respect of WBA Market A.

7.34 We remain of the view that it is appropriate to implement these requirements in WBA Market A for the reasons set out above. We have therefore decided to implement these requirements by giving a direction to BT in respect of WBA Market A as proposed in the 2017 WBA Consultation, which was in the form set out in the 2015 Directions Statement.

The Reconciliation Report Direction

7.35 In the 2014 Financial Reporting Statement, we decided that BT must publish the impact of all material changes and errors in an annual reconciliation report with an accompanying assurance report from its regulatory auditors. We explained that "the reconciliation report, together with the published notifications about proposed changes, makes the implemented changes and their impacts on markets transparent".[357] We considered that this information would also help explain to other telecoms providers year-on-year changes to the RFS and their causes.

[356] Chapter 5 of the 2014 Financial Reporting Statement explained the changes to audit requirements imposed on BT.
[357] Ofcom, 2014 Regulatory Financial Reporting Statement, paragraph 3.184.

7.36 The aim of the reconciliation report is to provide stakeholders with information about the impact of material changes and material errors discovered in the RFS in order to provide stakeholders with transparency of changes that BT made to the RFS. We consider that the reconciliation report aids the understanding of and promotes confidence in regulatory financial reporting and allows stakeholders to contribute to the regulatory regime.

7.37 Changes to attribution methods or the correction of errors can affect all markets reported in the RFS. As a result, to preserve the integrity and consistency of the RFS, we consider that all markets should in principle be subject to the same direction to produce a reconciliation report.

7.38 In the 2017 Regulatory Financial Reporting Consultation we explained that BT had asked[358] us to change the form of the information provided within the reconciliation report. BT asked us to no longer require the production of the two annexes on the basis that their production involves a disproportionate level of resource relative to the benefit they bring to Ofcom and other stakeholders.

7.39 In the 2017 Regulatory Reporting Consultation[359] we explained that we had reviewed the information provided in the annexes in the light of the level of resource indicated by BT and the benefit that they provide to us and stakeholders more generally. We proposed to remove the requirement to publish separate annexes and instead provide additional audited summary schedules of all the methodology changes and all the error corrections in the RFS. We also proposed that the remainder of the report and the new schedules would be published in the RFS itself rather than as a separately published document. We proposed that BT continue to keep the data to generate any page of annexes being removed if requested by us in the future.

7.40 BT agreed with our proposals in relation to the reconciliation report direction. However, it saw no reason to defer removal of the annexes to the report and suggested that this should take place immediately to prevent the production of unnecessary data i.e. that they should not be included in the reconciliation report to be published in July 2018.[360] Vodafone supported the continued reporting of services in Market A and considered that the reconciliation report and network component proposals represented the very minimum that Ofcom should demand of BT.[361]

7.41 While [✂] had "little sympathy with BT that the production of two annexes is onerous and resource intensive" they agreed with the proposal, acknowledging Ofcom's decision that "duplication of published material is not necessary".[362]

[358] BT, Letter from [✂] to [✂], Ofcom, 26 May 2017.
[359] Ofcom, 2017 Regulatory Financial Reporting Consultation, Section 6.
[360] BT response to the 2017 Regulatory Financial Reporting Consultation, 15 January 2018, paragraph 9.7, https://www.ofcom.org.uk/__data/assets/pdf_file/0023/110786/BT.pdf.
[361] Vodafone response to the 2017 Regulatory Financial Reporting Consultation, January 2018, page 10, https://www.ofcom.org.uk/__data/assets/pdf_file/0018/110790/Vodafone.pdf.
[362] [✂] response to the 2017 Regulatory Financial Reporting Consultation, page 6.

7.42 In light of stakeholder comments, in relation to BT's reconciliation report we have decided to:

- Remove the requirement to provide Annex 1, except for Section 5.1 Reversal (Performance summary by Market), Section 10.1.1 Reversal (Attribution of Wholesale Current Costs) and Section 10.1.2 Reversal (Attribution of Wholesale Current Cost Mean Capital Employed). BT's regulatory auditor can provide an opinion on these sections of the Annex as they show, in summary form, the aggregate impact of reversing the methodology changes on the current year in the RFS.
- Remove the requirement to provide Annex 2, except for Section 5.1 Restated (Performance summary by Market), Section 6.1.1 Restated (Attribution of Wholesale Current Costs) and Section 6.1.2 Restated (Attribution of Wholesale Current Cost Mean Capital Employed). BT's regulatory auditor can provide an opinion on these sections of the Annex as they show, in summary form, the aggregate impact of correcting the errors on the prior year RFS.
- Require that BT continues to keep the data that is currently used to generate Annexes 1 and 2, so that it can reproduce any page of Annexes 1 and 2 if that page is requested by us in the future.
- Require that BT includes what is currently the main body of the reconciliation report, together with the retained sections of the annexes which the regulatory auditors can opine on (set out in the above paragraphs), within the published RFS with no loss of detail. As well as reducing the amount of published information, the inclusion of the information within the RFS will aid readability to stakeholders.

7.43 We have therefore decided to implement these requirements by giving a direction to BT in respect of WBA Market A as proposed in the 2017 Regulatory Financial Reporting Consultation.

7.44 In light of stakeholder responses, we have also decided to implement the requirement in respect of the 2017/18 RFS through the direction as it is appropriate to make these changes to the reconciliation report as soon as possible, rather than them only coming into effect in respect of the 2018/19 RFS.

The Network Components Direction

7.45 Network components provide Ofcom with information necessary for us to make informed regulatory decisions, for example we use network component inputs in our top down cost modelling in relation to charge controls. Network components also meet our requirement to monitor compliance with proposed remedies, for example non-discrimination obligations, as checking the attribution rules on network components allows us to see how costs are attributed to internal as well as external services.

