Wholesale Local Access Market Review

TalkTalk response to March 2017 consultation

June 2017

NON-CONFIDENTIAL VERSION

1 Summary

1.1 TalkTalk is delighted to respond to Ofcom's March 2017 consultation on the Wholesale Local Access review. This review is crucial to delivering competition, investment and consumer benefit in the broadband market in the next four years. In the absence of appropriate regulation of MPF and GEA products, competitive tension in the UK broadband market will be reduced as BT continues to leverage its market power from wholesale to retail markets. This will increase prices paid by consumers, reduce the quality of service which they experience, reduce investment by both Openreach and third parties in FTTP, and reduce the choice available to consumers.[1]

1.2 In particular, it is vital that Ofcom imposes a cost-oriented charge control on GEA products in the next charge control period. In the absence of such a control it is likely that there would be exit of a number of smaller ISPs from the market, along with reductions in market share for all operators other than BT and Virgin Media (which does not use the Openreach network). Larger ISPs such as TalkTalk would likely experience a reduction in scale, a diminution of the competitive constraint that they could impose on both BT Retail and BT Wholesale, and a reduction in their ability and incentives to invest in their own FTTP networks. This would directly harm consumers through higher prices, as well as harming them indirectly due to less competitive markets.

1.3 Indeed, in addition to providing immediate consumer benefits, imposing a costoriented charge control on Openreach's GEA products is likely to increase the amount of FTTP investment undertaken across the industry. It will enhance the incentives for Openreach to invest in FTTP, by removing much of the excess profits which Openreach currently makes on FTTC products, and which disincentivise any investments which might undermine those profits. At the same time, it increases the incentives for firms like TalkTalk to invest by enabling such CPs to retain a customer base which they can transfer to a new network when it has been built, increasing the returns from investment.

1.4 TalkTalk is therefore pleased that Ofcom, rightly, proposes to impose a charge control on GEA products.

1.5 However, we have a number of concerns regarding the detail of Ofcom's proposals, which if not addressed are likely to diminish materially the benefits that Ofcom hopes to achieve, harming consumers:

- it is inappropriate and counter-productive for Ofcom to make statements in this charge control about what decisions might be made in the next. The implied commitment not to extend regulation to products above 40/10, either

[1] In this document, when TalkTalk refers to 'consumers' we mean not only individual consumers, but also small and large business customers – including resellers – of the CPs which purchase directly from Openreach.

in this review or in future reviews, risks the market becoming uncompetitive and is predicated on an unrealistic expectation of the speed with which thirdparty FTTP networks can be delivered at scale. Similarly, the commitment not

to review the allocation of fixed costs between the different speeds of GEA product risks substantial over-recovery of costs by Openreach at future reviews, and consumers paying higher prices for their services.

- given the nature of consumer choice as they switch to superfast broadband, Ofcom should impose additional protections on the wholesale access price of GEA products other than 40/10, by placing a safeguard price cap, at a level in excess of costs, on the 80/20 product.
- Ofcom should extend its cost-reflective regulation of ancillary products to 40/10 GEA in order to also cover products such as GEA Cablelink and FTTC Managed Install.
- Ofcom has estimated a number of its parameters in a way which inflates the charge control which is applied to BT, including underestimating copper scrap recovery, overestimating the cost of capital, and underestimating GEA asset lifetimes. It should correct these errors and amend the proposed charge controls accordingly.

1.6 This response does not touch on quality of service issues, which are dealt with in a separate TalkTalk consultation response to Ofcom.

1.1 Ofcom is correct to choose 40/10 GEA as an anchor product, but a safeguard cap on 80/20 GEA is also required

1.7 Ofcom's proposal is to regulate a single GEA product- Openreach's 40/10 GEA product- while leaving BT with pricing freedom on other GEA based products. Ofcom has effectively assumed, for the purposes of ensuring that BT is able to recover its costs, that BT would choose to leave proportionate pricing relativities on its FTTC products the same as is currently the case for an indefinite period of time.

1.8 TalkTalk understands Ofcom's preference for setting a single product as the anchor product, in order to preserve a degree of pricing flexibility for Openreach. It also considers that Ofcom's approach, of choosing to anchor on the product which is most used by Sky and TalkTalk, is a coherent one. However, such an approach does run the risk that BT will be able to earn very substantial supernormal returns on products faster than 40/10 in the event that by 2021 40/10 GEA does not impose a significant competitive constraint on 80/20 GEA.

1.9 This approach also runs the risk that as bandwidth demands increase over the regulatory period, Ofcom's regulation will become increasingly outdated. While there is considerable potential for competing networks in densely populated areas,

it is unlikely that in three years' time there will have been competitive investment in FTTP in significant proportions of the country, given the lead times required in order to plan, fund, and build FTTP networks.

1.10 Ofcom should therefore also impose a safeguard cap, at a price which would enable Openreach to earn returns above its cost of capital, on the 80/20 GEA product. This would provide protection for consumers and competition in the event that 40/10

GEA is not an effective constraint on 80/20 GEA, or ceases to be so, without interfering with BT's commercial freedom if 80/20 GEA is competitively constrained by 40/10 GEA. In the absence of such a cap, there is the prospect that 80/20 prices might increase relative to 40/10 prices over the course of the control period, harming consumers of faster speed GEA variants.

1.2 Ofcom should not prejudge future regulation of GEA

1.11 TalkTalk in general considers it helpful for Ofcom to indicate, to the extent that it is able within the bounds of public law, what Ofcom considers the future direction of regulation will be.

1.12 Notwithstanding this, we consider that Ofcom's anticipated approach to regulation from 2021 onwards, such as its statements regarding the prospect of regulating speeds above 40/10 GEA, appears unlikely to be designed to maximise either consumer welfare or the level of investment in FTTP which occurs, and comes dangerously close to prejudging the outcome of the next WLA Review which will occur in circumstances which are not yet known. Due to the limited potential extent of competitive FTTP investment in the next four years, there will be a need to sustain and amend regulation at the next WLA review. This will encompass both the anchor product chosen and the price cap set for this anchor. In the absence of such progressive regulation, competition will be reduced, prices for consumers will be higher than under an optimal regulatory structure, and there will be less investment in FTTP both from BT and from other CPs, such as TalkTalk and Sky, which use the Openreach network.

1.3 Other product regulation issues

1.13 TalkTalk disagrees with Ofcom's proposal not to impose a charge control on the price of Managed Engineer Install (see para 3.56). Given that most providers have already moved the vast majority of their installations to PCP Only Install, the remaining managed installs are unlikely to be substitutable by PCP Only. This reflects that Managed Install is now primarily used for vulnerable customers, who would not be capable of self-installing fibre products. There will therefore be little or no substitution to PCP Only Install due to a price increase for Managed Install, as all the volumes which could be shifted to PCP Only have already been switched.

1.14 It is inappropriate for Ofcom to fail to set a cost reflective charge control on the GEA Cablelink product, despite it admitting that there is a strong case to impose a charge control, and it is unacceptable for Ofcom to have insufficient specific cost information (and, by extension, for BT to not have provided such specific cost information). This is a clear regulatory failing. Ofcom should set a charge control based on its best estimate of the cost of GEA Cablelink. Only if that is not possible should it move to alternative approaches, such as setting the price difference between 1Gbps and 10Gbps at the difference between the incremental costs of the two products. Ofcom should also set a cost reflective price cap on migrating

customers between GEA Cablelinks, which will increasingly be required as bandwidth demands rise.

1.15 The same issue arises with respect to the various GEA optimisation and repair services, where Ofcom has stated that a FAC based charge control would be appropriate, but has stated that there is insufficient data available to impose such a charge control, and has therefore imposed a flat nominal cap. This is inappropriate, and Ofcom should make strenuous efforts over the next few months to acquire sufficient information to be able to set a reasonably accurate price cap.

1.4 Price control issues impacting both MPF and GEA

1.16 There are a number of price control issues which impact both MPF and GEA price caps, where Ofcom has adopted assumptions or modelling approaches which will tend to inflate the price caps applying to these products:

- Ofcom has assumed a rate of pay inflation which is too high, and bakes in inefficiencies in BT's pay bargaining process;
- the proposed opex efficiency assumption is too low, and should be increased from 5.5% to 6.0%;
- the estimate of cumulo rates is too high, and should reflect both a higher rateable value reduction per line switched from WLR to MPF than in past reviews, and take into account the expected outcome of BT's appeal against its valuation;
- the cost of capital is excessive for both MPF and GEA and should be reduced to 6.9% for copper products and 7.8% for GEA products; and,
- Ofcom has overestimated PIA productisation costs and underestimated the time period over which these costs should be depreciated.

1.5 The GEA price cap is too high due to errors in its calculation

1.17 TalkTalk considers that the approach adopted by Ofcom, of setting a cost-reflective price cap on an anchor product, is appropriate.

1.18 However, Ofcom has allocated product specific fixed costs inappropriately, and in particular allocated the cost of Analogue Line Cards (partly) to GEA products, despite the fact that line cards are not used in the provision of GEA.

1.19 It has also underestimated the asset lives of FTTC Cabinets and FTTC DSLAMs, which lead to excessive depreciation charges and an excessive allowance for the costs of capital employed. Ofcom has also overestimated bandwidth demand, leading to excessive expenditure on OLTs; and fails to reduce the overall price cap for GEA when the BU-LRIC model is recalibrated to lead to lower cost estimates.

1.20 Finally, Ofcom should reconsider whether to impose a starting charge adjustment on the GEA rental price, particularly if it finds that BT's expected returns from its FTTC investments are above its current estimate of 12%.

1.6 There are two significant errors underlying the MPF price cap

1.21 Ofcom has made several significant errors when setting the proposed price caps for MPF products.

1.22 First, it has underestimated line volumes on the Openreach network. This is primarily because Ofcom has overestimated the impact of Virgin Media's Project Lightning in drawing customers away from Openreach-based providers, but also potentially due to overestimating the impact of DPA over the next four years.

1.23 Second, it has projected lower levels of income from copper scrap than would be appropriate. This is primarily due to overestimating the proportion of copper in the network on the D-side (where copper is more difficult to recover), but also due to overestimating the likely proportion of missing cable in the E-side of the network.

1.24 Furthermore, Ofcom should have imposed a starting charge adjustment when setting the MPF charge control, to reflect BT incorrectly allocating an excessive amount of cost to regulated products in its regulatory financial reports.

1.7 Structure of document

1.25 This document is structured as follows:

- section 2 sets out that Ofcom's choice of 40/10 GEA as the anchor product is appropriate, but that there should be a safeguard cap enforced on 80/20 GEA at a level in excess of costs;
- section 3 supports Ofcom's proposals to reduce the minimum term for GEA rentals to one months;
- section 4 makes the case that Ofcom should not comment on likely future regulatory policies to be adopted, but rather only on its long-term regulatory and market structure goals;

- section 5 considers the regulatory structure of products other than GEA and MPF rental and installation, and sets out that Ofcom should apply costreflective price caps to GEA Cablelink, Superfast Visit Assure and Fibre Broadband Boost;
- section 6 deals with a range of issues impacting the price caps of both MPF and GEA products, including cost inflation assumptions, efficiency estimates, cumulo, cost attribution, and the cost of capital;
- section 7 covers issues specific to the price cap on GEA, including cost allocation, bottom-up modelling, and that Ofcom should make a starting charge adjustment;
- Finally, section 8 assesses issues specific to the MPF price cap – a starting charge adjustment for MPF rentals, line volumes, and Ofcom's underestimates of copper recovery income.

2 Choice of GEA anchor product

2.1 Section 8 of Volume 1 of Ofcom's consultation document sets out Ofcom's broad approach to regulating GEA, and in particular which product(s) should be subject to price regulation.

2.2 In essence, Ofcom proposes two changes to the regulatory structure which has existed in the current regulatory period:

- a charge control should be introduced on the 40/10 GEA product, although not on any other GEA product; and,
- margin squeeze regulation should be removed on all GEA products.

2.3 As TalkTalk has previously set out to Ofcom, we consider that setting the 40/10 product as the anchor product is not the best approach available, as it provides BT with the ability to earn excess returns on its 55/10 and 80/20 products by not reducing wholesale prices in line with the reductions in the regulated price of 40/10. We continue to believe that the current approach fails fully to protect consumers from BT's exercise of its market power on GEA products, and in section 2.2 below propose some additional protections which would limit the potential harm to competition from this source.

2.1 Ofcom is right to regulate GEA

2.4 TalkTalk considers that Ofcom is correct to impose a cost-reflective price control on GEA products in the current WLA charge control. It would be a clear error on the part of Ofcom if the outcome of the WLA were to be that no GEA rental product is subject to a price cap.

2.5 There are several reasons why it is imperative that Ofcom imposes a charge control:

- *Price regulation will increase investment in FTTP infrastructure*– Ofcom regulating FTTC products is likely to increase investment in FTTP by both Openreach and other CPs which use the Openreach network. Openreach will be incentivised to build FTTP networks in order to restore the supernormal profits which it currently has from its FTTC products, and which effectively increase the hurdle rate for investment in FTTP. Other CPs will invest more because increasing their number of customers before an FTTP network is constructed will enable customer bases to be transferred to the new network, increasing the speed of take-up and therefore financial viability of the new network.

- *In the absence of price regulation, excessive costs will be passed on to consumers*– TalkTalk agrees with Ofcom's analysis at §8.33 of Volume 1 of its Consultation document, where it states that reductions in VULA charges would be passed on to consumers in the form of lower prices. Indeed, TalkTalk has previously submitted evidence to Ofcom, in the form of a modelling exercise undertaken by Frontier Economics, that there would be substantial passthrough to consumers of any reductions in price. As a corollary, if Ofcom does not regulate BT's GEA products, the excessive prices for wholesale GEA will drive up costs relative to the counterfactual in which GEA is subject to price regulation, and these costs will in turn be passed on to consumers. We consider that, as Ofcom finds in §8.34 of Volume 1 of its Consultation document, the gains to consumers from lower costs of VULA products are likely to be hundreds of millions of pounds.

- *There is no little or no competitive constraint on GEA products from copperbased broadband products*– Ofcom notes at §8.26 of Volume 1 of its Consultation that SFBB speeds are increasingly necessary for households, and there is little downgrading from SFBB products to copper-based products (§3.34 of Volume 1) or customer willingness to consider a cheaper but slower service. TalkTalk agrees with this assessment. SFBB and SBB are already in separate economic markets, and the markets are likely to diverge, rather than converge, over the next four years. [✂]. The majority of SFBB customers will not even consider trading down to SBB in the case of price rises across SFBB products – as such, copper-based broadband will no longer impose a competitive constraint on SFBB.

