Approach to setting LLU and WLR Charge Controls

Consolidated version

Non-confidential version

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1 Introduction

1.1 This is TalkTalk Group's (TTG) response to Ofcom's consultation on the Charge Control for LLU/WLR services.[1]

1.2 TalkTalk Group provides broadband to over 4 million residential and business customers principally under the TalkTalk and TalkTalk Business brands. We are the UK's biggest local loop unbundler, operate the UK's largest next generation network (NGN) and are BT Openreach's largest external wholesale customer.

1.3 LLU (and particularly MPF) is the bedrock of competition in the telecoms sector and the consumer benefits that result from it. The conclusion that Ofcom reaches on LLU and WLR prices (and particularly MPF prices) will have a profound effect on both UK consumers and on TalkTalk's business.

1.4 For instance, setting MPF/WLR prices too high and/or setting the WLR / MPF price difference too low will result in consumers paying excessive prices, less effective competition and/or reduced innovation and investment. Just a 1% rise in Ofcom's MPF and WLR cost estimates, for example, will increase the aggregate amount paid by UK consumers by £70million[2]. It is critical that the assumptions used are sound and evidence based. The large impact of small changes warrants Ofcom investing significant resources to get the charge control set at an appropriate level.

1.5 Our key points are as follows:

- We agree with Ofcom's anchor based pricing approach (i.e. basing costs on a hypothetical 100% copper network).
- We agree with the principle of recovering common costs equally across MPF and WLR rental and setting price differences to equal LRIC cost differences. However, there are sound economic reasons for 'aiming up' on the LRIC cost estimate. We also have a number of concerns regarding LRIC cost estimates, including the accuracy of the assumption for LRIC costs as a percentage of FAC costs and the FAC cost estimates for certain components.
- The base year costs reflect a 53% rise in fault levels since 2009. We think this rise is due to reduced copper network investment and resources leading to a lack of investment in preventative maintenance and/or the roll-out of the FTTC network and uptake of GEA services causing higher fault levels. The cost impact of both of these should be excluded from the base year costs.
- We consider that there is a high risk that the base year costs include certain incremental NGA costs that should not be included, such as certain overhead

[1] Fixed access market reviews: Approach to setting LLU and WLR Charge Controls Consultation Updated 20 August 2013

[2] A 1% rise in costs in 2016/17 is ~£1 per line. There are approximately 24million lines i.e. the total impact is £24m in 2013/14. The aggregate impact of £72m reflects [the proposed] glidepath in this and next charge control – 14/15 £8m, 15/16 £16m, 16/17 £24m, 17/18 £16m, 18/19 £8m, 19/20 £0m

and management costs. Ofcom must understand these costs and adjust the model accordingly.

- Ofcom's cumulo FAC/LRIC cost estimates are incorrect since they do not reflect that MPF lines cause lower cumulo rates than WLR lines, as can be observed. Further, Ofcom's cumulo cost estimates fail to reflect the substantial reduction in cumulo costs that Ofcom itself forecasts will happen.
- We agree with Ofcom's broad approach on Directories, but think that a two year transition and glidepath is needed to avoid customer harm.
- There are a number of costs which warrant close attention by Ofcom to ensure that their allocations and recovery are reasonable, and do not allow BT to over-recover its costs or inflate MPF/WLR charges.
- BT is likely in the future to gain £100s millions of copper scrap income from the copper network. So that this income passed through to consumers rather than being an unwarranted windfall for BT's shareholders Ofcom should adjust copper depreciation to reflect the future value.
- We broadly agree with Ofcom's volume forecasts.
- We consider that there is strong evidence indicating that a 5% efficiency improvement is too low given historic levels and BT's announcements to analysts. BT has previously and consistently outperformed Ofcom efficiency estimates leading to £100s millions of excessive profits. Ofcom needs to be careful not to let this happen again.
- We think Openreach's pay levels are substantially above market levels as a result of its inappropriate redundancy polices, salary grandfathering and high unionisation. Ofcom should benchmark BT's salary levels to ensure that they reflect those of an efficient operator.
- Regarding inflation we consider that there is no sound reason to base pay inflation on the recent CWU deal (at 2.8%) or to base non-pay inflation on the inflation for accommodation. Instead, pay inflation and non-pay/non-accommodation inflation should be set at forecast CPI, which is forecast at 2.3%.
- The risk free rate (RFR) has been set at 1.3% which is outside all the relevant evidence that Ofcom says that it is relying on (which ranges from -2.0% to +1.0%). We think that the upper end of the range for RFR should be 1.0%.
- Ofcom has made a number of mistakes and poor judgements in deriving the asset beta for Openreach-copper at 0.60 (which is above the asset beta of UK telcos including TalkTalk, Sky, Virgin and COLT). Instead the asset-beta should be set between 0.35 and 0.51, consistent with UK telco and network utility comparators. This beta, combined with a lower weighting for Openreach-copper consistent with its actual share of economic value, will mean that the RoBT beta is around 0.74.
- We broadly agree with the proposed charge controls on migrations/connection both in terms of setting them to recover LRIC costs only and the approach of setting charges for similar products at the same level.