7.46 The purpose of this direction is to specify the network components used by BT to prepare the RFS. In order to preserve the integrity and consistency of BT's regulatory financial reporting, it is important that there is a single list of network components used to attribute costs to services in regulated markets.

7.47 In the 2017 Regulatory Financial Reporting Consultation we set out our view that it is appropriate to implement these requirements for WBA Market A. We proposed to give a direction specifying the network components in respect of Market A which would align the network components specified in the direction to reflect our proposals on network components in the WLA market review (including new proposed network components in respect of duct and pole infrastructure and WLA ancillary services).

7.48 While BT agreed that the list of network components should be amended to reflect the network components that are being reported in the RFS, it disagreed with our proposal to restrict BT to a prescribed list of components. BT noted that it was in the process of reviewing all network components to determine their relevance and suggested that it should have flexibility to change the list of network components to enable relevance, transparency and adaptability in its reporting. BT proposed that we:

- direct BT to use a consistent list of components across all markets;
- remove the detailed list of components in the direction; and
- delay the implementation of most of our network components in order for them to be considered as part of a wider reporting review.

7.49 As part of the 2018 WLA Statement we explained why we considered it appropriate to amend the list of specified network components.[363] We consider that it is appropriate to give BT a direction specifying the same network components in respect of WBA Market A in order to preserve the integrity and consistency of BT's regulatory financial reporting, such that BT is using a single list of network components used to attribute costs to all services in regulated markets. Further, we consider that if we only directed the listed components as a minimum it would give BT too much discretion over the cost allocation.

7.50 We do not consider that we can delay the implementation of these network components as, with the exception of the new duct and pole infrastructure network components, all network components need to be in place for the 2018/19 RFS. As proposed in the November 2017 Regulatory Financial Reporting Consultation, duct and pole infrastructure network components do not need to be in place until April 2020.

The Direction on the Preparation, Delivery, Publication, Form and Content of the RFS

Introduction

7.51 This direction provides details of the financial information to be included in the published RFS and to be provided to Ofcom privately. It therefore plays an important role in ensuring the RFS provide relevant information to stakeholders. Some elements of the published RFS relate to all markets[364] while others are specific to particular markets. To preserve the

[363] Ofcom, 2018 WLA Statement, Annex 8, paragraphs A8.283 – A8.317
[364] For example, the reconciliation of the RFS to BT Group's statutory accounts.

integrity and consistency of the RFS we consider that all markets should be subject to appropriate reporting requirements.

7.52 In this sub-section we:

- provide an overview of the reporting requirements on BT;
- explain the changes we have made to those requirements, looking at public reporting, which is included in the published RFS, and confidential information, which is provided to Ofcom only;
- set out some changes to the reporting deadlines; and
- set out how the information is to be provided by way of a direction.

Role of regulatory financial reporting

7.53 It is important that BT maintains appropriate and reliable accounts that capture information on an ongoing basis relevant to its provision of services in WBA Market A. As we said in the 2014 Regulatory Financial Reporting Statement, regulatory financial reporting should provide us with the information necessary to make informed regulatory decisions, monitor compliance with SMP conditions, ensure that those SMP conditions continue to address the underlying competition issues and investigate potential breaches of SMP conditions.[365]

7.54 Publishing financial information can also contribute to an effective regulatory regime. One of the objectives of the 2005 EC Recommendation is to improve the transparency of accounting systems[366] and it recommends that:

> "national regulatory authorities make relevant accounting information from notified operators available to interested parties at a sufficient level of detail. The detail of information provided should serve to ensure that there has been no undue discrimination between the provision of services internally and those provided externally and allow identification of the average cost of services and the method by which costs have been calculated. In providing information for these purposes, national regulatory authorities should have due regard for commercial confidentiality. In this respect, the publication by the notified operator of sufficiently detailed cost statements showing, for example, the average cost of network components will increase transparency and raise confidence on the part of competitors that there are no anti-competitive cross-subsidies. This is considered to be particularly important for wholesale services."[367]

7.55 The 2005 EC Recommendation also says that:

---

[365] Ofcom, 2014 Regulatory Financial Reporting Statement, paragraph 2.28.

[366] *Commission Recommendation of 19 September 2005 on accounting separation and cost accounting systems under the regulatory framework for electronic communications (2005/698/EC)*, recital 4. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32005H0698&from=EN

[367] 2005 EC recommendation, point 5.

"regulatory accounting information serves national regulatory authorities and other parties that may be affected by regulatory decisions based on that information, such as competitors, investors and consumers. In this context, publication of information may contribute to an open and competitive market and also add credibility to the regulatory accounting system."[368]

7.56 The 2005 EC Recommendation specifically says that, subject to confidentiality considerations, profit and loss statements and capital employed statements should be published for relevant markets and services.[369]

7.57 Consistent with the 2005 EC Recommendation, and as we said in the 2014 Regulatory Financial Reporting Statement, publishing financial information supports stakeholders' contributions to an informed regulatory framework and adds credibility to the regulatory accounting system. Determining what would constitute a sufficient level of detail to publish is a matter of regulatory judgement, and what is justified in each case may differ between market reviews.