- *Virgin Media does not, and will not, offer an effective competitive constraint on Openreach's GEA pricing*– Virgin Media will not offer a sufficient competitive constraint on Openreach's pricing of GEA products within the period of the charge control. Ofcom is correct to note that Virgin Media's coverage is far lower than that of Openreach's network at present; since Ofcom's consultation document, Virgin Media appears to have scaled back its speed of roll-out of Project Lightning, and only passed an additional 355k premises in the year to

March 31 2017.[2] In light of this slow rate of roll-out (passing less than 1.5% of UK premises in a year, and with the overall network currently passing around 47% of UK homes) it is implausible that Virgin will reach anywhere near 60% of UK premises by 2020, and Project Lightning's impact on the competitive constraints faced by Openreach during this charge control will be minimal.[3] The constraint imposed by Virgin during the period of this charge control will therefore not even be as strong as that predicted by Ofcom in its Consultation.

- *In the absence of price regulation, there will be a reduction in competition in the UK SFBB market*– the SFBB market is considerably less competitive than the SBB market has historically been. This reflects the much higher market shares of the two largest players (Virgin Media and BT) in this market, and the consequently smaller market shares of Sky, TalkTalk, and the competitive fringe of small competitors. In the absence of price regulation of Openreach's GEA products, the market share of providers other than Virgin and BT would continue to decline, and that of Virgin and, particularly, BT, would continue to increase, as the excessive charges levied on external customers taking Openreach's GEA product make it impossible for such providers to gain and hold market share while at the same time operating profitably. This would reduce competition for consumers, and risk the exit from the broadband sector of smaller players. This reduction in competition would tend to lead to higher margins being set by Virgin Media and BT, particularly after the exit of some of the smaller players reduces the scope for them to expand again in response to the reduction in competitive pressure caused by rivals' price increases.

- *Openreach has made high returns on its investments in FTTC*– TalkTalk has previously commissioned and submitted to Ofcom analysis from Frontier Economics which found that Openreach's returns on its FTTC investment would be 16% even if prices for all GEA products were regulated from April 2017 to immediately be in line with cost (that is, there is no glidepath); later Frontier analysis found that if cost-reflective pricing were adopted from April 2018 (still sooner than Ofcom proposes to set cost-reflective prices) the return on BT's investment would be 19%. Ofcom has subsequently stated that it has conducted its own assessment, which has found returns of only 12% (§8.22 of Volume 1 of Ofcom's Consultation). In either case, BT will have made returns substantially in excess of its cost of capital. However, we are concerned that Ofcom may be underestimating BT's returns from its FTTC investments, for example by including common costs that are not incremental to FTTC when calculating BT's return on its FTTC investment. It would be helpful for Ofcom

[2] http://www.virginmedia.com/content/virginmedia/dotcom/en/corporate/media-centre/pressreleases/virgin-media-q1-2017-results.html

[3] Liberty Global First Quarter 2017 Fixed Income Release, 7 May 2017, at page 5.

to reconcile the two sets of figures, to the extent that it can, and set out the reasons underlying the difference between the two estimates.

2.6 Given these reasons, Ofcom should impose a cost-reflective charge control on GEA products, as it has proposed.

2.2 Ofcom's choice of which GEA product(s) to regulate

2.7 Given that Ofcom should regulate one or more of BT's GEA products in order to prevent harm to consumers, the question then arises as to which GA product(s) Ofcom should regulate. In essence, there are four main approaches which could have been adopted by Ofcom:[4]

- regulate the 40/10 rental product which is the primary GEA product expected to be used in the next four year by providers other than BT.[5]
- regulate the 55/10 product which is the primary GEA product offered by BT Retail at present;
- regulate the 80/20 product which is the top tier FTTC-GEA product currently offered on the Openreach network; or,
- regulate all the various GEA rental products offered by Openreach as part of a 'basket' approach to regulation.

2.2.1 Ofcom's proposal requires a high degree of substitutability across speeds

2.8 For it to be optimal to regulate the 40/10 product, it needs to be the case that there is a high degree of substitutability between 40/10 GEA and both 55/10 and 80/20 GEA. In the absence of such a high degree of substitutability, Openreach will retain market power over the 55/10 and 80/20 products, and be able to earn supranormal profits due to this market power. Ofcom has stated (at §8.47) that it thinks that there is a high degree of substitutability, and that '*the imposition of a charge control on the 40/10 product… would be sufficient to protect retail competition*'.

2.9 On the other hand, if there is little substitution between the various speeds of GEA products, then regulation will need to focus on either regulating the 80/20 product, or adopting a basket approach which regulates all products. Regulating 80/20 will impose a *de facto* price cap on 40/10 and 55/10, because 80/20 offers all of the functionality, and more, that the lower speed products offer. Similarly, regulating a basket of GEA products will enable all products to be price regulated, although in

[4] Given Ofcom's historic approach to regulation, it is unlikely that Ofcom would have imposed a costreflective price cap on each GEA product individually.

[5] See §8.42 of Volume 1 of the Consultation document.

the latter case BT will be able to trade off the prices of the various GEA products against one another, rather than facing a hard cap on a single product.

2.10 In its consultation document, Ofcom proposes to solely regulate the 40/10 product, and to not impose any regulation on other speeds of GEA product. TalkTalk considers that this is not the best approach which could have been proposed, as it fails to future-proof the regulation for consumers' increasing demands for broadband speed and capacity. [✂].

2.11 At the same time, TalkTalk agrees with Ofcom that, in general, it is useful to limit regulation to the least intrusive form which is required in order for Ofcom to meet its regulatory objectives. As such, we would not propose for there to be a cost-oriented price cap on all of BT's individual GEA products.

2.12 However, TalkTalk is concerned that if Ofcom is incorrect, and 40/10 GEA does not impose an effective competitive constraint on all other speeds of GEA for the duration of the charge control, there may be the potential for BT to earn considerable supernormal profits on 55/10 and 80/20 GEA products, particularly since Ofcom is proposing to remove the current margin squeeze testing regime. There is thus a need for some additional controls on BT's pricing which can act as a safeguard against future changes in the market, while imposing few restrictions on BT's ongoing commercial freedom to set GEA pricing.

2.2.2 Ofcom should impose a safeguard cap on 80/20 GEA

2.13 TalkTalk therefore proposes that an additional safeguard cap should be put in place on the 80/20 GEA product. This would be at a higher level than is required for BT to recover its costs, and therefore would allow BT commercial freedom, but at the same time would restrain BT from full exercise of its market power. TalkTalk envisages that these price caps would not be binding on BT unless Ofcom is incorrect and BT does indeed hold market power over 80/20 GEA, even in the presence of regulation on 40/10 GEA. We would therefore expect that BT would price below the safeguard caps, and the regulation would therefore not act to constrain BT's commercial freedom.

2.14 TalkTalk would suggest that the 80/20 price cap is set in each year at 150% of the price cap for 40/10 GEA. This figure is well in excess of the current price relativity set out in Table 2.2 of Volume 2 of Ofcom's consultation document, which Ofcom's proposed price caps are based on. In effect, it would enable the relative prices of 55/10 and 80/20 to be set at levels which would be likely to lead to BT making significant supernormal margins, but would restrict BT from setting prices which are designed solely to exclude rival downstream operators from being able to offer products faster than 40/10 on a profitable basis.

2.15 The exact level of safeguard cap which TalkTalk is proposing is not exact, and has not been calculated to be exact. Rather, it is set more generally to reflect two considerations:

- it should be above the ratio set out in Table 2.2 (134%) by a sufficient margin to allow BT some commercial flexibility. So, for example, setting a price cap at 134% would amount to Ofcom setting a cost-reflective price cap on two Openreach products, rather than one, and therefore would restrict BT's commercial freedom.
- it should not be so far above the ratio in Table 2.2 that it would permit BT to use its wholesale pricing to harm its downstream rivals. For example, setting a safeguard cap at 300% would, in practical terms, have no impact because it would set the cap at above the (unconstrained) pricing which Openreach currently sets. In practical terms, therefore, it should be such that it would have the effect of constraining Openreach to set the price of 80/20 GEA below its current level in all three years of the charge control.

2.16 Setting a safeguard cap in this way would have the effect of protecting BT's customers, and the competitive environment, in the event that Ofcom is incorrect that there is close substitutability between 40/10 and 80/20 GEA, either now or at any point during the regulatory period. It is particularly important given Ofcom's proposal to relax margin squeeze regulation in the forthcoming regulatory period. It is that proposal to which we now turn.

2.3 Margin squeeze regulation remains an important stopgap in the absence of a safeguard cap

2.17 Ofcom sets out its views on the current margin squeeze protection at §§8.48-8.49 of Volume 1 of its consultation document:

> *In our judgement, given the importance of the 40/10 VULA service and the substitutability of SFBB services, the imposition of a charge control on the 40/10 service for the period starting in 2018/19 would provide considerable protection against the distortion of competition and would be sufficient to protect retail competition.*
>
> *We therefore consider that the detailed compliance arrangements that we introduced in the 2014 FAMR to guard against a margin squeeze on VULA services are no longer appropriate and we propose to discontinue these arrangements.*

2.18 TalkTalk considers that the current margin squeeze regime has an important stopgap role in the event that Ofcom adopts its current approach of only regulating 40/10 GEA. BT will retain complete pricing freedom on the 80/20 product, which is likely to become more important over the period of the charge control, and which may therefore enable BT to undertake a margin squeeze targeted across higher speed GEA variants, to [✂].[6] This reputation, which could persist over time, would not be able to be undermined by TalkTalk and Sky constructing their own FTTP networks, since there would not be sufficient time to do so at scale during the upcoming control period.

2.19 As such, in the event that Ofcom solely imposes a charge control on the 40/10 product, without any safeguard caps on other products, TalkTalk considers that Ofcom should maintain its current structure of margin squeeze protection for the upcoming regulatory period. This would enable Ofcom to assess how the charge control is working, and whether there is indeed a sufficient constraint imposed on the wholesale pricing of 80/20 GEA by regulation of the 40/10 product. Retaining the margin squeeze protection should not impose an excessive regulatory burden on BT, given that the system is already up and running, and both Ofcom and BT have experience of how to operate it in practice.

2.20 On the other hand, if Ofcom chooses to impose an appropriate safeguard cap on the 80/20 product (as recommended in section 2.2 above) then there is less need to retain margin squeeze protection, and Ofcom should indeed relax this protection. In the presence of an effectively operating safeguard cap, the ability to margin squeeze on higher speed products will be restricted, and BT is therefore much less likely to be able to abuse its dominant position. As such, in the event that Ofcom imposes a safeguard cap on the 80/20 GEA product, Ofcom should go forward with its proposal to relax the current margin squeeze regulation, as there would be no need for it to be retained.

[6] The Competition Act is likely to be ineffective in preventing margin squeeze, given its slow speed of application and the difficulties in determining how common and fixed costs should be attributed.

2.4 Conclusions on anchor product

2.21 In summary, TalkTalk's views on the anchor product are as follows:

- it is reasonable to anchor on 40/10 GEA, as long as a well-calibrated safeguard price cap, at a price above the level which would lead to BT earning a normal rate of return, is included in Ofcom's determination.
- the safeguard price cap should be on the price of the 80/20 product, and should be linked in proportion to changes in the (cost-reflective) price cap on 40/10 GEA.
- the current *ex ante* margin squeeze test should be retained as long as a safeguard cap is not introduced. If an appropriate safeguard cap on 80/20 GEA is introduced, the margin squeeze testing obligation should be removed.

3 Minimum contract period for GEA services

3.1 Ofcom sets out its views on the minimum contract period which BT should be permitted to set for VULA services at §§6.87-6.100 of Volume 1 of its Consultation. Ofcom's analysis in this area builds on regulation imposed in the 2014 FAMR, which limited BT's flexibility in setting minimum contract periods for customers migrating between communications providers, by ensuring that when customers migrate between providers, the communications provider is only obliged to pay for one month's GEA connection.

3.2 TalkTalk supported this regulatory decision at the time it was made. Lowering the minimum term for switchers helps facilitate switching and so increases the competitiveness of the retail market for SFBB.

3.3 Ofcom has now proposed to go further, and to reduce the minimum length of contract to one month for all customers, not just those switching providers. This is an appropriate and proportionate approach for several reasons:

- BT retains, under Ofcom's proposals, a cost-reflective connection charge which enables it to recoup the costs of connecting customers to its network. There is therefore no risk that in taking this step Ofcom will remove the ability for Openreach to recover its reasonably incurred costs;
- shortening the minimum contract term will reduce the average costs of supplying new customers signing up for GEA for the first time. This will tend to lead to lower consumer prices, stimulating demand for GEA based products;
- reducing the minimum contract term will also help reduce the costs of constructing FTTP networks, as the act of switching customers from the Openreach network to the new FTTP network will incur lower hold to term

charges from Openreach. This will, at the margin, help to stimulate FTTP investment.

3.4 Reducing the minimum contract period for GEA services is therefore a reasonable, proportionate and appropriate regulatory decision for Ofcom to take.

3.1 Hold to term charges

3.5 An issue which has been missed by Ofcom in calculating its proposed charge controls is the hold to term charges which are levied by Openreach, even now, for GEA customers switching between providers on the Openreach network.

3.6 The issue arises because, when a customer switches from (say) Sky to TalkTalk, Sky will already have paid in advance for a month's service for that customer. When the customer leaves midway through a month, the losing provider (in this case Sky) will not receive a refund for the GEA charge for the proportion of the month when the customer is with another provider. However, Openreach will be charging the gaining provider (in this case TalkTalk) immediately from the time the switching customer joins TalkTalk.

3.7 This has the impact that Openreach will be able to double charge for a considerable number of customers. If switching of GEA customers between providers on the Openreach network is around 1% per month, then on average 0.5% of customers will be being double charged for at any given moment in time.[7] In this case, in order to avoid Openreach making supernormal profits, the monthly line rental for GEA should be reduced by 0.5% to reflect the double charging of customers.

3.8 There is no benefit to retaining higher prices for these hold to term charges– they are simply additional profits which are transferred to Openreach from its customers. Moreover, as they are effectively switching costs (given that they are costs which only occur when a line moves between operators) they potentially act to reduce competitiveness in the market, making it more costly when customers switch between operators. Excess charges which reduce switching are particularly harmful to customers, as they also act to reduce competition between operators, and thereby raise price-cost margins.

3.9 Ofcom should therefore reduce 40/10 GEA rental charges in order to remove the excess profits generated by Openreach hold-to-term.