- We broadly agree with Ofcom's proposals on price regulation for MPF ancillary services, SMPF ancillary services, TRC, SFI, and electricity.
- Given the highly heterogeneous co-mingling ancillary basket there is a high risk of abuse that can result from the manipulation of individual prices. Ofcom's claimed constraint on individual prices is not meaningful.
- Given the increasing necessity of enhanced/expedite services, BT's clear SMP and the current excessive prices, enhanced/expedite services should be price regulated. This will also have a substantial benefit in helping to deliver improved service performance.

2 Base year costs

2.1 In this section we discuss Ofcom's approach and assumptions in deriving the base year costs. We discuss the forecasts of these costs in the following sections.

2.1 Hypothetical all copper network

2.2 We concur with Ofcom's approach of estimating LLU/WLR costs on the basis that all lines are copper rather than NGA (referred to as 'anchor based' pricing). However, given that the starting point for cost estimates are BT's Regulatory Financial Statements which is based on actual costs (including NGA costs) it is critical that Ofcom ensures that inappropriate and inefficient costs are excluded – particularly incremental NGA costs. The remainder of this section 2 discusses what costs are appropriate to include.

2.2 Common cost recovery and MPF/WLR price differential

2.3 Ofcom has proposed to recover all common costs (which are joint costs to WLR and LLU) equally from WLR and MPF lines. The implication of this is that:

- MPF rental equals its LRIC cost plus a common cost allocation, and WLR rental equals its LRIC cost plus (the same per line) common cost allocation
- the difference in MPF rental and WLR rental prices equals the (estimated) LRIC cost difference in providing the products
- the prices of all other charges are based on their LRIC costs[3]

2.4 Ofcom's reasoning for this approach is that it will optimise productive efficiency.

2.5 A report by Frontier Economics (jointly commissioned by TalkTalk and Sky) on Ofcom's proposals forms parts of our submission. The key points it makes are summarised below.

[3] Cease charges are an exception since they are set to zero. Also the price of migrations that are similar (but do not have exactly the same LRIC costs) have the same price set

2.6 First, though productive efficiency is important and will be optimised by Ofcom's approach, Ofcom's approach does not optimise allocative efficiency and dynamic efficiency. These other forms of efficiency will be improved by setting the MPF/WLR price difference to be greater than the LRIC difference since:

- there are competition benefits from the deeper competition that MPF allows (and Ofcom clearly states that is prefers deeper competition[4]); and,
- demand can be improved by recovering more common costs from WLR than MPF, since voice services are less elastic.

2.7 Ofcom's approach effectively takes no account of allocative and dynamic efficiency considerations. If allocative and dynamic efficiency considerations are taken into account then the optimal price difference will be above the LRIC cost difference. However, in practice it is difficult to identify how much above the LRIC cost difference the price difference should be.

2.8 Second, given that the efficient price difference will be greater than the (true) LRIC price difference, and also that there will be some uncertainty over the estimate of LRIC differentials, Ofcom should select LRIC estimates above the central figure in the plausible range (i.e, aim up). This is akin to the concept that it is appropriate to 'aim up' in the cost of capital since (in certain circumstances[5]) the harm of setting a cost of capital too low is greater than the harm from setting a cost of capital too high. In this case, the harm of setting the price difference lower than the LRIC costs difference is greater than the harm of setting the price difference higher than the LRIC costs difference – therefore, prices should be set somewhat above the central *estimate* of the LRIC cost difference.