7.58 As set out in the 2014 Regulatory Financial Reporting Statement, and subject to confidentiality and proportionality considerations, in each case sufficient information should be published to enable stakeholders to have reasonable confidence that BT has complied with its SMP conditions and allow them to contribute to the development of the regulatory regime.[370] SMP conditions include requirements regarding regulatory reporting obligations (i.e. accounting separation and cost accounting) such that publishing financial information can give confidence to stakeholders that BT is providing the required data to Ofcom under its reporting obligations and that the reporting regime overall is working as planned.[371]

7.59 In the 2014 Regulatory Financial Reporting Statement, we said that we would consider and determine what level of information would provide reasonable confidence in any particular case, following input from stakeholders.[372] We also set out in the 2014 Regulatory Financial Reporting Statement that cost, volume and revenue information published in the RFS should reflect the level of the remedy.[373] For example, if the remedy is in the form of a charge control on individual services or baskets of services, information should generally be published relating to those services or baskets of services. However, in certain circumstances, we may decide that BT needs to publish regulatory financial data that goes

[368] 2005 EC recommendation, Annex.
[369] 2005 EC recommendation, Annex.
[370] For example, by contributing to the development of robust regulatory decisions, reviewing and challenging data on which those decisions are made, assisting us in monitoring compliance and helping us intervene in a timely fashion when required. See Ofcom, 2014 Regulatory Financial Reporting Statement, paragraphs 2.29 – 2.41. We also said that publishing financial information supports stakeholders' contribution to an informed regulatory framework and adds credibility to the regulatory accounting system.
[371] In the 2014 Regulatory Financial Reporting Statement, we said at paragraph 2.31 that "we consider that a regulatory environment where stakeholders are simply informed that the regulator is satisfied that the obligations have been met is likely to be less effective than one where the industry is better informed".
[372] Ofcom, 2014 Regulatory Financial Reporting Statement, paragraph 2.39.
[373] Ofcom, 2014 Regulatory Financial Reporting Statement, paragraphs 4.76 - 4.85.

beyond the level of the remedy to give stakeholders reasonable confidence that BT has complied with its SMP conditions and allow them to contribute to the regulatory regime.[374]

Review of reporting requirements

7.60 Consistent with the approach set out in the 2014 Regulatory Financial Reporting Statement and taking account of the guidance in the 2005 EC Recommendation, we have considered what specific regulatory accounting requirements are required to support the remedies we have imposed in this review. We set out our decisions relating to reporting requirements in the following categories in the next two subsections:

- **Public information**. This is information that we consider will give stakeholders reasonable confidence that BT has complied with its SMP conditions, will allow them to contribute to the regulatory regime, and is consistent with the level of the remedy; and
- **Private information**. This is information that we receive privately from BT. We require this information to make informed regulatory decisions, monitor compliance with SMP conditions, ensure that those SMP conditions continue to address the underlying competition issues, and investigate potential breaches of SMP conditions and anti-competitive practices.

The RFS

7.61 In the published RFS, financial information on regulated markets broadly falls into three categories: market level information, service level information and cost components for reported services. In the case of WBA Market, A, BT also currently publishes information on a fourth area: EOI Inputs.

7.62 In response to the 2017 November Regulatory Financial Reporting Consultation, stakeholders made a number of points beyond the scope of the WBA market review. BT argued that we should re-consider a publication framework to ensure that the level of information reported is proportionate to the size of the market and the nature of the pricing (and other) remedies imposed.[375] BT also made this comment in its response to the narrowband market review,[376] as did Openreach in its response to the narrowband market review[377] and the March WLA consultation.[378]

[374] For example, in the 2016 BCMR Statement, given the broad baskets used in that charge control, we decided that BT must publish financial information on certain individual services (see paragraphs 16.44 - 16.46 and 16.52 – 16.61). For the WBA Market A, we consider that all the information we require that BT should publish is consistent with the level of the remedy.
[375] BT response to the November 2017 Regulatory Financial Reporting Consultation, paragraphs 3.4-3.5.
[376] BT response to the December 2016 Narrowband Market Review Consultation, paragraph 5.38.
[377] Openreach response to the December 2016 Narrowband Market Review Consultation, paragraph 85.
[378] Openreach response to the March 2017 WLA Consultation, paragraph 309.

7.63 Vodafone[379] and UKCTA[380] argued for the continued provision of service level information where those services were subject to an SMP finding but not charge controlled, while Sky[381] wanted more up-front scrutiny and transparency through increased publication.

7.64 Vodafone also proposed that there should be one set of financial reporting requirements to deal with cross portfolio matters common to all markets, which should be included in each market review along with any specific amendments.[382] This proposal would need to be considered as part of a wider regulatory financial reporting review.

Market level information

7.65 This is information on the revenues, operating costs, capital employed and returns on MCE for a specific market. It is presented in the "performance summary by market", "attribution of wholesale current costs" and "attribution of wholesale current cost mean capital employed" schedules of the RFS. In the 2016/17 RFS[383] this information is set out in the schedules on pages 28, 94 and 97 for the 2016/17 financial year. For example, in 2016/17, these schedules show that revenue in the WBA Market A was £382m and the return on MCE was 55.2%. The schedules also show a breakdown of operating costs and capital employed.[384]

Service level information

7.66 BT publishes information on WBA services provided in Market A (as defined in 2014) on the internal and external revenues, volumes, prices and FAC for those relevant services, in the "WBA (Market A) summary" schedule. For example, in relation to Market A, page 84 of the 2016/17 RFS gives this information for 12 WBA services provided in that market.

7.67 In addition, this section of the RFS also sets out information on EOI inputs into the reported WBA services. EOI inputs are inputs supplied from other parts of BT (i.e. Openreach) which are themselves subject to regulation as part of the WLA market, including EOI obligations, and which are used to provide WBA services. For the purposes of reporting on those inputs in the RFS, BT is currently required to set out how much of each input is consumed and the regulated price (not the FAC cost) of each input supplied under an EOI obligation for each relevant WBA service. See the columns 'Internal EOI', 'External EOI' on page 84 of BT's 2016/17 RFS.

Cost components for reported services

7.68 In BT's cost attribution system, costs are ultimately attributed to cost components, which in turn are attributed to services. BT publishes in the "WBA (Market A) calculation of FAC

[379] Vodafone response to the November 2017 Regulatory Financial Reporting Consultation, page 5.
[380] UKCTA response to the November 2017 Regulatory Financial Reporting Consultation, page 1.
[381] Sky response to the November 2017 Regulatory Financial Reporting Consultation, paragraph 12.
[382] Vodafone response to the March 2017 WLA Consultation, paragraph 16.
[383] BT, *Financial Statements*, https://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2017/RRD2017Final.pdf
[384] Operating cost and capital employed are broken down by what BT calls 'sectors' on pages 94 and 97 of the 2016/17 RFS. These sectors provide a high-level view of the types of operating costs and assets associated with the relevant market.

based on component costs and usage factors" a list of how the service level FAC information is broken down by cost component. For example, in relation to WBA Market A, page 85 of the 2016/17 RFS shows which cost components are used by each reported WBA service.