[7] Assuming that customers are evenly distributed across the month at the time they leave the losing provider.

4 Future regulation of GEA

4.1 At various points in its consultation papers (for example §§1.53-1.60 and §§4.28-4.35 of Volume 1 of the consultation document) Ofcom set out its view of the likely future course of regulation of wholesale broadband prices (to the extent that this is possible given that Ofcom cannot prejudge its own decisions).

4.2 Ofcom sets out several elements of its expectations for the future course of regulation:

- '*where the prospect of network competition is likely to provide a sufficient constrain, we may not extend the scope of… charge controls beyond retaining cost-based charge controls on LLU and 40/10 VULA services*';[8]
- that there was the '*potential for reduced access regulation in the future*' once FTTP networks had been constructed to compete with Openreach's network;[9]
- that '*different remedies may be needed in different regulatory areas*', depending upon the degree of actual and potential competition;[10]
- that in future, when balancing trade-offs between investment and prices Ofcom expects '*to continue to place weight on the risk of harm to consumers resulting from a regulatory error that stifles competitive investment*'.[11]

4.3 TalkTalk considers that there is a risk that Ofcom sets a regulatory direction which does not best advance the interests of consumers. There are a number of changes to this guidance which TalkTalk would propose.

4.4 <u>It is important to ensure that regulation remains up-to-date while still incentivising investment.</u> Even if there is substantial third party demand to roll out FTTP (and it is TalkTalk's strategy to continue to invest in FTTP roll-out) it will take a considerable period of time for FTTP to be delivered to a significant proportion of the country by third party operators. It is inconceivable, for example, that FTTP will have been constructed by operators other than Virgin Media and BT to even 10% of UK households by the end of the control period which Ofcom is currently consulting on.

4.5 At the same time, as TalkTalk has previously set out to Ofcom, the retention of a significant existing customer base makes investing in FTTP significantly more viable, and therefore increases the proportion of the country in which competitive FTTP investment is likely to be viable. Ofcom's §4.25 is therefore incorrect, and sets up a false dichotomy– tighter regulation of VULA will

[8] §1.56 of Volume 1.

[9] §1.57 of Volume 1.

[10] §1.58 of Volume 1.

[11] §1.59 of Volume 1.

increase the incentives for third party operators such as TalkTalk and Sky to invest in FTTP to compete with Openreach, and will generally increase the incentives for Openreach to invest in FTTP.[11] Ofcom provides no counter-evidence to the submissions of Sky and TalkTalk as set out at §4.26.

4.6 By effectively proposing to rule out moving the anchor product up in speed over time, Ofcom is therefore threatening FTTP investment. If competing operators such as Sky and TalkTalk are unable to compete as customers' bandwidth demands increase, they will lose customers and be less able to invest in FTTP on a financially

viable basis. The extent to which this is important depends upon how fast consumers' bandwidth demands grow over the next three years, and what commercial strategies Openreach pursues with regard to pricing of products with speeds above 40/10. However, it is entirely plausible that the way to maximise FTTP investment will be to move the anchor product from 40/10 to 55/10 or even 80/20.

4.7 Given these uncertainties, Ofcom should not attempt, in this review, to set out a the precise policies which it is likely to adopt in the 2021 WLA review. Rather, it should adopt a wait-and-see approach without guidance beyond its medium term goals, and take whatever regulatory course of action is most appropriate at that time.

4.8 There is unlikely to be significant room to reduce the scope of access regulation at the next review. Although TalkTalk in principle considers that in areas where there has been substantial roll-out of FTTP there may be scope to reduce the scope of access regulation, through an approach similar to that adopted by Ofcom in WBA markets, in practice roll-out is unlikely to have yet have gone far enough to merit such a substantial change of approach by Ofcom. As such, Ofcom should not comment on this ahead of the next review, when the timing of any such potential relaxations of access regulation will be considerably clearer, and Ofcom will therefore be able to comment in more detail at that point.

4.9 Similarly, there is unlikely to be a need for remedies which vary by geographic area. The need for remedies which vary by geographic area is based on the extent of FTTP roll-out in those areas; as pointed out above, third-operator FTTP roll-out is likely to be very limited by 2020/21. Ofcom should therefore flag that although geographically varying remedies may be needed at some point in the future, it is unlikely that they will be needed at the time of the next regulatory review.

4.10 Overall, although TalkTalk considers that it is reasonable, and can in principle be useful, for Ofcom to give guidance as to the likely future course of

[11] Because there will be a lower hurdle rate in the absence of supernormal profits from FTTC products. See §2.5 of this submission.

regulatory action which it may adopt, the current proposed guidance amounts to a hostage to fortune, rather than a clear forward-looking policy. Forward guidance can be helpful when it refers to regulatory goals (e.g., encouraging FTTP investment), but is much less likely to be helpful when it sets out detailed regulation which will be adopted to meet those goals, particularly when there is substantial uncertainty over future circumstances.

4.11 Several of the issues being flagged by Ofcom – which are predominantly regarding specific regulations, rather than regulatory goals – are unlikely to even need to be considered before the mid-2020s, and it would be more appropriate for Ofcom to address these issues at the next review, when more information will have emerged and the future approach to achieving Ofcom's regulatory goals can be more closely calibrated. Ofcom should therefore commit itself to reviewing at the time of the next review the case for subnational geographic market definition and remedies; and, at the same time, should set out that although it at present does not see a case for imposing cost-reflective regulation on speeds above 40/10, it will reassess the case in the 2021 WLA review based on circumstances at that time.

5 Proposals on regulation of other products

5.1 This section sets out TalkTalk's position on Ofcom's proposals of which products (other than MPF and GEA rentals) to regulate. In general, TalkTalk agrees with Ofcom's proposals on the scope of regulation. However, as this section does not cover all of Ofcom's decisions on which products to regulate, if we do not comment on the decision whether to regulate a particular product, no conclusions should be drawn as to whether or not TalkTalk supports Ofcom's proposals.

5.1 Ofcom is right to deregulate SMPF, but should monitor price changes

5.2 TalkTalk broadly supports Ofcom's proposals to reduce regulation of the SMPF product, given the low usage of SMPF by operators other than BT, and that Ofcom proposes to retain non-discrimination and EoI requirements on BT, which will effectively mandate BT to supply SMPF to other CPs over the period of the current review, given the heavy usage by BT Retail of SMPF.

5.3 However, we remain somewhat concerned that BT could use the freedom granted to it by deregulation to increase SMPF prices substantially, as indeed Ofcom predicts at §9.14. There are several mechanisms by which this could be profitable:

- a direct increase in profits on SMPF from the increased margins on that product;

- switching away from SMPF being unlikely to significantly reduce BT's profits, as operators switch their demand from SMPF based to MPF based products, while remaining on the Openreach network;[12]
- the ability to raise rivals' costs somewhat, while BT's end-to-end cost remains unchanged. [13] Some customers served via SMPF have different operators for their voice and broadband services, meaning that providers could not switch to using MPF without their customers taking action.

5.4 It will therefore be important for Ofcom to monitor closely whether the price of SMPF increases sharply, particularly early in the control period when third party volumes are higher. If there are price rises substantially in excess of inflation, Ofcom should remain ready to intervene rapidly to prevent further rises, either by conducting an interim review, or by acting under BT's overarching duty to set charges on a fair and reasonable basis. In the absence of such close monitoring, BT could raise its prices, harming competition in broadband markets.

5.2 Products where Ofcom has insufficient information to regulate effectively

5.5 There are several instances throughout its Consultation document where Ofcom indicates that it has insufficient evidence to set a cost reflective price cap, but where it would be appropriate for such a cap to be set. Examples of this are as follows:

- GEA Cablelink;
- Superfast Visit Assure and Fibre Broadband Boost;

5.2.1 Ofcom should charge control GEA Cablelink based on its best estimate of cost

5.6 Ofcom deals with its proposals to regulate GEA Cablelink at §§3.112-3.115 of Volume 2 of its Consultation. It sets out its view on whether GEA Cablelink should be regulated as follows:

> *GEA Cablelink is an essential service for those wishing to provide SFBB services over BT's FTTC or FTTP networks... If GEA Cablelink is not subject to a charge control BT could increase prices and negate the effect of a charge control on the VULA 40/10 service. Therefore, in our view GEA Cablelink should be subject to a charge control to make the GEA charge control effective.*
>
> *While the case to impose a charge control seems strong, we are unable to set a cost-based charge control without specific cost information...*

[12] In general, the constraint on increasing prices for a firm which is the sole supplier of a specific product comes from lost profits as customers switch to alternative products supplied by rivals. There will be no such loss of profits with switching away from MPF.

[13] Albeit that the internal transfer price is increased.

5.7 Ofcom proposes to set a flat nominal cap at the current price levels of £2,000 (oneoff) for 1Gbps GEA Cablelink, and £10,000 for 10 Gbps Cablelink. It does not propose to set a cost-reflective price cap due to lack of cost information.

5.8 There are a number of fundamental problems with Ofcom's proposed approach:

- the current price is likely to be considerably in excess of costs. We estimate that the costs of a Cablelink are probably in the order of £[✂ 300-600] (see §5.11 below). The excessive current price will have various negative impacts including distorting and weakening competition (since BT faces the underlying cost not the wholesale price); raising consumer prices above the efficient level; and reducing the quality of service (as non-BT CPs inefficiently reduce Cablelink capacity to manage costs).
- Ofcom's proposed approach incentivises BT to price excessively and behave badly. By adopting this approach, Ofcom is effectively providing high-powered incentives for BT to set high prices and to fail to retain cost information for any product which might be regulated in the future. BT can then expect a quasiregulatory holiday on these products, enabling it to continue to earn supernormal profits.

5.9 As such, Ofcom's proposal to impose a flat nominal price cap on GEA Cablelink products is a potential breach of Ofcom's regulatory duties under the Communications Act. It harms consumers now, distorts competition between providers, reduces BT's incentives to set low wholesale prices for newly introduced products, and encourages regulatory gaming by BT.

5.10 Ofcom should make a *best estimate* of the cost of providing a Cablelink product using BT data and/or other parties data (as it did in 2014 for SFI/TRC products) . It is far preferable to base prices on this best estimate rather than setting a price cap which is knowingly and significantly above cost.

5.11 We estimate the cost of a Cablelink at around £[✂ 300-600]:

- A GEA Cablelink is a fibre cable that runs from an Openreach Layer 2 switch switch (L2S) to a CP L2S in the same exchange building. It is presented to a CP as a pre-terminated cable. It is not clear whether the product includes (or recovers) a proportion of the cost of Openreach's L2S.
- The fibre cable run may typically be 20m to 100m long depending on the location of the two ends within the exchange building. Assuming an average of 50m the cable cost might be £[✂ 100-180] based on the typical prices TalkTalk pay. We estimate that installation may conservatively cost £[✂ 120-220]. The installation is fairly straightforward since the fibre needs to be laid in preexisting cable trays. If the Cablelink also recovered the cost of the switch the port cost would be about £[✂ 80-200] for a 10G and £[✂ 20-50] for a 1G (based on TalkTalk experience) and an SFP of £[✂ 30-50].

- This suggests a cost for a Cablelink (if it recovers the switch cost) of around £[✂ 300-600]:

	1G Cablelink	10G Cablelink
Fibre cable	[100-180]	[100-180]
Cable installation	[120-220]	[120-220]
Port	[20-50]	[80-200]
SFP	[30-50]	[30-50]
TOTAL	[300-600]	[300-600]

5.12 Ofcom should be able to gather more data to refine this estimate.

5.13 A fall-back option (which is inferior, and should only be adopted if the above approach proves unworkable for some reason) could be to assume that the 1G Cablelink price is cost reflective. The 1G price cap could be set at £2,000. The 10G price cap could be set at the 1G price (£2,000) plus the incremental cost (of about £[✂ 60-180]). This is a highly conservative approach since it is very likely that the 1G Cablelink price is significantly above cost at present.

5.14 Similarly, Ofcom should adopt a cost-reflective price cap on Cablelink VLAN moves, again by adopting a bottom-up approach to efficient cost estimation. A price cap on this product will become increasingly important as the number of customers taking GEA, and their bandwidth demands, increase.

5.15 Further to these proposals on the pricing of GEA Cablelink, TalkTalk considers that it is imperative that the current locations where GEA handover can occur is not reduced further below the present figure of around 1,000 exchanges. Any reduction in the number of handover points will reduce the extent of network competition between BT and its rivals, to the detriment of consumers.

5.2.2 Ofcom should collect the data needed to set a cost reflective price cap on Superfast Visit Assure and Fibre Broadband Boost

5.16 Ofcom's document sets out its analysis of, and proposals for, Superfast Visit Assure and Fibre Broadband Boost at §§3.146-3.148 of Volume 2 of its Consultation:

> *The context in which GEA optimisation and repair services [such as Superfast Visit Assure and Fibre Broadband Boost] might be used by telecoms providers is largely the same as for an MPF SFI or TRC (MPF or GEA): some of the work carried out on these services can only be undertaken by BT. Moreover, in advance of the visit to the customer's premises, telecoms providers do not know whether any work required will be on BT's network or beyond the NTE. As for MPF SFIs and TRCs, in practice, these services are not contestable and we therefore consider it necessary to constrain BT's ability to price excessively.*
>
> *... While a FAC based control might otherwise be appropriate in this case, given the lack of detailed cost information that would suggest charges should not be at their current levels, the uncertainty about future volume growth, and the pricing stability that we have observed, we believe a nominal flat rate caps would be more appropriate.*

5.17 It is unfortunate that BT has provided inadequate cost information available in order to determine what the appropriate levels of charges are for Superfast Visit Assure and Fibre Broadband Boost. Ofcom should take strenuous efforts to ensure that it has sufficient data available in the near future.

5.18 Uncertainty regarding future volume growth is of limited importance in this case. There are few fixed costs in offering Superfast Visit Assure or Fibre Broadband Boost, and so uncertainty about future volume growth should not translate into uncertainty regarding the unit costs and so appropriate price cap to be set by Ofcom.

5.19 It is also unclear why Ofcom having observed pricing stability would imply that it would be appropriate to set a flat nominal price cap. All pricing stability could be taken to imply is that BT felt that the profit maximising price for Superfast Visit Assure had not changed over time. This could mean that the underlying cost of providing the two products was not changing rapidly; or that demand was increasing at the same time as the cost of provision was falling; or that BT did not have a clear conception of what the profit-maximising price was, and therefore saw no immediate reason to change it. None of these implies that the price for either of the products is at a broadly competitive level.