2.9 Third, in regard to the actual approach Ofcom has taken to making LRIC estimates we have a number of concerns.

2.10 Ofcom estimates the LRIC for each of MPF, WLR and SMPF by multiplying the FAC estimate by its assumption for LRIC % FAC (i.e. the proportion of FAC which LRIC represents) for each service. The LRIC % FAC assumption is based on BT's regulatory accounts for 2009/10 and 2010/11 (in fact the average LRIC % FAC across the two years). The assumed percentages are given below:

[4] Ofcom (2013) Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 Consultation §2.8 "*Overall approach – the preference for intervening upstream [Figure 1 below] illustrates how regulation at the different levels of the market can, when there would otherwise be a single vertically integrated supplier, produce a downstream competitive market. … Where possible, our approach has historically been to intervene upstream in order to facilitate competitive downstream markets. … As such, our approach to these reviews, consistent with the approach in the EC regulatory framework (and our approach in previous reviews), can be summarised as follows. Having provisionally identified that, absent regulation, SMP exists at the retail level, we look to propose access remedies at an upstream level to facilitate greater competition. We do this at the most upstream level that we believe will result in effective and sustainable competition*."

[5] For the avoidance of doubt, this type of asymmetry does not exist in the case of LLU charges

	LRIC % FAC
MPF	54%
WLR	55%
SMPF	87%

2.13 There is no breakdown or explanation on how the LRICs in the RFS are in fact derived or the assumptions that are used. Given the importance of this assumption and the potential for gaming by BT we would like Ofcom to provide more information on how these percentages were derived so that we can comment on their reliability.

2.14 Assuming that these percentages are reasonable, the key question is whether the FAC estimates assumed by Ofcom are reasonable (or more particularly whether the FAC differences are reasonable). We think there are a number of areas where Ofcom's FAC estimates need revision or review:

- For e-side current, d-side current, and dropwire maintenance the MPF FAC costs are higher than WLR FAC costs. This appears to reflect an assumption by Ofcom that the fault repair cost for MPF is higher than WLR due to a higher fault rate and/or a higher care level. We note that Ofcom is reviewing the fault rate data and will consult on its findings in October. We will comment on the relative costs for MPF and WLR in response to that consultation
- Ofcom is assuming that the FAC service assurance cost for MPF is £1.41 more than for WLR – we do not consider there is any justification for this. We understand that this issue will be included in the October consultation and we will respond to that.
- For local exchange general frames (capital and current) the MPF FAC cost is twice the WLR FAC cost (and the MPF LRIC costs are double the WLR LRIC costs) which, we presume reflects that MPF is currently double jumpered. We will comment on these once we have considered Ofcom's (provisional) determination in respect of the on-going single jumpering dispute.
- Ofcom have assumed the same FAC costs for broadband testing for MPF and SMPF. We note that Ofcom is reviewing the data in this area and will consult on its findings in October. We will comment on the relative costs for MPF and WLR in response to that consultation
- We note that Ofcom is not proposing to make any adjustment for line length differences. Whilst this may help in removing any distortion in the selection between MPF and WLR on a single line, not making an adjustment has the distortive impact that the price for MPF lines will be set higher than their average cost, since that cost will include the costs of expensive rural lines which will never be used for MPF. This will result in allocative inefficiencies. We also note that BT is claiming again that there is no material difference in line lengths. It is notable that in the 2012 Charge Control consultation BT made a similar claim and subsequently this claim was found to be wrong (there was a 1.6% adjustment). Though in this case the difference may be smaller

than before, Ofcom should be very cautious of accepting BT's claims at face value.

- Regarding the FAC/LRIC cost differences relating to cumulo and directories we comment on these in more detail below in sections 2.4 and 2.5.

2.3 Reliability of base year costs

2.15 As outlined in the Frontier Economics report the 2011/12 costs for MPF in Ofcom's model are substantially higher (by £3.35) than would have been expected from the previous charge control model (from March 2012) once adjustments are made for known differences (e.g. actual efficiency versus projected efficiency, RAV unwind, removal of line length adjustment and directory cost etc). We consider that there are two sources for this cost increase – a significantly higher fault rate (and so fault repair cost) and the inclusion of certain incremental NGA costs in the LLU/WLR cost stack. Both of these additional costs should be removed from the LLU cost stacks. We discuss below each of these costs.

2.3.1 Increased fault costs

2.16 Since 2009 the annual fault rate for MPF, WLR, and SMPF has increased from 1.9 million to 2.9 million[6] – an increase of 53%. Openreach have previously argued that increasing fault rates are due to higher rainfall and rising broadband uptake increasing the propensity of customers to report faults. However, these factors cannot explain the increase in faults:

- As Ofcom itself shows there is a relationship between rain levels and fault levels but it is weak – a 10% increase in rainfall results in a 1% to 1.5% increase in fault levels[7]. As Frontier calculated (reference) the actual increase in rainfall might have caused a 6% increase in faults
- There is mixed evidence on whether fault levels are higher on broadband lines or not. However, even if a most conservative assumption was used, that broadband lines had a 10% higher propensity to report faults this would (given a 10% increase in broadband penetration since 2009) only result in a 1% increase in faults

2.17 Thus exogenous factors (rainfall, broadband use) can only explain a small proportion of the increase (7% of the 53%).