EOI information

7.69 In relation to WBA services, there is currently a fourth schedule relating to EOI input information. The "WBA (Market A) EOI" schedule sets out, in respect of the relevant WBA services provided in Market A, a list of all the inputs to those services that are supplied by other parts of BT on an EOI basis as a result of regulation in the WLA market, and the volumes and unit cost which those inputs make up as a proportion of each relevant WBA service. For example, this is set out on page 87 of the 2016/17 RFS.

Ofcom's decisions on requirements for public information in the RFS

Market level information

7.70 In the 2017 WBA Consultation, we proposed that BT should publish the revenue, operating costs, capital employed and returns for Market A. In practice this means that Market A will continue to be included in the 'performance summary by market' schedule in the RFS and the 'attribution of wholesale current costs and mean capital employed' schedules.[385] We consider that trends in market level financial performance are informative in the context of considering the impact and effectiveness of the remedies we have imposed in Market A. Market level cost information also provides transparency regarding how BT has allocated costs between regulated markets (and between regulated and unregulated markets).

7.71 In its response to the 2017 WBA Consultation, BT agreed with our proposals that it should publish the revenue, operating costs, capital employed and returns for Market A in the 'performance summary by market' schedule in the RFS. However, BT argued that it was disproportionate to the size of the market for it to be required to publish the 'attribution of wholesale current costs' and 'attribution of wholesale current cost mean capital employed' schedules. BT claimed that these schedules do not aid the understanding and demonstration of the overall reliability and robustness of the RFS and indicated its belief that the 'performance summary by market' schedule was sufficient to provide stakeholders with confidence that costs have been allocated consistently and appropriately.[386]

7.72 Vodafone responded to the 2017 Regulatory Financial Reporting Consultation in support of the continued reporting of services in Market A as "BT continues to have SMP" and considered that it is important that regulated markets are reported in the RFS even if a charge control is not present.[387]

[385] BT, 2015/16 RFS, pages 21, 25 and 28.
[386] BT response to the 2017 WBA Consultation, paragraph 5.12.
[387] Vodafone response to the 2017 Regulatory Financial Reporting Consultation, page 10.

7.73 We understand that the size of the regulated market has reduced (as discussed in Section 4 above), but we have found SMP within Market A and have imposed SMP obligations relating to cost accounting and accounting separation. Information relating to 'attribution of wholesale current costs' and 'attribution of wholesale current cost mean capital employed' is currently reported for all markets in which BT has been found to have SMP. We consider that it is important to publish this information in relation to regulated markets, as it facilitates stakeholder confidence that such costs have been attributed consistently and appropriately. It also mitigates against the risk of double recovery of costs or that costs might be unreasonably allocated to particular markets. It also helps demonstrate compliance with the accounting separation remedy.

7.74 In addition, we disagree with BT that it would be disproportionate to require BT to publish this information in relation to WBA Market A. This information is reported at an aggregate market level rather than at a service level of granularity. We consider it is proportionate to require BT to publish this information to understand and demonstrate the overall reliability and robustness of the RFS.

Service level information

7.75 In the 2017 WBA Consultation, we explained that although we were not proposing to impose a cost-based charge control on BT in Market A, we still proposed to require BT to disclose revenue, volume, average price and total FAC information for the main WBA services telecoms providers purchase within Market A.

7.76 We also proposed to simplify the current level of service reporting in the Market A to ensure it represents the main WBA services within Market A. We proposed to include a threshold for the published services such that any service with a revenue of under £5m no longer needs to be published separately. Given the expected reduced size of Market A, we no longer considered that it was necessary to publicly report the same services as previously due to the relatively low volumes of these services.

7.77 As noted above, BT also currently reports on EOI inputs into WBA services as part of this section of the RFS, i.e. where there are inputs from WLA services which are subject to an EOI obligation under regulation in the WLA market (including in relation to LLU and VULA). The purpose of such WBA reporting is to provide stakeholders with reassurance that BT is complying with its EOI obligations in the WLA market. In the 2018 WLA Statement we concluded that BT should continue to report the name of the EOI inputs, their usage factors and their unit prices for all WBA services where the annual revenue for either the external or internal service variant is above £1m. For services below this threshold, BT must aggregate the EOI inputs for all services (split by internal and external services) into a "Other EOI input service". BT must publish the total FAC (but not the individual non-EOI network component costs) for these services.[388] Whilst this is a WLA requirement, the information will be published in the RFS after the WBA market summary.

7.78 In its response to the 2017 WBA Consultation, BT welcomed the removal of the requirement to separately disclose low volume services but disagreed with the proposal to publish service level information where it is subject to a fair and reasonable charges obligation.[389]

7.79 We consider that it remains important that BT must report publicly service revenues, prices and costs, for these larger services (i.e. those with revenues in excess of £5m) so that we can monitor the effectiveness of our SMP remedies, such as the no undue discrimination and fair and reasonable obligations. Such information also promotes transparency and provides stakeholders with confidence in BT's financial regulatory reporting. However, we have decided that, in addition to only requiring reporting of services that have at least £5m of revenue (combined internal and external) there should be an additional de-minimus limit for service level reporting of £1m of WLA EOI input. This means service level reporting will only be required for services that are expected to have an aggregate of at least £5m of revenue (combined internal and external) and aggregate WLA EOI inputs of at least £1m (combined internal and external). For example, we note that whilst IPStream Connect Contracted Bandwidth per Mbps per node rental may have revenue going forward of over £5m, they do not contain any EOI input (i.e. in relation to inputs from the WLA market subject to an EOI condition). We therefore do not expect it will be necessary for revenues information for this service to be published in future.