5.20 Ofcom should therefore reconsider whether it might be able to impose a costreflective charge control on these services. A flat nominal price cap is unlikely to lead to prices at cost by the end of the control period, although it is clearly more

appropriate than not imposing a charge control at all. Ofcom should set a charge control on a best efforts basis, aligned with its central expectations of costs and volumes. This can then be refined over time as more evidence emerges.

5.3 Ofcom has not set a charge control on Managed Engineer Install, but should have done so

5.21 In addition to products where it does not have sufficient information to set a charge control, there are some other products where Ofcom makes a deliberate choice not to set a charge control, but should have done so.

5.22 The most notable of these is FTTC Managed Engineer Install for the 40/10 product. Ofcom describes its decision on this product at §3.56 of Volume 2 of its Consultation Paper:

> *We do not consider that it is necessary to impose charge controls on all three FTTC connection services. PCP Only Install and Start of Stopped Line account for the vast majority of FTTC new connections and a charge control on these services should impose a constraint on prices of Managed Engineer Install, to the extent that there is a degree of substitution between the services…*

5.23 There is a crucial element of conditionality in Ofcom's statement: '*to the extent that there is a degree of substitution between the services'*. However, Ofcom presents no evidence at all that there is a degree of substitution between the services– indeed, it does not even state that it believes that this condition is fulfilled.

5.24 In fact, there is likely to be very limited substitution from Managed Engineer Install to PCP Only Install in the event that Openreach attempts to impose a SSNIP (or larger price increase) on the price of Managed Engineer Install. At present, TalkTalk uses Managed Engineer Install for a small proportion of its customers- less than 5%. These customers are vulnerable customers – often elderly or disabled – who TalkTalk considers would find it difficult or impossible to set up FTTC broadband following a PCP Only Install. As such, it is unlikely that there would be any meaningful switching in the event of price increases on Managed Engineer Install. TalkTalk envisages that the situation is likely to be similar for other CPs on the Openreach network.

5.25 Moreover, even if switching did occur, it could be profitable for Openreach to impose a SSNIP on Managed Engineer Install. Openreach is also the supplier of the closest substitute product (PCP Only Install) and will definitionally earn a normal rate of return on this product given the manner in which Ofcom regulates Openreach. As such, to the extent that there is switching from Managed Install to PCP Only Install, this cannot reduce Openreach's profits below the competitive level, only to the competitive level. It will therefore always be profitable to impose a SSNIP on Managed Engineer Install as long as a sufficiently large proportion of demand is recovered by PCP Only Install.

5.26 The combined effect of this is that it will be profitable for Openreach to set the price of Managed Engineer Install at above the costs of providing the service. It will therefore be pro-competitive, and benefit consumers, for Ofcom to impose a costreflective charge control on Managed Engineer Install as part of its WLA Statement.
Ofcom should thus consult on imposing a charge control on this service.

5.4 Abortive Visit Charge

5.27 Openreach levies an Abortive Visit Charge (AVC) when they are unable to access the site for an appointed visit. The charge is currently £90. The cost to Openreach is far less than this. An Openreach engineer is required to attempt to gain entry for 10-15 minutes before they move on to the next visit. The typical fully loaded cost per hour is less than £100: the Standard Chargeable Visit charge for an engineer is £96.11 for the first hour and £43.29 for every additional (or part) hour thereafter. This would imply that the cost of an abortive visit is about £25 or less. We understand that Openreach have argued that the AVC charge should be high to deter missed appointments. Whilst this may be valid there is no reason for an AVC charge above cost to lead to BT over-recovering its costs. Rather the recovery above cost (of £65) should be deducted from the cost of other products. If Ofcom does not do this then it should reduce the AVC charge to cost.

5.5 Long Reach VDSL

5.28 Ofcom sets out its proposals for Long Reach VDSL (LR-VDSL) at §§6.22-6.31 of Volume 1 of its Consultation. In general, TalkTalk agrees with the broad thrust of Ofcom's proposals in this area, including its intention to put in place a framework for assessing whether BT should be exempted from LLU obligations in areas where it plans to deploy a new technology, such as LR-VDSL. We agree that Ofcom's assessment must take into account any commercial agreements between BT and the affected CPs in the relevant geographic areas. However, we do have some concerns regarding the manner in which LR-VDSL is implemented in practice, and whether the method of implementation could benefit one CP over others.

5.29 It is appropriate that Ofcom should permit BT to offer LR-VDSL in areas where customers would otherwise receive low speeds via ADSL, where the overall benefits to citizens and consumers are demonstrated and appropriate steps are taken to mitigate any adverse impacts (as detailed at §§6.24-6.27 of Volume 1 of Ofcom's Consultation). New technologies such as LR-VDSL potentially offer benefits to customers, and Ofcom should support innovation which can solve consumers' problems in both bandwidth and reliability of connection.

5.30 It is also appropriate that Openreach should offer affected CPs a suitable replacement for LLU which offers a similar quality of service and comes at no additional cost. This will prevent BT using LR-VDSL to raise rivals' costs. There are a number of further commercial and operational issues that will need to be resolved before Openreach can commence any roll-out of LR-VDSL, a significant one being the complexity of deployment via a re-seller model where the CP will not have a direct relationship with the end customer. In the case of Openreach's initial LR-VDSL trial cabinets with services provided to customers via this model were eventually removed from the trial as the additional customer management and system

requirements proved too difficult to overcome. TalkTalk plans to set out its views on the commercial and operational issues more comprehensively in its response to its industry consultation document published on 11 May 2017.

5.31 It is also appropriate that Openreach should offer affected CPs a suitable replacement for LLU which offers a similar quality of service and comes at no additional cost. This will prevent the use of LR-VDSL to raise rivals' costs. There are a number of further commercial and operational issues that will need to be resolved before Openreach can commence any roll-out of LR-VDSL: we plan to set these out in response to its industry consultation document published on 11 May 2017.[14]

5.32 The key remaining issue is the manner in which the costs of rolling out LR-VDSL should be recovered. There are potentially two issues of cross-subsidy which will have to be addressed in ensuring such cost recovery if costs are in some way smeared across all parts of the country:

- a cross-subsidy from other parts of the country (generally more urban parts of the country) to areas where LR-VDSL is being used (generally more rural parts of the country). This will exacerbate the existing cross-subsidy which exists because of differing line lengths, and, depending upon the roll-out of LR-VDSL, could distort competition between operators using the Openreach network and those on separate networks, particularly Virgin Media;
- a cross-subsidy between operators. For example, TalkTalk's services are now only available on-net, and if LR-VDSL is used at exchanges where TalkTalk is not present, then TalkTalk will not benefit from those services, but may have to help finance them if costs are paid by customers across the country. This is particularly concerning because of the vertical integration of BT Retail (which offers service on a national basis) and Openreach: there may be incentives created for Openreach to roll out VDSL on a more widespread basis than would be the case if operators' market shares were similar in all parts of the country.

5.33 These various cross-subsidy issues make cost recovery for LR-VDSL a particularly difficult issue. Ofcom should therefore set out in its final WLA statement that it will consult on cost recovery for LR-VDSL separately at a later date, when the scope of BT's proposed roll-out of LR-VDSL is clearer, and the impact on competition and consumers in different parts of the country can be considered in the round. Similarly, Ofcom must consult separately on the approach to recovering costs if LR-VDSL is used to meet any obligations introduced through a formal USO process.

14 https://www.openreach.co.uk/orpg/home/updates/briefings/generalbriefings/generalbriefingsarticles/gen03017.do

5.6 SOGEA

5.34 Ofcom's current consultation does not include a comprehensive section on SOGEA ('Single Order GEA'), which has not yet been launched commercially. This product,

when launched, will enable an ISP to take GEA on its own– that is, without a need to also take an MPF or WLR service.

5.35 Ofcom does make some points on SOGEA at various points in the document. In particular, it proposes at §8.57 of Volume 1 of the consultation that the copper element of the charge for SOGEA should be fair and reasonable, and that a starting point for assessing reasonableness will be the charge control set by Ofcom for MPF. This appears to be an appropriate approach by Ofcom.

5.36 Ofcom's consultation document does not comment on the other charging elements that might be included in the SOGEA price. However, TalkTalk would consider it appropriate for a regulated 40/10 SOGEA price to be equal to the sum of the MPF price and the 40/10 GEA price, and for there to be a safeguard cap on the 80/20 SOGEA price which is the sum of the MPF price and the 80/20 GEA safeguard cap.

5.37 Ofcom should carefully monitor demand for the SOGEA product over the course of the charge control, and stand ready to impose a charge control via an interim review or Direction if that demand quickly grows to a significant proportion of demand for superfast broadband products over the Openreach network. Alternatively, if take-up of SOGEA increases slowly, then Ofcom may be able to review the product as part of the 2021 Wholesale Local Access Market Review.

5.7 GEA Modify

5.38 To maximise potential substitution between GEA products Ofcom should also set the GEA Modify charge at LRIC. This will reduce barriers to switching thereby increasing the ability for the 40/10 price to constrain the price of other GEA products.

5.8 SFI charges

5.39 As we explain in our separate response to the Quality of Service consultation, SFI charges should be based on their LRIC costs. Under the current approach where SFI charges are based on FAC, Openreach makes margin on every SFI service it provides. This increases perverse incentives on Openreach to allow fault rates to rise and to not repair faults effectively. Setting SFI charges at LRIC rather than at FAC would eliminate this perverse incentive.

5.9 Imposition of EoI on additional products

5.40 At §§5.58-5.77 Ofcom proposes to reapply an Equivalence of Inputs (EoI) obligation to BT, which obliges Openreach to supply products to external and internal (primarily

BT Wholesale and BT Retail) customers on the same basis. This applies to both the price and the quality of service and terms of the products. This prevents discrimination which could both undermine the price control remedies and enable BT to vertically leverage its market power from wholesale into retail markets.

5.41 It is appropriate that EoI will be retained on products where it currently applies. EoI is one of the most important enablers of effective regulation while BT Retail remains vertically integrated with Openreach.

5.42 However, Ofcom has not yet imposed EoI obligations on all products which are sold by Openreach. In particular, space and power within exchanges are not subject to EoI obligations, despite being products over which Openreach holds significant market power and which are required for an MPF-based provider to operate. Ofcom should apply EoI obligations to these products, helping to level the playing field between BT Retail and its downstream competitors.

6 Price control issues impacting both the GEA and MPF price caps

6.1 This section considers price control issues which impact both GEA and MPF price caps. There are several such issues:

- the top down modelling inputs proposed to be adopted by Ofcom;
- cumulo rates;
- the allocation of common costs between GEA and MPF products;
- the cost of capital allowed to MPF and GEA products;[15]
- regulatory financial reporting; and, □ PIA productisation.

6.1 Top-down modelling inputs

6.2 Annex 15 of Ofcom's Consultation Document sets out the top-down modelling inputs which Ofcom proposes to use in deriving its prices for MPF and GEA. There are two of these inputs which TalkTalk comments on in this subsection:

- pay and non-pay operating cost inflation assumptions (section 5.1.1); and,
- efficiency assumptions (section 5.1.2);

[15] Ofcom is proposing different costs of capital for MPF and GEA products, but many of the building blocks which are used to derive these costs of capital are the same between the two products. They are therefore treated together in this submission.

6.1.1 Pay and non-pay operating cost inflation

6.3 Ofcom sets out its projections for BT's pay inflation over the period of the charge control between §A15.7 and §A15.32 of its consultation paper. It sets out that there are four sources which it has taken into account when determining the appropriate projection of pay cost inflation over the period of the charge control:

- historical pay cost data from BT's Annual Reports;
- historical and forecast pay data from BT's management accounts;
- evidence on BT's discussions of future pay awards with trades unions; and,
- economy-wide studies of historical and forecast movements in pay costs.

6.4 Ofcom sets out at §§A15.9-A15.10 that it will not attribute significant weight to historic cost data from BT's Annual Reports, because these cover staff in all BT divisions, rather than just Openreach and TSO. It does give weight –indeed 'most weight' (§A15.32)– to BT's management accounting data, which suggests pay inflation of 2.5% for 2016/17.

6.5 For the longer term, data are available from the Bank of England, which forecasts an average wage increase of 3.1% on an economy-wide basis from the base year to the end of the forecasts in 2018/19; and the OBR, which forecasts an average 2.9% increase from the base year to the end of the forecast period in 2020/21.

6.6 As a result of this, Ofcom proposes to adopt a 3.1% assumption for pay inflation over the control period.

6.7 This assumption appears excessive. Of the data available to Ofcom, the evidence in
2016/17 points to only 2.5% inflation, while the two longer term estimates average 2.9% and 3.1%. Effectively, therefore, Ofcom has taken the highest available estimate when determining the appropriate pay inflation assumption to adopt.

6.8 Not only has Ofcom taken the highest available estimates, but since Ofcom pulled its sources together, estimates of future earnings growth have fallen. While it has raised its estimates of 2017 wage growth from 2.4% to 2.6%, the OBR has reduced its estimates of wage growth in each year from 2018 to 2021 (by 0.1%, 0.3%, 0.2% and 0.1% in turn).[16] This will reduce the OBR's estimate further below the proposed base case pay inflation which Ofcom has set out in its consultation. At the same time, the Bank of England, in its May 2017 *Inflation Report*, has reduced its estimates of pay inflation slightly from those in its February 2017 report, with a reduction in its estimate of

[16] Office of Budget Responsibility, 2017, *Economic and Fiscal Outlook March 2017*, at Table 1.1.

2017 pay increases from 3% to 2% being partially offset by increases in estimated pay inflation in 2018 and 2019.

6.9 Overall, therefore, TalkTalk considers that the most recent available evidence on pay points towards lower pay inflation over the charge control period than that set out by Ofcom at the time of its consultation.

6.10 When setting its final estimate of pay inflation, TalkTalk considers that it is important that Ofcom should place little or no reliance on BT's actual pay agreements and internal projections. Taking these into account risks a form of circularity– if BT believes that Ofcom will grant it a higher pay inflation assumption (and therefore higher price cap) when it concludes a high wage agreement with the CWU, then BT will have reduced incentives to bargain aggressively to secure a low wage

settlement. Moreover, for projected data which is not subject to an agreement (for example, internal management reports and information on likely future pay agreements), BT has strong incentives to game the regulatory system by creating internal reports which artificially inflate likely pay agreements, enabling BT to (costlessly) earn higher returns. Both of these outcomes will in turn lead to increased prices to BT customers. Ofcom should therefore not give 'most weight' to BT's management accounting data on pay.