2.18 We therefore need to look elsewhere for an explanation. We consider that there are two plausible explanations.

2.19 The first explanation is that Openreach have reduced the level of preventative maintenance investment resulting in higher fault rates. Prior to 2009 Openreach invested heavily in preventative maintenance in order to reduce fault costs:

[6] FAMR Figure A10.5 figures given exclude GEA
[7] FAMR Figure A10.18

"Achieving a step improvement in service performance was dependent upon reducing volatility and input volumes. Through flexible resourcing and processes, Openreach stabilised and improved levels of service, enabling it to cope with unexpected events, such as the floods experienced in the summer of 2007.

Service involves more than just reactive provision and repair activity; it also includes the process of reinvigorating the access network infrastructure through investment in the local network –which leads to improved reliability, enhanced service standards and reduced cost. In 2008, Openreach invested around £35 million in a proactive maintenance programme, which reduced the number of access network faults by 10%. At the same time, the number of high-bandwidth services carried rose by around 20%."[8]

2.20 However, since 2009 investment in the copper network has fallen off (despite a moderate increase in the number of lines):

- Copper capex levels have been declining based both on Ofcom's own models (Frontier Economics report Fig 7) and BT's statutory accounts (Frontier Economics report Fig 8)
- Copper capex levels are substantially below HCA depreciation (Frontier Economics report Table 2) which indicates that the network is not being adequately refreshed and will be deteriorating
- The number of Openreach employees has reduced as well as spend on agency and contractors (Frontier Economics report Figs 9 and 10)

2.21 This all points towards a restriction in the spend on the copper network. This is probably due in part to the diversion of cash and resources resulting from BT's large expenditures elsewhere, particularly fibre roll-out, BT Sport, mobile and pension deficit repair. Further, though generally BT has incentives to reduce costs, in the case of reducing costs through investment in preventative maintenance the incentive is in practice weak due to the short term cash impact (see Frontier §2.18).

2.22 If Openreach's cost estimates (used to set charges) are based on these higher fault levels resulting from lack of investment then effectively BT would enjoy the reduction in investment/resources and not pay the higher operating cost that results. Effectively, this can lead to windfall gains to BT, and supernormal levels of profit resulting from substandard performance. Such an approach would be perverse and inconsistent with the approach of basing costs on those of an efficient operator. An efficient operator would achieve an efficient level of faults.

2.23 A <u>second</u> explanation for the higher fault levels may be that the roll-out and uptake of NGA has resulted in higher faults. There will be two separate impacts on faults from NGA. First, installing the NGA network involves intervening in the copper network which is likely to generate faults that would not have otherwise occurred. The second impact will be that lines used to provide GEA may be more sensitive to faults (or have a higher propensity to report faults) resulting in a higher level of fault

[8] See: BT Group PLC Annual Report 2008 - Report of the Directors - Business review - Openreach and the UK access network Openreach and the Access Network.
http://www.btplc.com/report/Report08/Reportofthedirectors/Businessreview/openreachandtheukaccessnetwork.htm

reports. This is particularly likely to be the case since customers taking fibre are likely to have high expectations of the speed that will be achieved. That FTTC is causing faults is reinforced by the e-side and d-side current cost trends (the majority of these costs are fault repair costs). Whilst in 2012/13 the e-side cost (and so presumably fault repair costs and fault rates) fell (WLR -9%, MPF -2%) the d-side costs rose (WLR +8%, MPF +19%). Since FTTC affects only the e-side copper this differences in fault rates is consistent with FTTC causing more faults. These two increases in fault costs are incremental to NGA and therefore should not (as explained below) be recovered in LLU/WLR charges.

2.24 To reflect these two effects (under-investment and NGA leading to higher faults), the fault rates and fault cost to set LLU/WLR charges should be adjusted downwards by around 47% and capex increased slightly. This adjustment should be separate to (and in addition to) the assumed efficiency improvement[9].