7.80 We therefore conclude that BT should publish revenue, volume and average price on the main services where the revenue is above £5m and WLA EOI inputs are above £1m. Based on current revenues, we expect these reported services to be[390]:

- WBC Connections;
- WBC End user access – rentals and;
- Other wholesale broadband access charges.

Cost components for reported services

7.81 We proposed not to require FAC component cost information at the service level to be published in the RFS as we were no longer proposing to impose a FAC-based charge control on BT in Market A. BT welcomed our proposals on this issue and we received no other comments on this point in response to the 2017 WBA Consultation.[391] We have therefore decided to implement our proposal as we consider that it would not be appropriate for BT

---

[388] Ofcom, 2018 WLA Statement, paragraphs A8.225 and A8.226, https://www.ofcom.org.uk/__data/assets/pdf_file/0021/112476/wla-statement-annexes-1-9.pdf. The direction specifying these requirements is set out in Annex 33 of the 2018 WLA Statement, https://www.ofcom.org.uk/__data/assets/pdf_file/0024/112488/wla-statement-annex-33.pdf.

[389] BT response to the 2017 WBA Consultation, paragraph 5.14.

[390] Note that the services included may change over the period of the review.

[391] BT response to the 2017 WBA Consultation, paragraph 5.16.

to publish this level of detailed FAC cost information in this market. However, as explained below, we still require this information be provided to Ofcom as part of the private information contained in the RFS.

Conclusion

7.82 In light of our review of the WBA market and consistent with our policy decisions in the 2014 Regulatory Financial Reporting Statement, we conclude that it is appropriate to impose the above requirements on BT in relation to the provision of public information for Market A.

Ofcom's decisions on requirements for private reporting information to be provided to Ofcom

7.83 As explained above, in addition to information reported in the published RFS, BT also provides us with additional financial information (AFI) schedules in addition to those that are published. This includes a data file which contains detailed information on all the revenues, volumes, costs and cost categories that support the published RFS.

7.84 In summary, we have decided to:

- require BT to provide to Ofcom certain additional information as part of its AFI schedules;
- make some amendments to certain AFI schedules which BT is currently required to provide to Ofcom; and
- remove the requirement to provide certain information in AFI schedules to Ofcom which is provided in the data file.

Data file

7.85 BT is currently required to provide to Ofcom a data file containing various information supporting the RFS. We have worked closely with BT to ensure that the files it provides allow us to interrogate the data underpinning the RFS.

7.86 We proposed to make amendments to the existing direction relating to the provision of the data file to capture the arrangements that are currently in place. The main changes we proposed were to clarify that BT is required to provide, as part of the data file, the file "FAC adjustment Summary" (for LRIC model),[392] which contains the post RFS adjustments to cost categories for the purposes of LRIC reporting, and to formalise the provision of EOI charges by service within WBA Market A and the Wholesale Residual schedule.[393]

7.87 In the 2017 WBA Consultation we also proposed a framework for the removal of AFIs where that information is contained in the data file (rather than duplicated in a separate

---

[392] File provided by [✂] (BT) to [✂] (Ofcom) at 17:03 on 2 March 2017.

[393] This schedule is called 'EOI by Pt Service 1415 Proposed AFI.xlsx' and was provided by [✂] (BT) to Ofcom on 27 April 2016.

AFI). In principle, we proposed that where the information is provided within the data file it need not be provided as a separate AFI. However, this would not apply to:

- information that we do not get as part of the data file (currently any LRIC and DSAC information);
- where obtaining the information from the data file would not be straightforward and / or the information from the Data File would be different than that which would have been included in the AFI;[394] or
- where the AFI is used as a control total for information obtained from the Data File (such as AFIs 1-4).

7.88 In response to the 2017 WBA Consultation, BT said that it agreed with our clarification that it is required to provide the file "FAC adjustment Summary", and to formalise the provision of EOI charges by service within WBA Market A and the Wholesale Residual schedule as part of the data file.[395]

7.89 In its response to the 2017 WBA Consultation, BT also commented that it does not currently split out IPstream Connect Max and IPstream Connect Premium in the REFINE service structure. It understood that it was not Ofcom's intention to propose additional levels of service reporting and sought confirmation that this was the case.[396]

7.90 We have decided to implement our proposal to make amendments to the requirement relating to the provision of the data file to:

- Clarify the information which BT is currently providing or may provide as part of the Data File; and
- Capture new information which we consider we need BT to provide, as discussed further below, including:
  - Revenues, volumes and FAC component cost on a CCA basis for all WBA market A services where the revenue for that service is above £5m. We expect this to include IPstream Connect Max and IPstream connect Premium and WBC Bandwidth. We confirm that it was not our intention to require BT to report IPstream Connect Max and IPstream Connect Premium separately.[397].
  - Detailed WBA Service information, Detailed WBA Service Component total FACs and detailed WBA service network component costs as part of the Data File – i.e. the revenues, volumes, total FAC and network component cost on a CCA basis of any other WBA service where the revenue from this service is above £5m[398] .
  - EOI charges by service within WBA Market A.
  - The Wholesale Residual schedule.

7.91 We consider that it is appropriate for BT to provide us with this information as part of the data file as it will help us to understand how BT is allocating costs between and within

[394] By different we mean that there would be a difference of at least 1% in any individual number.
[395] BT response to the 2017 WBA Consultation, paragraphs 5.22
[396] BT response to the 2017 WBA Consultation, paragraph 5.23.
[397] Ofcom, 2017 WBA Consultation, paragraph 7.64.
[398] Ofcom, 2017 WBA Consultation, paragraph 7.64

markets and will help us assess the impact and effectiveness of the remedies we are proposing.