6.11 Furthermore, even if industry- or job-specific indices were available (ie, for the telecoms industry or telecoms engineers) they would likely be distorted by the same circularity, as BT would represent such a large proportion of the data on which the average would be based.

6.12 Therefore, Ofcom's approach to projecting pay inflation over the course of the charge control should be to use the two independent sources of data available– those of the Bank of England and OBR. The easiest, and most accurate, way to do this would be for Ofcom to average these two estimates, and adopt the average. This does not require a judgement from Ofcom as to which of these evidence sources is 'better' than the other, and recognises the well-known finding that the average of several equally well-informed estimates is on average more accurate than any of the individual estimates. Ofcom should use the most recent data, at the time of its final determination, to derive such estimates.

6.1.2 Efficiency assumptions for operating costs

6.13 Ofcom sets out its assumptions on efficiency at §§A15.89-A15.219 of its consultation document.

6.14 In summary, TalkTalk broadly agrees with Ofcom's approach to estimating the level of efficiency gains which BT is likely to be able to achieve over the course of the

control period. Ofcom has historically set efficiency assumptions which have been far too conservative, and have been able to be outperformed by BT (see §A15.107 and §A15.125). It is important in this review that Ofcom sets efficiency assumptions which can only be achieved by BT if it strives assiduously to meet its targets.

6.15 Indeed, in TalkTalk's view, an efficiency assumption is only appropriate when BT has only a 50% chance of meeting the assumption even if it is fully efficient (given that there will always be some uncertainty in the speed with which efficiency enhancements can be delivered). Setting the efficiency assumption in this way will ensure that on average BT will earn its cost of capital if it is fully efficient– replicating conditions in a competitive market, and maximising consumer welfare.

6.16 The incentives to reduce costs are symmetric, and do not depend upon the exact efficiency target set– they arise from the fixed nature of the price cap. There is hence no additional benefit to setting a lower efficiency assumption in order to incentivise Openreach to make efficiency savings. Its incentives to reduce its opex are the same whether efficiency is estimated at 8% or 4% per annum.

6.17 In setting its efficiency assumption, Ofcom takes a number of data sources into account:

- efficiency assumptions from other charge controls in the UK telecoms sector, which have usually set efficiency assumptions of 5.0% per annum;[17]
- Ernst & Young work for BT, which suggests that BT has achieved historic efficiency gains of around 5% per annum;[18]
- Ofcom's own estimates of BT's efficiency gains, based on analysis of BT's Regulatory Financial Statements, which estimate efficiency gains at 6.6% per annum;[19]
- analysis based on BT's internal management accounts, which support an average gain of 6.6% over the 2012/13 to 2015/15 period, and 5.1% over the 2015/16 to 2017/18 period;[20]
- a series of external studies commissioned by BT for the purposes of arguing for lower efficiency assumptions being set, several of which appear to have had severe methodological issues such as using data from before broadband internet services were launched; and,
- BT's investor presentation results, which indicated average real efficiency gains of 6.9% for opex over the 2008/9 to 2015/16 period, and that 'well over £1

[17] Table A15.11.

[18] §A15.107

[19] Table A15.13

[20] Table A15.18

billion' of cost savings, excluding EE integration savings, over the next two years.[21]

6.18 As a result of these various pieces of data, Ofcom concludes that it should adopt a range of 3.5% to 6.5% per annum for gains in opex efficiency, and a point estimate of 5.5% within that range.

6.19 Overall, TalkTalk considers that this range is set too low. With the exception of the (flawed) consultancy lobbying reports on behalf of BT, none of the estimates above lead to a figure below 5.0%. This should therefore be the bottom of the range that Ofcom should consider. Equally, there are data points which lead to estimates in excess of the top end of Ofcom's proposed range.

6.20 A more appropriate range for opex efficiency estimates, on the basis of the data above, would therefore be 5.0%-6.9%. It would be appropriate to take the midpoint of this range, giving an operating cost efficiency assumption of 6.0%. This figure falls within Ofcom's current (wide) range for BT's opex efficiency assumption. This figure also satisfies the conditions set out in §A15.291, as it is '*within the range of BT's past and forecast efficiency, and so… can be met*'; it is '*higher than the bottom of the range suggested by analysis of BT's past and forecast efficiency*' and it is '*not at the top of the range… and capable of being exceeded*'.

6.2 Cumulo rates

6.21 In this section we provide our views on Ofcom's approach to estimating BT's cumulo / non-domestic rate (NDR) costs and in particular the forecasts for the total NDR cost and the attribution of this cost across different products.

6.2.1 *Total NDR forecast*

6.22 We agree with Ofcom's proposed overall approach of starting with the published Rateable Value (RV) for April 2017 and then adjusting it in line with estimated Material Changes in Circumstances (MCCs).

6.23 We have a number of comments on Ofcom's approach

- The £18 increase in RV per additional GEA FTTC connection is appropriate since that is the most recent evidence from the Valuation Office Agency (VOA) for the RV per GEA FTTC connection. Indeed, it could be argued that the RV per GEA connection could be higher for BT than other providers: BT can leverage existing assets and tap into more customers (through its wholesale relationships), and so may enjoy greater profits per connection.

[21] §A15.201 and §A15.204

- BT may 'enjoy' a MCC due to the reduction in the total number of lines on its network (which Ofcom forecast will reduce in the years to 2020/21). An alternative way of viewing this is the that RV reduction per WLR to MPF transfer in previous years was supressed, since historically the line volumes were growing and thereby increasing the total RV. Thus it would be appropriate to have a higher RV reduction per WLR to MPF transfer in the future than in the past.
- As Ofcom has noted BT is planning to appeal its valuation to reduce the RV. Ofcom should, prior to issuing the WLA Statement, understand the progress of these appeals and include an estimate of the likely outcome of these appeals in the forecasts of NDR costs.[22] This may mean including an estimated impact of appeals even for appeals that have not been finalised. However, it will be more accurate to include the impact of an appeal which is (for instance) 70% likely to be successful than to ignore it and miss an impact which is probable to occur.

6.2.2 *Attribution of total NDR costs*

6.24 We agree with Ofcom's proposal to use the 'three stage' approach to attributing costs whereby the NDR attribution to GEA is based on £18 RV per GEA connection and the remaining NDR is attributed to non-GEA products on the basis of profit weighted net replacement costs (PWNRC).

6.25 The key reasons for adopting this approach is that it is more causal, and is internally consistent with the approach to forecasting the total NDR cost. Ofcom assume, in order to forecast the total NDR cost, that the additional RV is £18 per GEA-FTTC connection. This is a causal relationship i.e. an additional GEA connection causes £18 additional RV. Given Ofcom's central principle for attributing costs is to do so using a causal basis where possible it is thus wholly appropriate to attribute based on this same assumption.

6.26 We have two comments on the 'three stage' attribution approach.

- First, Ofcom could consider attributing more NDR cost to ethernet services. This would reduce competitive distortions resulting from the fact that OCPs pay higher NDRs than BT (in the case that Ofcom in future uses a 'cost plus' approach to setting DFA prices, rather than active minus[23]).
- Second, this approach results in a significant increase in the NDR cost per MPF/WLR line. This should be seen as a result of the artificially supressed

[22] We recognize that the impact of appeals on the NDR costs in the regulatory review period may be partially offset by the impact of transitional relief.

[23] Ofcom has addressed the distortion due to NDR cost differences through its proposal to reduce DFA prices to reflect NDR cost differences

RV in 2016 rather than a problem with the three stage attribution approach.

6.27 Lastly, it would be useful for Ofcom to explain the 87% increase in NDR cost in 2017/18.[24] This is much higher than the limit of 42% increase in NDR under the government's transition scheme.[25]

6.3 Common cost allocation between MPF and GEA

6.28 Ofcom sets out its proposals for allocating common costs between MPF and GEA products at §§2.25-2.32 of Volume 2 of its Consultation. It proposes an EPMU (equiproportionate mark-up) approach to allocating these common costs between GEA and MPF, stating that this is the most practical approach given the difficulties in applying approaches such as Ramsey pricing to common cost allocation.

6.29 The approach adopted by Ofcom is an appropriate one. It enables common costs to be covered in a manner which amounts to a (very) rough approximation of Ramsey pricing, given the low variable costs and high fixed and common costs of offering MPF and GEA products. It is also appropriate that customers who take GEA and MPF should bear more common costs than those who take MPF alone, as these customers are using a greater number of services on the Openreach network, and are likely to be of higher income and have higher ability and willingness to pay than those taking products based on MPF alone (without GEA).

6.30 Ofcom has therefore adopted an appropriate approach in allocating common costs to MPF and GEA customers based on an EPMU methodology.

6.3.1 Common cost allocation to ISDN

6.31 TalkTalk has previously set out to Ofcom in its response to the Narrowband Market Review (§4.7 of TalkTalk's March 2017 response) that additional duct costs should be allocated to ISDN products, which are products where BT holds market power but where prices have been left high to encourage switching to VoIP products. This would remove the supernormal profits obtained by BT on ISDN products, yet allow BT to recover its costs, while at the same time reducing the price of MPF and GEA products to be closer to their incremental costs, increasing consumer welfare.

6.32 TalkTalk therefore reiterates its comments in that earlier consultation, and considers that Ofcom should reallocate costs in that way.

[24] see Table A17.2 and Table A17.6

[25] §A17.39

6.4 Cost of capital for MPF and GEA

6.33 Ofcom sets out its views on the appropriate cost of capital for both MPF and GEA services at Annex 16 of its Consultation.

6.34 In response to Ofcom's Consultation, TalkTalk and Sky have jointly commissioned an independent consultancy report from Frontier Economics, which is annexed to this submission. This sets out in detail some of the issues with Ofcom's current approach. TalkTalk agrees with the Frontier report in full. This section summarises some of the key points which arise in that report.

6.35 Overall, Ofcom has granted an excessive cost of capital to BT for both MPF and GEA. It has done this for two primary reasons:

- it has used mutually inconsistent parameter estimates when estimating the cost of debt, combining a long-term backwards looking average real RFR with a debt premium based on recent history, and a forwards looking estimate of inflation. This is despite Ofcom explicitly stating that it uses a forward-looking cost of capital;
- for the cost of equity, Ofcom has used an incorrect estimate of the forwardlooking RFR, combined with an excessive asset beta.

6.36 The combination of these two factors means that Ofcom has erred in setting the cost of capital, estimating a level more than 1% higher than is appropriate for both MPF and GEA products.

6.37 One change that Ofcom has made in its approach to BT's cost of capital, compared to previous reviews, is to recognise explicitly the impact of BT's pension deficit on the gearing of BT. This is an appropriate change, which TalkTalk welcomes, and which will better enable the cost of capital estimate to appropriately reflect the actual forward-looking cost of serving Openreach's customers.

6.4.1 Cost of debt

6.38 Ofcom decomposes the total cost of debt into three elements:

- the risk free rate, which it derives on the basis of a 15-year backwards-looking average figure;
- the inflation forecast, which it obtains from OBR forecasts of the level of inflation at the end of the charge control; and,
- the debt premium, which is based on a short-run historic average, such that the result is close to the spot estimate.

6.39 Importantly, the combination of these three factors means that the estimated cost of debt for BT is well in excess of the average yields on five

year or ten year BBBrated bonds. At 31 December 2016, the average yield on a ten-year BBB-rated corporate bonds was 2.5%, compared to the 4.7% allowance for the cost of debt which has been calculated by Ofcom.

6.40 Ofcom has clearly set out in its consultation document that it intends to adopt a forward-looking cost of capital for BT, implying that the cost of debt should also be forwards-looking.[26] It should therefore adopt forwards-looking measures for all of the three elements of the debt premium, including most importantly the RFR. This should lead to an unbiased estimate of the expected cost of debt at the end of the period. It should not consider the impact of BT's embedded debt, or even use the cost of this debt as a benchmark in its analysis.

6.41 The evidence presented by Frontier Economics in their annex on the cost of capital is that an appropriate forward-looking cost of debt for regulatory purposes would be 3.1% to 3.5%. TalkTalk agrees with this estimate– Ofcom should revise its estimated cost of debt so that it falls into this range.

6.4.2 Cost of equity

6.42 As Frontier points out, estimating the cost of equity is inherently uncertain due to it not being directly observable. However, the approach proposed by Ofcom does not conform to best practice, leading to an excessive cost of capital being estimated for BT:

- even if the TMR is accurate, the balance between the RFR and the ERP is inappropriate due to Ofcom's excessive (and backwards-looking) estimate of the RFR;
- more significantly, the asset beta for Other UK Telecoms is excessive, as the comparator data provided by Ofcom provides little support for an asset beta range which extends as high as 0.75, and Ofcom fails to reflect in its analysis that with unregulated services as an increasing proportion of BT, an increase in the BT group asset beta does not necessarily imply anything regarding the cost of capital for BT's regulated products.

6.43 Ofcom should therefore decrease the range for the asset beta for 'Other UK Telecoms' to 0.55-0.65, rather than the current 0.55-0.75. At the same time, it should adopt a forward-looking RFR of -1.5%, which would lead to an appropriate estimate of the real TMR as being 5.6%, rather than the current estimate of 6.0%

6.4.3 Overall cost of capital

6.44 Ofcom should therefore, in summary:

[26] §A16.1 of the Consultation document.

- reduce its estimate of the RFR to -1.5%, in line with the forward rates on gilts;
- increase its estimate of the ERP, so as to lead to a TMR of 5.6%;
- set an asset beta of 0.55 for Openreach Copper and 0.65 for Other UK Telecoms.

6.45 Overall, this leads to a pre-tax nominal WACC of 6.9% for Openreach copper and 7.7% for GEA-based products. Ofcom should adopt these estimates.

6.5 Regulatory Financial Reporting

6.46 Section 10 of Volume 1 of Ofcom's Consultation considers Ofcom's proposals on BT's Regulatory Financial Reporting requirements. These requirements underpin price regulation of Openreach products over which it holds SMP. As set out in previous responses to a range of consultations, TalkTalk considers that the RFS are vital to the effective regulation of Openreach.

6.47 Ofcom's position on charge control adjustments, set out at §§10.28-10.36 of Volume 1 of its Consultation, is appropriate. It is important that the RFS is based on the actually incurred costs for BT's network, rather than notional costs for a network other than BT's. It is therefore correct for Ofcom to only permit adjustments (a) and (b) to BT's RFS, in order to prevent the RFS being distorted and gamed by BT. It is, further, appropriate for Ofcom not to agree to BT's other proposed changes being reflected in the RFS.