2.3.2 Inclusion of incremental NGA costs in LLU/WLR cost stacks

2.25 Incremental costs for NGA/GEA should not be included in the LLU/WLR costs for two straightforward reasons:

- Ofcom's approach to cost recovery is that the LLU/WLR costs should include all common costs so that NGA/GEA (as well as SMPF and migration services) are not allocated any common cost. However, these other services should be allocated/recover all their own incremental costs
- Ofcom's model is based on a hypothetical 100% copper network in which there is no NGA/GEA

BT has a strong incentive to allocate costs away from NGA since there is no form of price regulation on it.

2.26 However, we believe that incremental NGA costs have been included in LLU/WLR cost stacks. We provide two examples below (see Frontier report for details):

- No overhead costs are allocated to NGA – whilst some overhead may be fixed and common much of it will be incremental to the various services that BT provides including NGA. BT's reasons for not allocating the cost to NGA is nothing to do with causality: ""*NGA is a relatively new platform so we do not allocate such overheads to activities that do not lead to cash.*". We also note that BT has allocated overhead costs to other 'new services' (probably when it suits them)

[9] Since the elevated fault rate is due to under-investment in the network, it is likely to require investments in the future to return fault rates to an efficient level–the overall level of expenditure may be higher in total than if BT had continued to invest in preventative maintenance over the whole period to maintain fault rates at the efficient level. The forward looking cost base used to set the charge control should not take into account the level of expenditure required to reduce BT's fault rate to an efficient level, as this would simply reward BT for past inefficiency¨ A more appropriate approach, consistent with Ofcom's anchor pricing principle, might be to forecast both fault rates and capital expenditure from a 2009 base year and adjusting for likely changes since then.

- The repair costs for GEA seem to solely relate to the repair of GEA specific equipment. However, in the same way that SMPF causes additional faults over and above WLR it would be expected that WLR+GEA causes more faults than WLR alone

2.27 There are a number of other areas where costs that are incremental to NGA roll-out and/or uptake may have be allocated into the LLU/WLR cost stacks:

- Product management – if total product management costs are allocated on a per line or per revenue basis then this is likely to underestimate the incremental cost of product management due to NGA
- Much engineering training in Openreach is likely to currently relate to NGA – this cost should be fully allocated to NGA
- We understand that in some cases when GEA is installed the sub-loop (d-side) is 'uplifted'. This cost should be allocated to GEA even though the cost is incurred on a MPF or WLR line

2.28 We consider that Ofcom should scrutinise BT's costs to verify that BT's cost allocations are appropriate an provide transparency on its conclusions.

2.4 Cumulo

2.29 This section examines the allocation of cumulo cost to MPF rental and WLR rental.

2.30 We understand that the way in which Ofcom has estimated cumulo costs is as follows:

- The 2011/12 start year costs were based on BT's 2011/12 RFS which gives a cumulo cost of £3.31 per WLR line and £3.16 per MPF line (a total of £80.0m[10]) (§A14.48)
- These costs are based on BT's total cumulo cost which is allocated to various cost components (particularly e-side[11] copper current and d-side copper current) using the PWNRC[12] formula which BT has chosen. This allocates the cumulo cost to assets principally in proportion to CCA/NRC asset value but with a weighting to reflect the slightly different allowed returns on different asset classes. The profit weight is intended to reflect that the level of rates depends on the profit from services that use the rateable asset[13]. The costs of these

[10] We note Ofcom says that £80m is 74% of the BT cumulo rate charge whereas Ofcom's own replication of the PWNRC formula gives a figure of 68% of the total i.e. about £75m (§A14.51). Ofcom should investigate this discrepancy.
[11] E-side (exchange-side) refers to the copper line from the exchange to the cabinet and d-side (distribution side) refer to the copper line from the cabinet to the customer premise
[12] PWNRC – profit weighted net replacement cost
[13] "*This approach* [receipts and expenditure method used for BT] *estimates the profits of a business that uses the rateable assets …*" (§A14.7)

components are then allocated on to products (particularly WLR and MPF) using the various usage factors[14] [15]

- These unit costs are projected forwards from 2011/12 to 2016/17 based on three assumptions:
  - **Inflation** which (for e-side and d-side current costs) is about ⅔ non-pay inflation (2.8%) and ⅓ pay inflation (3.0%) giving an inflation rate of about 2.9%
  - **Scale effects** based on a CVE[16] of 0.52 and 0.56 for e-side and d-side current respectively. Given the 3% projected increase in volume for MPF and WLR the impact of this is that total costs will increase by 1.6% (= 3% x 0.54)
  - **Efficiency** at 5% (net) improvement per year

  The combined effect of these factors is to reduce total WLR/MPF cumulo costs by about 6% over the five years between 2011/12 and 2016/17 (= inflation 15%[17] increase, scale effects 1.6% increase, efficiency 23%[18] decrease)

2.31 Thus Ofcom's method is based on using BT's PWNRC allocation method to derive the starting assumptions and a combination of inflation, volume effects and efficiency assumptions to forecast costs forward.