7.92 Further, given that we are decreasing the amount of public reporting we want to ensure we have enough information, privately, to monitor the market over the review period.

7.93 We have therefore made the relevant amendments to the 'Data File' schedule (AFI-5(a)(xii)).[399]

Removal of AFI schedules where information is provided as part of the Data File

7.94 As noted above, we do not consider it necessary to direct BT to provide separate AFIs where the same information can be provided to us in an appropriate format as part of the data file. Considering the factors outlined at paragraph 7.87 above, we have reviewed the current list of AFIs and, on the basis that we expect BT can provide the relevant information as part of the Data File, we proposed to remove the requirement for BT to provide the following information under a separate AFI:

- the information included in the file AFI-C1[400] which is meant to set out a comprehensive analysis of the transfer charges for WBA Market A; and
- the information included in file AFI-C2,[401] which sets out the geographical analysis of costs and assets on a cost accounting and EOI basis.

7.95 BT said that it agreed with our proposals to remove AFI-C1 and AFI-C2.[402]

7.96 We have decided to implement our proposals. As the information in AFI-C1 and AFI-C2 are currently provided as part of the data file, its extraction from the Data File is straightforward and as it is not used for control purposes, we no longer to require this information to be provided in a separate AFI.

Additional AFI information - Information that is no longer published

7.97 We explained above that we no longer require BT to:

- publish information on revenue, volumes and prices at the WBA service level at the same level of granularity as currently;[403]
- publish FAC cost component information in relation to individual WBA services,[404] or
- publish detailed EOI information.[405]

---

[399] Regulatory reporting Direction 5, Annex B, reference 5(a)(xii). See Annex 2 below.
[400] Ofcom, 2015 Directions Statement, Annex 7, Direction under section 49 of the Communications Act 2003 and SMP Services Conditions 13A.4 and 8A.4 setting the requirements in relation to preparation, delivery, publication, form and content of the Regulatory Financial Statements, Annex B, AFI schedule reference 5(c)(i).
[401] Ofcom, 2015 Directions Statement, Annex 7, Direction under section 49 of the Communications Act 2003 and SMP Services Conditions 13A.4 and 8A.4 setting the requirements in relation to preparation, delivery, publication, form and content of the Regulatory Financial Statements, Annex B, AFI schedule reference 5(c)(ii).
[402] BT response to the 2017 WBA Consultation, paragraph 5.25.
[403] This information is set out in a schedule on pages 84 of the 2016/17 RFS.
[404] This information is set out in a schedule on pages 85 of the 2016/17 RFS.
[405] This information is set out in a schedule on pages 87 and 91 of the 2016/17 RFS.

7.98 In our 2017 WBA Consultation, we proposed that BT should still be required to provide this information privately to us as part of the data file, as it would allow us to monitor the effectiveness of our remedies and understand the individual volume and pricing trends in Market A.

7.99 In its response to the 2017 WBA Consultation, BT argued that it would disproportionate to require it to provide this information in the data file, given the size of Market A. BT noted that although we were decreasing the number of services publicly reported, it would still need to maintain the individual services in its REFINE reporting system in order populate the Data File and considered this to be excessively prescriptive.[406] BT disagreed that our proposed approach was consistent with the approach taken in the 2016 BCMR Statement,[407] noting that that there was a significant difference in the size of the respective markets.[408]

7.100 As noted above, whilst we are not imposing a charge control on WBA Market A services, we are imposing fair and reasonable pricing and a no undue discrimination requirement. It therefore remains important for Ofcom to ensure that it receives this information in order to be able to monitor the effectiveness of these remedies. We acknowledge that this means that BT has to continue to maintain the data for those services in its REFINE reporting system, however we consider that it is proportionate to maintain this requirement as these services are still subject to SMP conditions including the cost accounting and accounting separation requirements and we will require this information to monitor the revenues, costs and volumes of these services. This is consistent with the approach taken in other SMP Markets.[409] We note that BT is required to provide information on a much larger number of BCMR services compared to what will be provided for WBA Market A.

7.101 In respect of detailed EOI information, given the expected size of the WBA Market A and the very low proportion of external revenue for the published services, we consider that it would be disproportionate to require BT to publish the detailed EOI input information. Whilst we consider what is published is sufficient to provide reassurance to stakeholders about BT's compliance with its WLA EOI obligations, it is not adequate for us to monitor BT's compliance with the WLA EOI obligation or provide information for other regulatory purposes in connection with EOI. We have therefore decided that BT must provide us with this information as an AFI and have set this out below.

New additional financial information

7.102 In the 2017 WBA Consultation, we proposed to require to BT to provide certain additional information to us, namely:

---

[406] BT response to the 2017 WBA Consultation, paragraphs 5.17 - 5.19.

[407] Ofcom, Business Connectivity Market Review, Statement, 28 April 2016, https://www.ofcom.org.uk/consultations-and-statements/category-1/business-connectivity-market-review-2016.

[408] BT response to the 2017 WBA Consultation, paragraph 5.20.

[409] Ofcom, 2016 BCMR Statement, paragraph 16.85 and 2018 WLA Statement paragraph A8.263

- **WBA service information** pursuant to which BT would set out the revenues, volumes and total FAC on a CCA basis of any WBA service provided in Market A which is not disclosed in the published RFS, because the revenue from this service is below £5m.[410] BT must provide the revenues, volumes and total FAC (inc. EOI input) on a CCA basis for these services where the revenues are above £5m.[411] The revenues and costs should, in total, be reconciled to the revenues and costs included within the publicly reported totals for WBA Market A. This information will ensure that we have sufficient data to identify services that account for a significant proportion of WBA revenues and costs which will allow us to monitor the effectiveness of our regulation and to enable our timely intervention to ensure that the SMP obligations within WBA Market A address the underlying competitions concerns identified in our market analysis.
- **Detailed WBA Service Network Component FACs** pursuant to which BT would set out the calculation of FAC based on component costs and usage factors for all services reported in the Detailed WBA Service information schedule. There should also be a line for total EOI inputs, which reconciles to the third requirement. The FAC service unit costs should reconcile to those given in the first requirement. As with the Detailed WBA Service information, this schedule will ensure that we have sufficient cost component information for the services that account for a significant proportion of WBA costs.
- **Detailed WBA EOI service information**. BT must set out the calculation of EOI input costs based on WLA EOI prices and usage factors for all services where revenue is expected to above £1m. The total EOI unit cost should reconcile to those given in the second requirement. As with the Detailed WBA Service information, this schedule will ensure that we have sufficient EOI information for the services that account for a significant proportion of WBA costs.