6.48 The issue raised by Ofcom around copper recovery income at §10.39 of Volume 1 of its Consultation is a complex one, and the approach set out by Ofcom in Table 10.4 appears in principle to be a reasonable way of dealing with it. This is an issue where TalkTalk may provide further submissions to Ofcom if our thinking on the topic develops.

6.49 Ofcom's proposals regarding BT submitting regulatory reporting statements by the deadlines set out it its SMP Conditions and Directions are also appropriate. TalkTalk has repeatedly noted the lateness of BT's publication of regulatory financial reporting information (and associated late submission to Ofcom), which lessens scrutiny of BT and threatens to undermine the process of regulating BT. It is therefore appropriate for Ofcom to take the various actions proposed at §§10.10610.111 of Volume 1 of the Consultation. When the clarifications have been made, Ofcom should rigorously enforce the timings of BT submitting and publishing its regulatory financial information, in order to provide a suitable incentive structure.

6.6 PIA Productisation costs

6.50 Ofcom considers the issue of implementation costs for its new PIA remedy at §§A11.147-A11.151. It sets out that there is an assumption that the implementation costs for the remedy amount to a one-off £30m, which will be recovered through the charge control over a five year period.

6.51 This estimate of costs is excessive. In its separate consultation on the PIA remedy (published on 20 April 2017), Ofcom sets out at §7.87 that it estimates that the costs of productising the new remedy are £7m for both already incurred fixed costs, and fixed costs which are expected to be incurred in the future.

6.52 This is a significant discrepancy in estimated costs. Ofcom should reduce the allowance for PIA implementation costs in the WLA to reflect the estimate of costs in the consultation which it is currently holding on the specific issue of PIA, saving customers £23m.

6.53 Furthermore, there is no rationale given for an asset lifetime of only five years for the recovery of PIA costs. PIA set-up costs should be depreciated over the lifetime of the remedy (with a suitable return on capital in the intervening period); the remedy is one with a very long lifetime, as shown by Ofcom proposing to allow variable costs to be recovered over a 40-year period at §A11.150 of its consultation.

6.54 Ofcom should therefore amend the period over which PIA set-up costs are recovered to be aligned with the 40-year period it has proposed for the recovery of variable costs.

7 Price cap for GEA

7.1 The section deals with TalkTalk's comments on the price cap which Ofcom has set for GEA. It does not consider issues which impact the price caps for both GEA and MPF, which have been considered in section 5, above.

7.2 The various issues dealt with in this section are as follows:

- the approach to allocating common costs between different speeds of GEA product based on their current price gradient;
- Ofcom's error in allocating product specific fixed costs; the Cartesian modelling of the appropriate costs for GEA; and, the path of prices over the regulated period.

7.1 Cost allocation between GEA products

7.3 Ofcom sets out its approach to allocating common costs between GEA products at §§2.36-2.49 of Volume 2 of its Consultation. Its approach is, basically, to allocate common costs between products in proportion to the current price gradient between the various GEA products. It furthermore sets out the its intends to leave this gradient, and the weighting between products, unchanged in future reviews. The rationale for this is twofold:

- to prevent gaming by BT, for example by changing the prices of its products to increase its price cap, and to prevent gaming by other providers who might be able to manipulate their sales outcomes;
- because it might adversely affect the incentives for other providers to invest in their own networks.

7.4 Ofcom's basic approach, of allocating common costs between the various GEA products based on their current price relativities, is an appropriate one. As the prices of GEA products are at present set on a commercial basis, their price relativities should reflect Openreach's assessment of their relative elasticities of demand. It therefore offers a rough approximation of what Openreach considers to be Ramsey pricing, and as such should broadly maximise consumer welfare.

7.5 It is also appropriate for Ofcom to retain the pricing gradient as it is at all points in the future. As Ofcom correctly notes at §2.48 of Volume 2 of its Consultation, future price differentials will not reflect a commercial outcome due to the presence of regulation of the 40/10 GEA product. There will therefore be little value in future data regarding the relative prices of GEA products, and using the current relative prices is a preferable option. Given that no improved information will be available regarding the relative underlying elasticities of demand, using the current gradient is the best approach available to Ofcom.

7.1.1 Ofcom's approach risks overrecovery

7.6 Retaining the weighting between products at future charge controls, as proposed at §2.47 of Volume 2 of Ofcom's Consultation is problematic, as it risks significant levels of overrecovery for BT. It would generally be expected that customers will trade up between speeds of products over time, as bandwidth demands increase. This will increase the revenues accruing to Openreach from superfast products if BT retains the current pricing gradient between its various speeds of GEA products, and also increase the average revenue per product while the cost per customer will remain approximately constant. Over time, this will allow Openreach to make significant supernormal profits from its GEA-based products, harming consumers.

7.1.2 OCPs do not have meaningful incentives to game the price structure

7.7 Ofcom has not provided any evidence that other providers would find it profitable to game the regulatory structure. In order to do so, OCPs would have to sell a higher proportion of 55/10 and 80/20 GEA products, and a lower proportion of 40/10 GEA products, than they would do with a regulatory structure in which the relative proportions sold were fixed (as they are in Ofcom's proposal) in order to raise BT's revenues from GEA ahead of a charge control, therefore lowering the 40/10 GEA

price required for BT to cover its costs. This would require OCPs to reduce the price at which they sell higher bandwidth GEA products, lowering their margins on such products, in order to reduce the charges which they pay to Openreach for 40/10 GEA.

7.8 In reality, it is unlikely to be profitable for an OCP to game the regulatory process in this way. Any reductions in the 40/10 GEA price would be likely to be small. For example, suppose that TalkTalk represented [✂]% of GEA-based customers on the Openreach network, and [✂]% of TalkTalk's GEA customers take 80/20 GEA based products (with the remaining [✂]% taking 40/10 GEA based products). By increasing the proportion of 80/20 GEA customers from [✂]% to [✂]%, TalkTalk could increase the revenue which it provided to Openreach for GEA products by [✂]%, or just under [✂ 0-3]% of Openreach's overall revenue from GEA.[27] This would then be passed back to TalkTalk in a lower 40/10 GEA price cap, reducing the 40/10 GEA price cap by less than [✂ 0-12]p per customer month in the next charge control.[28] It is completely implausible that TalkTalk or any other major CP would significantly change its consumer pricing, or advertising campaigns– which would be required to drive a 10% increase in the proportion of the customer base taking 80/20 GEA– in order to derive such a small benefit in costs, particularly since the lower costs would also be experienced by rivals such as Sky, and would not flow directly to the bottom line.

7.9 Ofcom should therefore withdraw its point about potential gaming of the respective product by third party operators, as numerical analysis demonstrates that it is not plausible.

7.1.3 Increasing the weight of higher bandwidth products will not reduce OCPs' incentives to invest in FTTP

7.10 Increasing the weight accorded to higher bandwidth products is also unlikely to make a meaningful difference to the incentives for third-party operators to construct their own FTTP networks, which as set out at §2.5 above, are driven by a number of considerations beyond the profits from remaining on FTTC products. The incentives for a third party to construct an FTTP network are complex, and the price of alternative products is of limited relevance. Much more important are the scale of the existing bases of CPs other than BT and VM, which allows for a base to be transitioned to the new network and therefore drives up penetration in the early years after construction; the extent to which FTTP networks reduce faults, and therefore costs to serve customers; and the improvement in bandwidth of an FTTP network over the existing Openreach and Virgin networks, which is a key driver of uptake. Changes of a few pence per month in wholesale prices for 40/10 GEA

[27] An 80/20 customer generates 34% more revenue for Openreach than a 40/10 customer. See Table 2.2 of Volume 2 of Ofcom's Consultation.

[28] £66.28 * [✂]% / 12 = [✂]. The reduction in charges would be lower if based on the cap in year 2 or 3 of the charge control.

products– which would be unlikely to be passed on in full to consumers, and which offers a much inferior product to FTTP– are much less important than these factors.

7.1.4 Ofcom's approach reduces Openreach's incentives to invest in FTTP

7.11 By increasing the supernormal profits which BT generates from its GEA portfolio, even after regulation comes into effect, it will reduce BT's incentives to invest in upgrading the Openreach network to FTTP. Effectively, the supernormal profits accruing from Ofcom's regulatory decision not to adjust weightings over time will increase the hurdle rate required for BT to invest in constructing an FTTP network which will cannibalise the profits of the existing FTTC network. This will mean that a proportion of areas where it would be profitable to construct FTTP (in that the returns from doing so would be expected to exceed BT's cost of capital) BT will still have no incentives to build (because the returns will not exceed the cost of capital after taking into account the loss of profits on FTTC services).

7.1.5 Conclusions on GEA cost allocation

7.12 In light of all the points in this section, Ofcom should therefore commit to reweighting the charge control based on the expected customer mix between GEA speed variants at the time of the next WLA market review. Doing so would increase both short run consumer welfare (through lower prices for consumers) and the amount of investment which is undertaken in FTTP networks. It would be unlikely to be vulnerable to gaming by third parties, given the costs and benefits of doing so.

7.2 Ofcom has allocated product specific fixed costs inappropriately

7.13 Ofcom sets out its approach to the allocation of common costs at §§A11.57-A11.72 of its Consultation. This sets out Ofcom's view that common costs are shared between WLR, LLU and GEA services, and therefore cannot be directly attributed to any of these services. Further to that, Ofcom defines common costs as the difference between BT's FAC and LRIC of providing the service, and determines this difference by applying LRIC to FAC ratios. We understand that Ofcom applies this approach to all common costs.

7.14 Ofcom has, however, made an error by applying this approach to line cards and some other product specific fixed costs. For example, the cost category 'Analogue Line Cards' (CV903) has a LRIC: FAC ratio of 55%, implying that 45% of costs are fixed. However, the fact that these line card costs are **fixed** does not imply that they are **common** between WLR, LLU and GEA based services. Rather, they are incremental to provision of WLR only, as line cards are not used in the provision of either MPF or GEA products. This error is a general one– product specific fixed costs are incorrectly treated as if they are common costs across multiple products and are recovered from products other than those which the fixed costs are specific to.

7.15 This error will tend in particular to result in the over-recovery of fixed costs from MPF products, and an under-recovery in particular from WLR.

7.16 In order to correct its error Ofcom should consider each cost category, and determine not only its LRIC:FAC ratio to identify total common costs, but also whether these costs are common to all of WLR, MPF and GEA products, or only one or two of those products. This will mean that product specific fixed costs will only be recovered from the product(s) that those costs are specific to.

7.17 Frontier Economics, on behalf of TalkTalk, has reviewed the various cost categories which are allocated across WLR, LLU and GEA products, and determined that the following cost categories include costs which are in part common across different products:

- E side copper capital
- E side copper current
- D side copper capital
- D side copper current
- Local exchanges general frames equipment
- Local exchanges general frames maintenance
- Analogue line test equipment
- Dropwire capital and analogue NTE
- Analogue line drop maintenance
- Ofcom Licence Fee Openreach
- Openreach sales product management
- Openreach copper

7.18 Other cost categories should not be treated as common costs across multiple products, even where a proportion of the cost is fixed; rather, they should be fully recovered from the service to which they are related. In practice, this means that in Ofcom's modelling the LRIC:FAC ratio should be set to 100%.

7.19 Ofcom's estimation of the AVE:CVE ratio for Openreach's licence fee is also incorrect. The AVE:CVE ratio should be set at 1.00, reflecting that for realistic changes in Openreach's volumes, costs are linear with respect to volumes.

7.3 Approach to bottom-up modelling

7.20 In Annex 12 of its Consultation, Ofcom sets out that it proposes to adopt a bottomup modelling approach when considering the charge control to apply to 40/10 GEA products. This section sets out TalkTalk's comments on the proposed approach to bottom-up modelling set out in that Annex.

7.3.1 Bottom-up approach to modelling

7.21 TalkTalk has previously set out its concerns with adopting bottom-up, rather than top-down, modelling in its submission to Ofcom dated June 2016. We do not propose to reiterate that submission here, although our position remains

unchanged. All of the comments below are on the basis that Ofcom chooses to adopt a bottom-up approach to modelling, rather than the top-down approach which TalkTalk advocated in its earlier submission.

7.3.2 Scorched node approach

7.22 Ofcom proposes, at §§A12.58-A12.77, to adopt a scorched node approach when conducting its bottom up modelling approach to FTTC costs. TalkTalk reiterates its view, expressed in its earlier consultation response, that this is appropriate when a bottom-up modelling approach is being used.

7.3.3 Network dimensioning

7.23 Ofcom proposes, at §§A12.89-A12.101, to model the costs of the GEA network on the basis of Openreach's FTTC roll-out in commercial areas, and to ignore the costs and revenues derived from BDUK funded areas. Ofcom bases this on the view (§A12.95) that, post-subsidy, BT should face similar average unit costs across commercial and non-commercial areas.

7.24 Ofcom is broadly correct to use this approach. In particular, it is correct to adopt the assumption that, post-subsidy, BT's unit costs in BDUK-subsidised areas should be similar to BT's unit costs in purely commercial areas, as demonstrated by Ofcom's accounting analysis at §A12.96.

7.3.4 Assessment duration

7.25 At §§A12.120-A12.125 Ofcom sets out its proposals for the duration of the assessment which they undertake for their cost modelling, and now proposes to model costs out to 2028/29 rather than 2047/48 (as proposed in Ofcom's March 2016 consultation).

7.26 This is an appropriate change to be adopted by Ofcom. A shorter modelling period provides for more certainty over the results of the model, and of the assumptions used to generate the model.

7.27 At §A12.124, Ofcom states that where network assets become redundant before the end of their asset lives, the faster asset depreciation will be assumed by setting shorter asset lives. This is appropriate. However, if assets are left stranded due to increased competition (which may or may not be from other technologies) or customers moving to an alternative Openreach network (most likely an FTTP

network) then these FTTC assets should be allowed to be stranded, and should not be remunerated. Openreach should be willing and able to assume such technological risk, which will be uncorrelated with aggregate demand and so should not affect BT's cost of capital.

7.3.5 Depreciation

7.28 At §§A12.218-A12.227 Ofcom sets out its proposals for the depreciation profile to be adopted when modelling the cost of 40/10 GEA products. Ofcom proposes (§A12.223) to adopt a CCA modelling approach because it would provide more robust results than the alternatives, and because it would be consistent with the manner in which Ofcom proposes to set depreciation for copper-based products.