2.32 Ofcom has chosen not to properly assess whether the RV and cumulo cost for MPF and WLR are different. We consider that there are two ways in which this could be tackled:

- One approach would be to use the VOA formula to derive the RV for different products. As was shown in TalkTalk/Sky's 2012 charge control appeal this is entirely practicable. Ofcom has however rejected this approach.
- Another approach is to observe how the RV changes in response to changes in the mix of MPF and WLR lines (we refer to this as the 'observed-effects' approach). In this section we focus on this potential approach.

2.33 It is well accepted that as lines shift from PSTN to MPF the BT RV reduces materially.

> *Increasing MPF volumes have led to decreases in BT's RV and it is reasonable to assume that additional switching to MPF in future will cause BT's liability (for an all copper network) to continue to decrease over the period of the new charge control.* (§A14.33)

[14] It is not explicit why the cumulo cost for WLR is marginally higher than MPF given BT's PWNRC approach but it could be because WLR uses certain assets (e.g. PSTN line cards) that MPF does not use. In respect of the assets that both MPF and WLR use (e.g. d-side, e-side copper) the cumulo cost is probably the same

[15] It is not clear whether the fault rate usage factor affect the allocation of cumulo costs as between WLR and MPF

[16] CVE – cost volume elasticity. This is the % increase in costs for a 1% increase in volume. For example, if the volume increases by 10% and the CVE is 0.3 then the total cost increase will be 3% (and consequently the unit cost will fall)

[17] 15% = 1 – (1 + 2.9%) ^ 5

[18] 23% = 1 – (1 - 5%) ^ 5

We understand from the VOA that most of these changes in RVs were associated with two main MCCs: (i) reductions as a result of increasing MPF volumes, offset by (ii) increases due to increasing NGA (fibre) connections. (§A14.30)

2.34 PSTN line refers to where a copper line is connected to BT's PSTN voice switch as against an MPF line which is not connected to a BT PSTN switch. Where a line is connected to BT's PSTN switch BT wholesale the WLR service. In addition BT can also wholesale other services such as call origination and termination and wholesale broadband services which generate profit and so increase the RV. These additional services cannot be sold by BT if a line transfers to MPF.

2.35 Between 11/12 and 12/13 the RV reduced significantly by about 17% due to the shift in lines.[19] – in fact, given an increase in NGA connections causing more NGA RV, the RV reduction due to the shift in to MPF lines would have been greater than 17%. Further, between 12/13 and 16/17 the forecast shift from PSTN to MPF (of 3m lines) will reduce BT's non-NGA RV by between 15% and 25% (§A14.33).

2.36 BT (and Ofcom) previously argued that the BT RV reduction was solely due to the loss in downstream PSTN profits (e.g. from notably wholesale calls and wholesale broadband access – see §A14.36). However, all parties now accept that some of the reduction in RV is due to a reduction in the RV of Openreach copper services (i.e. MPF/WLR together).

BT initially told us that such rebates were not in relation to Openreach's cumulo rates liability but rather related to a direct reduction in the assets deployed by the rest of BT 'downstream' of Openreach. Therefore any such rebates were irrelevant for the purposes of this Appeal. BT subsequently told us that its initial position was mistaken. It said that a proportion of rebates arising from an increase in the number of MPF lines would flow through to Openreach (CC Determination §§3.44-3.45)

BT's position on the implications of its approach to allocating rebates changed during the course of the appeal. After making what it described as a correction, BT said that "a proportion of rebates arising from an increase in the number of MPF lines would flow through to Openreach services" (§A14.37)

2.37 The only plausible explanation[20] for the phenomena whereby the total RV for MPF and WLR reduces as lines shift from WLR/PSTN to MPF is that the RV for MPF is less than the RV for WLR.

2.38 Thus the fall in BT RV occurs due to two effects: first, the loss in downstream PSTN profits; and second, that the RV on an MPF line is lower than on WLR.