7.103 As explained above, we proposed to require BT to provide us this information as part of the 'Data File' considering the factors outlined at paragraph 7.87. We remain of the view that this is appropriate for the reasons explained above and therefore have implemented our proposal.

DLRIC and DSCA data

7.104 In the 2017 WBA Consultation, we proposed to amend two DLRIC/DSAC AFI schedules (AFI-5(a)(i) and (AFI-5(a)(ii)).[412]

DLRIC and DSAC data on a cost category basis

7.105 BT is currently required to provide FAC and LRIC data across all regulated markets in a combined schedule on a cost component by cost category basis under AFIs 1-4. BT has voluntarily provided us with DLRIC and DSAC data across all regulated markets in a

[410] As explained in paragraph 7.69 above, the reporting requirements relating to EOI inputs information are set out in the 2018 WLA Statement.

[411] If the revenue for any particular service is below £5m BT will not be required to provide us with information on that service.

[412] Regulatory reporting Direction 5, Annex B, reference 5(a)(i) and (ii). See Annex 2 below.

combined schedule. We proposed to amend the requirements to ensure that BT provides us with DSAC and DLRIC information, in addition to LRIC and FAC information, for WBA Market A, alongside the same information for all other regulated markets in a combined schedule.

FAC, LRIC, DLRIC and DSAC data on a service basis

7.106 BT is currently required to provide DLRIC and DSAC data for each service in each regulated market separately, which it provides in file AFI-C1.[413] In respect of WBA, this requirement is currently set out in schedule 5(c)(iii). BT also voluntarily includes FAC data for each service. We proposed to require BT to provide us with FAC and LRIC information, in addition to DLRIC and DSAC data, for WBA Market A, for each regulated service alongside the same information for all other regulated markets.

Stakeholder responses

7.107 BT responded that we should withdraw reporting requirements for DSAC and DLRIC cost information unless it was clear for what purpose they are required.[414]

7.108 Other stakeholders made comments beyond the scope of the WBA market review with regard to LRIC data. Vodafone[415] and UKCTA[416] requested us to review the LRIC model as part of a wider reporting review.

Our decision

7.109 DLRIC, DSAC, LRIC and FAC data can inform our market reviews and our assessment and analysis of appropriate remedies where SMP is present. It is important to receive this information on all regulated markets on a consistent basis to ensure the overall coherence of the data on DLRIC and DSAC, as well as LRIC and FAC. For example, where we obtain data for a particular service or market, it is important to be able to see how it relates to the same data for other services or markets, to ensure the overall robustness of the data and to demonstrate that attribution and FAC and LRIC methodologies have been followed appropriately.

7.110 We have therefore decided to implement our proposals. The new requirement in relation to provision of DLRIC and DSAC data on a cost category basis is reflected in schedules AFI-5(a)(i) and AFI-5(a)(ii). The new requirement to provide FAC, LRIC, DLRIC and DSAC data on a service basis is reflected in schedules AFI-5(a)(xv). It follows that we have removed the requirement to provide FAC, DSAC and DLRIC data on WBA services specifically under a separate AFI.[417]

---

[413] Ofcom, 2015 Directions Statement, Annex 7, Direction under section 49 of the Communications Act 2003 and SMP Services Conditions 13A.4 and 8A.4 setting the requirements in relation to preparation, delivery, publication, form and content of the Regulatory Financial Statements, Annex B, AFI schedule reference 5(a)(i) to (iv).

[414] BT response to the November 2017 Regulatory Financial Reporting Consultation, paragraph 3.6.

[415] Vodafone response to the 2017 Regulatory Financial Reporting Consultation, page 5.

[416] UKCTA response to the 2017 Regulatory Financial Reporting Consultation, page 1.

[417] Ofcom, 2015 Directions Statement, Annex 7, Direction under section 49 of the Communications Act 2003 and SMP Services Conditions 13A.4 and 8A.4 setting the requirements in relation to preparation, delivery, publication, form and content of the Regulatory Financial Statements, Annex B, AFI schedule reference 5(c)(iii).

Reporting deadlines

7.111 In the 2017 WBA Consultation, in response to some confusion on when BT had to submit its AFIs, we proposed to amend the form and content direction to make it clear that non-LRIC AFIs (including the non-LRIC data file) should be provided alongside the RFS. In response to the practical issue that BT can only prepare LRIC data once its FAC RFS have been finalised, we proposed that LRIC AFIs should be supplied when the RFS is published and the LRIC data file no later than two weeks after the RFS is published.

7.112 BT argued in its response to the 2017 WBA Consultation that the proposed deadlines for providing the LRIC AFIs does not allow sufficient system processing time or sufficient time for governance and proposed that the deadlines for providing the LRIC AFIs, together with the data file, be extended to two weeks after the publication of the RFS.[418] BT said that the same arguments applied in relation to extending the deadline for the reconciliation report and proposed that it should be provided to Ofcom on the same date that the RFS is published, and published two weeks after the RFS is published.