7.29 TalkTalk agrees with Ofcom's proposals on this topic. Given that Ofcom proposes to adopt a bottom-up modelling approach, rather than the top-down approach which is used for copper, and which would allow for full consistency, there are benefits in making the modelling approaches as consistent as possible. Ofcom should adopt its proposals on FTTC depreciation unamended.

7.3.6 Asset lives

7.30 In its Bottom-Up LRIC (BU-LRIC) model of the GEA network, one of the most important inputs is the asset lifetime which is set. In particular, the asset lifetime determines the depreciation profile which is set for assets.

7.31 As Ofcom's approach is based on a hypothetical ongoing network, the period over which assets will remain usable will generally be longer than for a commercially operated network. This is because the assets will not become obsolete at any point in time, due to new technologies which replace the existing network assets. Instead, the asset lifetime is solely a function of the technical working life of the assets– the point at which they fail.

7.32 For FTTC DSLAMs and the cabinets associated with FTTC DSLAMs, the asset life adopted by Ofcom is 7.1 years. However, there appears to be no evidence to support this, and no evidence is presented by Ofcom. As BT's FTTC roll-out was well underway by 2009/10, with over 7,000 cabinets constructed in that year, BT should have replaced these 7,000 cabinets in the last financial year. To TalkTalk's knowledge, no such replacement programme has been underway, implying that the asset life adopted is too short.

7.33 Ofcom should therefore seek improved data from BT and increase its asset lifetime accordingly. In particular, if BT did not replace a substantial volume of FTTC cabinets last financial year, this is strong evidence that Ofcom has misparameterised its model. An asset life of 10 years or more for FTTC DSLAMs and 15 years or more for FTTC cabinets seems likely to be appropriate. This would have a significant impact on

the proposed price cap for GEA, due to its impact on the depreciation charge and the remuneration for BT's cost of capital.

7.3.7 Traffic demand forecasts

7.34 In its modelling, Ofcom has forecast very rapidly rising traffic per subscriber. Ofcom projects that peak hour traffic per subscriber will increase by approximately 200% over the four year period from 2016/17 to 2020/21, a CAGR of 32%. This is a

significantly higher rate of growth in demand than forecast by external commentators– for example, Cisco's VNI forecasts project that demand per capita per month will increase from 35 GB to 100 GB between 2015 and 2020, an increase of 151% over a five year period, leading to a CAGR of 24%. That is, Ofcom expects traffic to grow a third faster each year than Cisco does.

7.35 Furthermore, *a priori* it should be expected that the hypothetical network grows more slowly than traffic as a whole in the UK. In particular, higher usage individuals are likely to have migrated to FTTC earlier than lower usage ones, and the mix effect of these lower usage customers moving to the FTTC network will tend to reduce per customer demand. For some customers, particularly at the end of the period, the constraints of FTTC technology may limit their usage as they are unable to consume as much bandwidth as they would like.

7.36 The impact of such rapid demand growth is to significantly increase expenditure on OLTs, which in Ofcom's model are dimensioned as being 1Gbps cards. Ofcom should therefore reduce its demand estimates to be more in line with realistic growth forecasts, and reduce the number of OLTs in the hypothetical network accordingly.

7.3.8 Ofcom has used the BU-LRIC model inappropriately

7.37 The overall charge controls for Openreach in the WLA are set with respect to BT's FAC-based regulatory accounts. As such, the BU-LRIC model plays no part in determining the overall revenue which will be obtained from BT for regulated products. Rather, a reduction in the cost estimated by the BU-LRIC model will be translated one-for-one into an increase in the common costs which are estimated.

7.38 This approach is inappropriate. It effectively means that the use of the BU-LRIC model does not estimate an efficient cost level for BT, but simply splits the cost base between variable and common costs, and does so in a manner which has no reference to the actually incurred level of common costs. As such, if the problems identified in sections 7.3.6 and 7.3.7 were corrected, there would be no impact on the actual prices paid by operators. Ofcom should change this approach, and should not assume that the differences between bottom-up LRIC estimates and FAC estimates from the RFS, are solely due to common costs. It instead should independently determine the level of common costs attributable.

7.4 Ofcom should impose a starting charge adjustment at the beginning of the regulatory period

7.39 Ofcom has previously set out the circumstances in which it is likely to apply a starting charge adjustment (SCA) when setting regulatory price caps (see §8.3, below). One of the cases where Ofcom has previously stated that it will impose an SCA is where a product is being regulated for the first time. As this is the case with the 40/10 GEA rental product, TalkTalk's basic position is that it would be appropriate for Ofcom to impose a starting charge adjustment for the 40/10 GEA rental price cap, rather than to adopt a glidepath as Ofcom currently proposes.

7.40 TalkTalk's understanding is that Ofcom may have not chosen to impose an SCA on 40/10 GEA rentals because it considers that an SCA would reduce the returns on BT's investment in FTTC so far that BT will not have been given a fair bet on its initial investment. This would have to be based on Ofcom's estimate that BT will earn a return of 12% on its investment in FTTC if the price caps currently imposed by Ofcom are imposed at the end of this review.

7.41 Even if this were accurate, and 12% was the minimum required return on investment to allow a fair bet, then if Ofcom has made any errors in its calculation of the 12% return (such as including common costs which are not incremental to the FTTC products) the corollary is that Ofcom should regulate the 40/10 GEA rental price more strictly, which would mean that there should be a larger starting charge adjustment and less of a glidepath.

7.42 As such, if Ofcom reassesses its estimate of the returns to BT from investing in FTTC, as recommended in §2.5, and finds that returns are in fact meaningfully in excess of 12%, it should reassess its proposals and impose a starting charge adjustment which would be sufficient to return BT to a 12% rate of return from its FTTC investments.

8 Price cap for MPF

8.0 Ofcom should impose a starting charge adjustment for MPF prices

8.1 Ofcom's approach to the pricing path for MPF is based on two assumptions:

- prices in 2019/20 and 2020/21 are set at forecast cost; and,
- Ofcom has adopted a glidepath for prices between the price in 2016/17 and 2019/20.

8.2 We agree with the first assumption – essentially Ofcom has adopted its standard approach of setting prices at cost in the third year (2019/20) from when a charge control is due to take effect, but then also set prices at cost in 2020/21 since that is the last year in the market review period.

8.3 However, we disagree with the second assumption. Rather than just using a glidepath Ofcom should also impose a starting charge adjustment ("**SCA**") to correctly implement the conclusions of the cost attribution review ("**CAR**"). Without this Ofcom will effectively allow BT to profit by a further £140m as a result of its historic manipulation of cost attributions.

8.4 In its cost attribution review, Ofcom concluded that BT's cost attribution approach had inflated the costs of regulated products by over £260m per year[29] by using a

series of inappropriate attribution methods[30]. The impact of this was that prices of these regulated products had been inflated by a similar amount for many years.

8.5 Ofcom's general approach to setting prices is to use a glidepath approach whereby prices 'glide' from the current level to the forecast cost in the last year. This approach strengthens cost minimisation incentives since BT is able to retain cost reductions for a longer period.

8.6 However, in some cases it is not appropriate to use only a glidepath and an SCA is appropriate instead – examples include where a charge control is imposed for the first time[31] or where the misalignment between prices and costs is not a result of efficiency or volume effects – cost attribution would be an example of an issue which could cause such a misalignment. For instance, Ofcom said in the BCMR consultation[32]:

In particular, we proposed to apply the following principles in relation to starting charge adjustments:

[…]

Excessively high or low margins driven by:

- *Efficiency and volume changes – we propose to impose a glidepath;*
- *[…]*

[29] Ofcom Cost Attribution Review second consultation Nov 2015. Operating costs overstated by £255m (Table 1.4) and MCE by £157m. Using (conservatively) a WACC of 8.6% means total costs (including RoCE) were overstated by £269m

[30] For example: allocating HR costs based on assets when clearly assets do not cause HR costs; attributing most of the cost of property and vacant space to regulated products but attributing all of the profits on property sales to unregulated products; attributing overhead costs associated with overseas operations to UK activities; attributing DSLAM costs to SMPF (DSLAMs are downstream of SMPF); and, BT attributing the vast proportion of cumulo rates costs to regulated products but most rates rebates to unregulated products.

[31] For example for SFI and TRC in 2014. See FAMR Statement Vol 1 June 2014 §18.153

[32] BCMR: Leased lines charge controls and dark fibre pricing consultation June 2015 §6.120. The subsequent statement was based on the same principles but was less clear. We note that – where there have been material changes in cost allocations between regulated and unregulated markets – there is no sound reason to restrict applying an SCA only to cases where margins are excessively high or low. To do so would reward BT for inefficiency.

- *changes in cost allocations (and accounting errors) between regulated and unregulated markets – we propose to impose a starting charge adjustment; and […]*

8.7 In the previous FAMR review (in 2014) and the BCMR review (in 2016) Ofcom developed and applied a framework for when to apply SCAs (rather than only a glidepath) to set prices. In the BCMR statement, the description of the framework and its application to Ethernet prices ran to over 20 pages[33]. Accordingly, Ofcom imposed material SCAs for Ethernet[34] (an SCA of 12% and 24% total reduction in prices in first year).

8.8 In particular, Ofcom decided that the results of the CAR should be taken into account in setting any SCA[36] for Ethernet prices since the CAR resulted in reattribution of costs from regulated to non-regulated markets. An SCA was also necessary to remove additional future profits resulting from BT's previous manipulation of the RFS.

8.9 In the current WLA Review Ofcom appears to have overlooked most of this framework. In the WLA Review, Ofcom outlines (in less than one page[37]) its approach for MPF. There is little mention of starting charge adjustments or the analysis and framework in the 2016 BCMR or 2014 FAMR Review.

8.10 Ofcom has also suggested that the reattribution of costs from BCMR to WLA in some way offsets the need for an SCA. However, this is not the case.

8.11 Ofcom's policy outlined in the 2016 BCMR was that Ofcom would only apply an SCA in the case of "*changes in cost allocations (and accounting errors) between regulated and unregulated markets*"[38]. Where the change in allocation was between regulated markets then a glide path (not an SCA) would be appropriate. Thus the reattribution from BCMR to WLA should not result in a (negative) SCA.

8.12 In the case of LLU products, BT's manipulation of costs attributions inflated prices by about £68m or 8%[39]. We have estimated future prices based on applying an SCA to reflect the impact of the CAR. We provide the key sources/assumptions in the footnote[40].

8.13 The table below shows our estimate that with an appropriate SCA MPF rental (SML1) prices would be about £3.70 lower in 2017/18 and £2.00 lower in 2018/19[41]. Without an SCA BT's profit will be inflated by about £40m on MPF

[33] BCMR Statement April 2016 Vol 2 §4.80-4.121 and §7.1-§7.100

[34] BCMR Statement April 2016 Vol 1 Table 1.5

and (assuming that MPF provides a constraint on WLR prices) about £100m on WLR. Much of this £140m will feed through into inflated consumer prices.

[36] In the final statement the SCA was not formulaically linked to the CAR results (as was proposed in the consultation) – see BCMR Statement April 2016 Vol 2 §4.86. However, the SCA was evidently increased because of the CAR results.

[37] WLA Review Vol 2 §2.84-§2.89

[38] BCMR: Leased lines charge controls and dark fibre pricing consultation June 2015 §6.120.

[39] Based on data from CAR Nov 2015 document. Table 1.3, 1.5 give attribution change for fixed access markets of £177m (opex) and £93m (MCE). Using WACC of 8.6% this gives excess cost of £185m which is 7.9% of total fixed access markets. Applying this to LLU (FAC cost of £861, Table A5.2) this gives total excess of £68m [40] Assumes SCA is 80% of excess attribution (assume 20% of excess attribution is between regulated products rather than from regulated to non-regulated as per Ofcom's own approach). This gives SCA of £5.40 (= £85.29 x 7.9% x 80%). The prices in each year are then based on the SCA and the glide in each of the three years required to reach the final price in 2019/10). The impact figures are for full year [41] Applying an SCA would result in prices falling then rising, then falling. Provided this is known in advance (which it will be) then there is no harm from this volatility

MPF SML1 prices			2016/17	2017/18	2018/19	2019/20	2020/21	TOTAL
Ofcom proposal			85.29	84.38	83.50	82.28	81.98	
With SCA 85.29	80.68	81.48	82.28	81.98	***Difference***	*3.70*	*2.02*	
MPF lines (m)	7.80	6.82	**WLR lines (m)**	17.07	17.88			
Impact on MPF (£m)				29	14			43
Impact on WLR (£m)				63	36			99
TOTAL				92	50			142

8.14 TalkTalk first raised the problem of cost attributions to Ofcom in 2009, Ofcom itself recognised in 2013/2014 that BT had inflated the costs. Ofcom has already allowed BT to continue to profit from its previous abuse by about £185m[35] a year since MPF and WLR prices are still based on the old inflated costs levels. Ofcom should now therefore move to eliminate the benefit to BT as quickly as possible.

8.15 In order to ensure that the SCA is reflected in the lacuna prices (in 2017/18) Ofcom should reconsult on the basis of a price path including an SCA. That consultation would then constitute the 'best available information' and the lacuna prices would

[35] This is the amount for all fixed access/FAMR products – see footnote 11

then need to reflect these revised prices in order to continue to be fair and reasonable.

8.1 Ofcom's volume forecasts overestimated the reduction in Openreach lines per household

8.16 Ofcom sets out volume forecasts for both MPF and GEA in Annex 10 of its consultation paper. This section solely considers the volume forecasts for MPF products.

8.17 In many respects, TalkTalk agrees with Ofcom's approach to volume forecasting. For example, Ofcom is (correctly) assuming that the number of mobile-only households will continue to decline over the control period. The increasing demand for bandwidth, coupled with 'all-you-can-eat' offers being withdrawn by mobile network operators, means that consumers will continue gradually to shift in favour of fixed lines, with mobile a complement, rather than a substitute, for fixed line services. This implies that other factors have to more than compensate for this trend in order to see the number of Openreach lines per household reduce.

8.18 However, Ofcom has seriously overestimated the fall in the number of Openreach connections per residential household– a fall from 0.87 connections per household to 0.80 connections per household was implausible at the time when they were made by Ofcom, and are even more implausible now. We set out below the reasons

for this, and our suggestions to remedy the deficiencies of Ofcom's proposed forecasts.

8.1.1 Ofcom overestimated the impact of Virgin Media

8.19 Virgin Media's Project Lightning network expansion is suffering from serious problems which mean that it is not being delivered on time, and is struggling to attract customers. In their quarterly results on 7 May 2017, Virgin Media announced that Project Lightning represented '*over a third*' of the 65,000 net customer additions in Q1, pointing to only around 25,000 customers across three months– an annualised rate far below that assumed by Ofcom at §A10.54 of its consultation document. At the same time, VM announced that Project Lightning had covered only 355,000 additional households over the preceding twelve months, and also announced that there would be a slower build pace of Project Lightning over the rest of 2017, without providing guidance as to how many premises would be passed this year.