2.39 The CC accepted that the implication of (a) the reduction in RV as lines shifted and (b) that some of the RV reduction was attributable to Openreach was that the RV per MPF line was lower than the RV per WLR line:

However, since the provisional determination, BT has corrected its position and Ofcom has clarified its response (see paragraphs 11.64 and 11.73). All the parties now appear to

[19] c. £235m to c. £195m, figures from Fig 14.1

[20] This should not be a surprising conclusion since it is consistent with the results of the VOA calculation of the RV

accept that some proportion of rebates receivable by BT in relation to WLR lines migrating to MPF would flow through to Openreach. On this basis, we no longer consider that Sky/TalkTalk's argument for allocating a greater share of cumulo rates to WLR than to MPF appears inconsistent with Ofcom's approach of only allocating Openreach's portion of the cumulo rates bill to WLR and MPF[21]

2.40 It is clear then that there is a lower RV per MPF line. A simple analogy can help illustrate this

TAXING APPLES AND ORANGES

Imagine that the tax authority taxes a business that sells apples and oranges. The authority only state the total tax charge and don't break it down for each fruit separately. However, it can be seen that the tax charge changes in different periods depending on the mix of fruit sold so that for instance

- *Year 1: apples – 10; oranges – 3; tax charge – £19*
- *Year 1: apples – 8; oranges – 5; tax charge – £23*

From this it can be proven (using straightforward algebra) that the tax charge per apple is £1 and the tax charge per orange is £3. This result can be derived without needing to understand the formula that the tax authority used (that might involve profit, size, vitamin levels or whatever).

2.41 We can derive the RV per line from known data and using straightforward algebra[22]. The calculation is laid out below:

- Volumes (from Table A8.2)
  - MPF 2011/12: 5.0m
  - MPF 2016/17: 8.9m
  - WLR 2011/12: 19.4m
  - WLR 2016/17: 15.5m
- Cumulo cost for MPF and WLR in 2011/12 and 2016/17 derived as follows:
  - Assume that the cumulo cost for MPF and WLR in 2011/12 is £80m (see §2.30 above) consistent with BT's calculation. The total cumulo cost (ex NGA) in 2011/12 is about £110m[23]
  - There was a fall in BT RV between 2011/12 and 2012/13 of about 17%. Between 2012/13 and 2016/17 BT cumulo cost will fall by 15% to 25% (we use 15% conservatively) as a result of the shift to MPF (§A14.33). Thus the total % fall in cumulo from 2011/12 to 2016/17 is 29% (= 1 - (1-0.17) x (1-0.15))) and the £ fall in cumulo cost £32.4m (= £110m x 29%)

[21] CC Determination §11.109 British Sky Broadcasting Limited and TalkTalk Telecom Group Plc v Office of Communications Case 1192/3/3/12

[22] This calculation does not reflect changes in poundage in order to make the calculation easier to follow

[23] Estimate from following data (see §A14.32). Cost incl NGA in 2010/11 £135m, incl NGA 2012/13 £98m, excl NGA 2012/13 £92m. This is consistent with data in §A14.51 which says that the MPF/WLR allocation (£80m) is 74% of the total cumulo cost (i.e. implies a total cost of £108m = £80m / 74%)

- Some of this fall in cumulo cost was due to a fall in the RV for MPF/WLR (rather than for downstream PSTN activities). We estimate that 15%[24] of this cumulo cost reduction is due to a reduction in MPF/WLR cumulo cost i.e. £4.9m (= £32.4m x 15%). Ofcom can source an estimate of the assumption on this proportion from BT[25] though it will probably need scrutinising.
- The cumulo cost for MPF/WLR together in 2016/17 will be £75.1m (= £80m – £4.9m)

- This gives us an expression for cumulo cost in 2011/12 and in 2016/17 as:

  2011/12: CC_{MPF} x 5.0m + CC_{WLR} x 19.4m = £80m

  2016/17: CC_{MPF} x 8.9m + CC_{WLR} x 15.5m = £75.1m

  Where:

  CC_{MPF} is the cumulo cost per MPF line

  CC_{WLR} is the cumulo cost per WLR line

- This can be solved so that

  CC_{WLR} = £3.79

  CC_{MPF} = £1.63

2.42 Using this observed-effects approach is consistent with Ofcom's principles:

- It is clearly causal since an MPF line causes lower RV and cumulo cost than WLR since when a line moves from WLR to MPF the RV and cumulo cost reduces;
- It is consistent with Ofcom's objective of setting price differences in line with LRIC cost differences since evidently MPF results in a lower incremental cumulo cost than an additional WLR line
- The costs saved are genuinely incremental; lower costs flow through via the MCC[26]/rebate mechanism

2.43 There is therefore a clear and well evidenced case for a lower RV/cumulo cost for MPF than WLR.

2.44 Ofcom's approach does not reflect this difference allocations per line for MPF and WLR. Further, Ofcom's cumulo cost forecast method fails to reflect the substantial reduction in RV (at least 29% between 2011/12 and 2016/17) as lines move to MPF.