7.113 In relation to BT's request for an extension to the deadline to supply the LRIC AFIs, while we recognise that the AFIs cannot be completed until the FAC data is complete, BT has nearly four months from the end of the financial year until the RFS needs to be submitted to ensure the FAC data is reliable and robust. This is adequate time to finalise both the RFS and the LRIC AFIs. For the reconciliation report, given our decision for a significantly reduced level of publication (see above), we also think the four-month timeframe to produce the report is adequate.

7.114 We do recognise that the team producing the RFS are extremely busy around the date of the RFS publication, but it is for BT to resource appropriately to meet its regulatory obligations.

7.115 We have therefore decided to implement our proposal. The direction will therefore make it clear that non-LRIC AFIs (including the non-LRIC data file) should be provided alongside the RFS, two weeks before the publish date. LRIC AFIs and the LRIC data file, should be supplied when the RFS is published and no later than two weeks after the RFS is published.

Non-confidential compliance information

7.116 In the 2014 Regulatory Financial Reporting Statement, we decided that "BT must produce non-confidential compliance schedules for each regulated market. These non-confidential compliance statements must be published on BT's website in the same location as the Published RFS and at the same time as the confidential compliance statements are provided to Ofcom".[419] Following the WBA market review 2014 we imposed a requirement on BT through the 2015 Directions Statement to publish non-confidential compliance schedules in the WBA market.[420]

---

[418] BT response to the 2017 WBA Consultation, page 32-33.
[419] Ofcom, Regulatory Financial Reporting: Final Statement, paragraph 4.49.
[420] Ofcom, Directions for Regulatory Financial Reporting, paragraphs 7.50 – 7.52.

7.117 As set out in Section 6, we are not imposing a charge control on BT in Market A. We remain of the view that there is no need for any requirement for BT to provide to us confidential price control schedules or publish non-confidential versions of them and we have decided not to include such requirements as part of this direction.

Summary of the relevant direction

7.118 We have implemented the requirements set out above in paragraphs 7.51 to 7.118 by giving a direction to BT setting the requirements explained above in relation to preparation, delivery, publication, form and content of the RFS in respect of the WBA market. The form of the direction is as proposed in our 2017 WBA Consultation with the modifications necessary to reflect our decisions above.

Legal tests relating to our regulatory financial reporting directions

7.119 Under SMP Condition 7.4 (set out in Annex [1]), Ofcom may from time to time make such directions as we consider appropriate in relation to BT's obligations under Condition 7.

7.120 To give regulatory effect to our decisions in relation to regulatory financial reporting directions set out in this Annex, we have imposed directions under section 49 of the Act and SMP Condition 7.4.

7.121 We consider that giving the direction we are giving specifying regulatory financial reporting requirements fulfil our general duties under section 3 of the Act and meet the Community requirements set out in section 4 of the Act for the reasons set out above. In particular, we note that they are designed to give Ofcom a greater role in determining how BT should prepare its RFS, thereby ensuring the RFS are aligned with Ofcom's regulatory decisions and giving confidence to stakeholders about the absence of bias in the preparation of the RFS. They also ensure that the presentation and usability of the RFS is improved and that the obligations that are imposed on BT are proportionate, and they seek to ensure the RFS remain relevant, thereby increasing transparency. Overall, they ensure that stakeholders have sufficient information about the products and services they purchase to provide them with reasonable confidence about BT's compliance with its SMP conditions and that we have sufficient information necessary to carry out our functions. Ultimately, this helps to ensure that BT cannot leverage its market power in a way which could distort or restrict competition.

7.122 In giving these directions, we have taken due account of all applicable recommendations issued by the European Commission under Article 19(1) of the Framework Directive, in particular the 2005 EC Recommendation.

7.123 Section 49(2) of the Act further requires that Ofcom must be satisfied that any direction satisfies the tests in that section, which require directions to be objectively justifiable, non-discriminatory, proportionate and transparent.

7.124 We consider that each of these directions meets the tests set out in section 49(2) of the Act.

- The directions are objectively justifiable each of them is designed to meet the requirements outlined above:
  i) The RAP direction is objectively justifiable because by specifying the RAP we will establish the attributes for BT's regulatory financial reporting;
  ii) The direction regarding the preparation of the RFS on a RAV basis is objectively justifiable because the requirements specifying the RAV methodology will establish further detail and will also provide BT with clarity as to the requirements which BT will need to follow to ensure that the RFS are prepared on the RAV basis;
  iii) The transparency direction is objectively justifiable because the Accounting Methodology Documents prepared by BT on this basis will provide clarity on BT's accounting methodologies;
  iv) The audit of the RFS direction is objectively justifiable because it is important for both stakeholders and Ofcom that an appropriate level of assurance is provided on the RFS and the audit of the RFS secures this;
  v) The reconciliation report direction is objectively justifiable because it is necessary for there to be visibility in relation to changes and errors made in the RFS, both for us and for other stakeholders, and it is therefore necessary for us to specify the requirements in relation to the content of the reconciliation report and the accompanying audit opinion;
  vi) The network components direction is objectively justifiable because it is necessary for us to give a direction specifying network components to ensure consistency of reporting of services in WBA Market A with the reporting of services in other regulated markets;
  vii) The direction on the preparation, delivery, publication, form and content of the RFS is objectively justifiable because the requirements concerning the additional information to be provided both in public and in private seek to ensure that stakeholders have sufficient information about the products and services they purchase to provide them with reasonable confidence about BT's compliance with its SMP conditions and we have sufficient information necessary to carry out our functions.
- They are not unduly discriminatory because they reflect BT's market position in the UK excluding the Hull Area.
- The directions are proportionate because they impose obligations which go no further than is required in order to effectively implement the requirements that we have identified and explained above, which aim to ensure that Ofcom and stakeholders are provided with a sufficient level of regulatory financial reporting information.
- The directions are transparent because it is clear that the intention of the directions is to implement the requirements we consider necessary to make sure that the RFS remain fit for purpose and that Ofcom and stakeholders are provided with a sufficient level of information.