8.20 These points clearly pose a question regarding both how many households will be passed by Virgin Media when Project Lightning is completed, and how long it will take to complete. The latter is particularly important because Ofcom's modelling is based on the number of Openreach connections at March 2021. If completion of Project Lightning is pushed back until after March 2021, then this will both lower the

number of homes passed by Lightning, and the proportion of those homes which will take Virgin Media, as VM will not have as much time to build up its customer base. Similarly, if Lightning is descoped and passes fewer homes, this will reduce the extent of its impact by March 2021.

8.21 Even if Project Lightning were not in trouble, Ofcom's projection regarding the number of additional connections which would be made to Virgin Media was implausible. Ofcom has assumed that, by March 2021, VM would have not only completed the roll-out of Project Lightning to 4m additional households, but 40% of the additional households covered by Project Lightning would already have taken their services from Virgin Media.[36] This is unrealistic.

8.22 The majority of broadband customers in the UK are locked in to contracts of varying lengths, but most commonly 18 months. This considerably slows the process of customer acquisition, and means that in the later areas covered by Project Lightning, there would still be some customers who had never had the opportunity to take VM services by the end of the regulatory period. Even in the absence of a competitive reaction from other CPs, VM would not have been able to achieve 40% take-up within Lightning areas projected by Ofcom. In its York trial, starting with existing TalkTalk and Sky customers who could be shifted across to our FTTP product, take-up is around [✂]% after a year. We would expect Virgin Media to achieve lower take up than this after 12 months, given that it does not have an existing base to shift, and its services are both inferior to, and more expensive than, TalkTalk's FTTP product. It is therefore unlikely that Virgin Media could achieve 40% take-up within even two years.

8.23 In any case, the loss of hundreds of thousands of customers to Virgin Media would be almost certain to provoke a competitive reaction from TalkTalk, Sky and BT Retail. CPs seeing sharp falls in customer numbers are likely to cut their prices to retain market share, and this will reduce the growth in Virgin Media's market share. Indeed, other CPs would likely be under substantial pressure from their investors to do so, given the importance of customer numbers and churn as financial metrics. This would further reduce the extent of market share gain for Virgin Media below that experienced by TalkTalk in York.

8.24

8.25 With regard to Virgin Media, Ofcom should therefore fundamentally reassess its impact on volumes. It should reduce them both in light of the overestimates based on VM's original plans, and on the revisions to VM's plans in light of the challenges which have affected the rollout of Project Lightning.

8.26 Moreover, Ofcom should not assume that Project Lightning necessarily meets VM's revised proposed timetable. In general, large infrastructure projects tend to run into some delays as they are undertaken, unless substantial contingency time is built into

[36] See footnote 101 of Annex 10 to Ofcom's consultation paper.

the project from the start. Indeed, the problems faced by Project Lightning so far only make it more likely that there will be further delays. Ofcom should therefore allow for further slippage in timings when it determines the impact of VM's network expansion on Openreach volumes.

8.1.2 Ofcom overestimated the loss of connections due to PIA

8.27 PIA is unlikely to have a significant impact on Openreach volumes in the forthcoming control period. As discussed at §§4.8-4.9 above, roll-out of competing FTTP infrastructure in the next control period is likely to be low, while trials take place and network plans are drawn up which make use of PIA. For example, [✂].

8.28 Furthermore, even if PIA were used to pass 1m homes by the end of the period (a figure which is considerably too high even to be used as Ofcom's high end estimate), it is unlikely that take-up would be anywhere near the 40% projected by Ofcom. It would take approximately [✂] for an incumbent such as TalkTalk to reach those types of level of on-net take-up, and longer for a new entrant into an area without an existing customer base which can be transitioned across. There is no prospect of [✂].[37]

8.29 Even if PIA does reduce the number of Openreach lines per household, it is inappropriate for Ofcom only to take this into account when setting its charge control by allowing a higher charge per MPF line to reflect reduced volumes. Rather, if PIA is used as Ofcom predicts, then in addition relevant duct and pole costs should be allocated to the PIA product. This would bring down the duct and pole costs attributable to MPF and GEA products, and therefore have an offsetting impact in reducing the charge. In principle, there should hence be little impact on the price of MPF and GEA through use of PIA, as each PIA customer takes a similar attribution of common costs to customers served by Openreach using active products.

8.1.3 Conclusion: Ofcom should substantially increase its estimate of the number of Openreach lines per household

8.30 Overall, therefore, Ofcom has significantly overestimated the extent of the fall in the number of Openreach lines per household. It is inconceivable that around one in twelve households that currently take an Openreach line will no longer do so by March 2021. Ofcom should therefore fundamentally readdress its estimates of the number of Openreach lines per household, increasing it substantially.

[37] 0.15m homes served using PIA could also be accomplished by having much higher levels of roll-out closer to the time: for example, 600k-800k homes by [✂] (with the number of homes passed depending upon the path of take-up and whether the users of PIA are incumbents or new entrants).

8.2 Copper recovery

8.31 Annex 18 of Ofcom's consultation sets out Ofcom's position on the appropriate adjustments to make to the MPF charge control for BT's ability to recover copper scrap from its network when that copper is no long being used due to the transition to fibre-based communications products.

8.32 It is right that Ofcom is now explicitly adjusting the charge control to reflect the revenues that BT will earn from sales of copper scrap. We agree with Ofcom (§A18.22) that the revenues generated by sales of copper are likely to be significant, and are a predictable consequence of BT's ownership of copper cable assets.

8.33 An adjustment to the charge control avoids the issue which arose regarding the MUCJ network, where BT was able to earn significant supernormal profits by selling recovered MUCJ copper cable after the point in time when there were customers taking regulated products based on the MUCJ network meaning that the revenues were not passed through to consumers in the form of lower wholesale prices. Preventing a recurrence of this issue should be a priority for Ofcom, supporting its decision to amend its regulatory treatment of copper scrap.

8.34 In general, TalkTalk supports much of the approach to copper scrap which Ofcom is planning to adopt:

- the approach of allocating a negative cost to reflect copper recovery value at the copper is expected to be recovered appears to be broadly appropriate– it is one of a range of ways in which Ofcom could properly take the value of copper scrap into account.
- it is appropriate for Ofcom to determine the value of the recovered copper (and aluminium) and net off the costs of recovery in order to determine the benefit to BT of copper recovery.

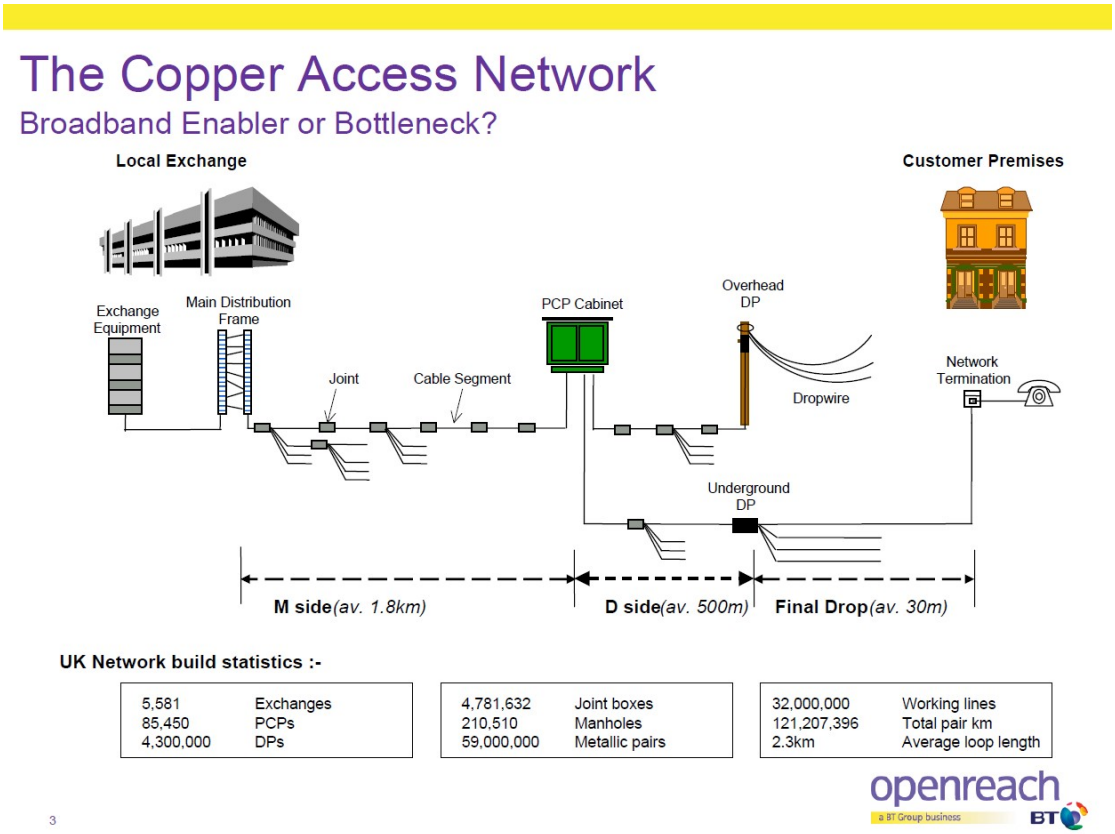
8.35 However, we also consider that there are some elements of its calculation in which Ofcom has erred, which leads to the estimates of the value of copper scrap being underestimated.

8.2.1 Ofcom underestimated the proportion of copper in the E-side

8.36 First, the proportion of copper which currently resides in the E-side has been underestimated, which leads to an underestimate of the volume of copper which should be expected to be recovered. In its consultation, Ofcom sets out that BT has estimated that there are 152,600 tonnes of copper in the D-side network (§A18.9) and 228,600 tonnes of copper in the E-side network (§A18.28). That is, there is a ratio of almost exactly 1:1.5 between D-side copper and E-side copper.

8.37 This directly conflicts with other information which BT has previously placed in the public domain, which provides evidence that a far greater proportion of line assets

are on the E-side. Figure 1, below, is taken from a presentation made by Simon Fisher of Openreach on 9 March 2011 at the British Computer Society.[38] This demonstrates that the D-side plus drop averages 530m, while the E-side (or 'M-side' as it is termed in this slide) averages 1.8km in length. This leads to a ratio of 1:3.4 between D-side and E-side.[39]



8.38 Taking the total amount of copper in the network as 381,200 tonnes (as estimated by BT in total) and splitting it according to a ratio of 1:3.4 leads to 294,600 tonnes of copper being located on the E-side of the network. This is significantly more than estimated by BT, and would lead to a significantly greater estimate of the value of copper scrap which could be recovered by BT.

8.39 Ofcom should therefore investigate more closely the split of the total amount of copper between the E-side and D-sides of the network, and refine its estimates. It appears from the data above that BT may have provided Ofcom with a figure which underestimates the volume of copper on the E-side of the network.

8.2.2 Ofcom underestimated the likely rate of recovery of E-side copper

8.40 The rate of likely recovery of E-side copper projected by Ofcom, as set out at §A18.34, appears too low. Ofcom admits (§A18.33) that the figures given for missing cable are based on the core network, and that E-side record are better kept because

[38] Available at http://www.bcs.org/content/conWebDoc/37350

[39] On the basis that there is a similar proportion of unused lines on the D-side and E-side of the network, and that the thickness of copper wire on the D-side and E-side of the network is equal.

many of the cables are pressurised, and therefore monitored, and because BT has developed an itinerary to keep track of E-side assets.

8.41 Regarding missing cable, there should effectively be no E-side cable missing due to theft, as the cable is actively being used, and so any theft would be noticed as a result of its impact on customers' services. Such actively used E-side cable can be added to the E-side cable which is pressurised and those cables which are subject to routine testing. As such, there should be little or no missing cable in the E-side; perhaps only 0-5% of cable by volume. This is very different from the situation with respect to an unused and outdated copper core, which has led to high levels of missing cable.

8.42 At the same time, unrecoverable copper should also be at the lower end of the range established by the data set out in Table A18.1. Where cables are being actively used, there should be expected to be lower rates of cable decay and collapsed duct which could make recovery more difficult and costly. Given that the range for unrecoverable cable in Table A18.1 is 22-28%, an appropriate but conservative range for unrecoverable E-side cable would be 20-25%.

8.43 Overall, therefore, Ofcom has considerably underestimated the proportion of copper cable which is likely to be recoverable by BT when the E-side copper network is removed from service. A more appropriate proportion would be around 75%, leading to BT extracting around 221,000 tonnes of copper.[40]

8.2.3 Ofcom miscalibrated adjustments to prices due to copper recovery

8.44 Ofcom's proposed approach to adjusting prices due to copper recovery appears miscalibrated. Ofcom appears to be proposing (at §A18.56) to calculate the annual adjustment up until 2030, despite BT proposing to switch off the PSTN in 2025 (see §A18.13). Rather than do this, it should make the adjustment for all years up to 2025; doing otherwise risks BT being able to overrecover for its copper scrap value, as there could be some time period where there are no customers using products based on E-side copper, but where an adjustment is still being applied to the notional 'pricing' of these unused products.[41]

8.45 Although it remains appropriate to estimate that revenue from copper scrap is obtained in 2030 (given the need to have a gap between the E-side copper becoming unused and removal of the copper across the network), the present value of the copper should be returned to consumers over the period from the 2018 charge control coming into effect to the PSTN switch off in 2025. This is the best way to

[40] Based on 294,600 tonnes of copper being located on the E-side of the network. See §8.38 above.

[41] BT would also need to make some other adjustments beyond switching off the PSTN, such as changing the manner in which they test lines, in order to recover E-side copper, but would have strong incentives to make such adjustments quickly once the PSTN has been retired.

ensure that BT does not earn supernormal returns from copper recovery, and thereby maximise consumer welfare.

8.2.4 Copper recovery: conclusions

8.46 Ofcom has overall underestimated the quantum of revenue which an efficient Openreach is likely to be able to recover from copper scrap, for three main reasons:

- the split of copper in the network is incorrect, with more copper on the E-side of the network than Ofcom has set out in its consultation;
- the rate of recovery of E-side copper has been underestimated;
- the present value of copper recovery should be attributed to the network over the period from the present until 2025, when the network is expected to be switched off, rather than 2030.