[24] We have used 15% since BT indicated that it was a small proportion of the total rebate/reduction in RV

[25] At most the cumulo cost of PSTN downstream activities must be £30m (= £110m – £80m). If the RV fell proportionately to the number of PSTN lines (i.e. 20% from 15.5m to 19.4m) then one would expect a £6m (= £30m x 20%) fall in the cumulo cost of PSTN downstream activities which is 17% (=£6m / £29.7m) of the total fall in cumulo cost implying that the reduction in RV from Openreach-copper is 83%.

[26] MCC – material changes in circumstance. MCCs are defined under legislation and generally cover physical changes to the rateable assets in question: economic changes do not constitute valid grounds for claiming that there have been MCCs

Though in §A14.36 Ofcom claim that they have taken the reductions in total RV into account there has been in practice no adjustment (explicit or implicit) at all for this in the actual method adopted[27].

2.45 Ofcom has previously raised various objections to assuming a lower RV for MPF than WLR based on different product profit levels. In some cases, these objections are not relevant since we have not derived the RVs based on product profitability and in other cases the objections are not well founded or credible. Ofcom's objections, and our responses to them, are as follows:

- Assuming a lower RV for MPF than WLR would lead to counter-intuitive results. For example: "*The CC also agreed with Ofcom that an allocation that was not primarily based on the products' use of assets could lead to counterintuitive results*" (§A14.20). We do not think that intuition should displace an evidence based approach and in any case as we describe below asset usage does not drive RV in the manner that Ofcom appears to believe
- Cumulo rates are a tax on assets. For example: "*Cumulo rates are a tax on rateable assets rather than profit*" (§A14.13). This is not correct – cumulo rates are a tax on the profits of products that use rateable assets. As Ofcom itself notes:
  - "*The RV is a measure of the open market rent* [income] *for the hereditament* [asset]". (§A14.6)
  - "*This approach* [receipts and expenditure method used for BT] *estimates the profits of a business that uses the rateable assets …*" (§A14.7)

  In any case, the semantics of the wording make no difference. What is important is what actually happens in practice. Further, the concept that RV is based on profit is clear by considering what would happen if the profit increased (the RV would increase) versus what would happen if the asset increased (the RV would be unchanged) or what would happen if the asset usage increased (the RV would be unchanged). This makes it clear that RV is causally driven by profit levels.
- "*Allocating on the basis of product profitability could lead to costs being allocated to a product which makes little or no use of rateable assets*" (§A14.13). This is an irrelevant consideration using this observed-effects approach since there is no possibility of cumulo being allocated to products that do not use the rateable asset. In any case, the observed effects approach does not rely on estimating product profitability.
- The allocation for MPF and WLR should be similar since MPF and WLR make similar regulatory returns and make similar use of the asset. For example, Ofcom says:
  - "*We therefore considered that the cumulo allocation to WLR and LLU should be similar. This was because they should earn the same rate of*

[27] Though in Ofcom's actual calculations the cumulo cost for MPF/WLR falls by 6% (see §2.30 last dash point above)

return and involve little or no difference in usage of the rateable assets" (§A14.14)

- "*The CC agreed with Ofcom that broadly equal allocations between LLU and WLR should be expected given the similarity of these products in their use of the rateable assets and their regulated returns*" (§A14.20).

There is no reason as to why what Ofcom think should happen, expect should happen, or even would like to happen should supersede what actually happens and can be observed. The cumulo charge is not calculated by the VOA taking account of the degree of usage of the asset so there is no reason for degree of usage to be relevant to the allocation. Similarly the VOA not take account of 'regulated returns' and so not reason why it should be relevant to the allocation. If it were based on the use of the asset and the usage level was similar between WLR and MPF, then the RV would not fall when lines moved from PSTN to MPF.

- "*the PWNRC method is at least broadly consistent with the VOA's method*" (§A14.25). It PWNRC method is not consistent with the VOA method since it does not reflect the different RV per line that is implied from the observed effects
- "*The VOA confirmed that the calculations were generally done at an aggregate level and did not consider a disaggregation of the existing valuation model by product is possible*" (§A14.27). It is not surprising that VOA calculations are done at an aggregate level since they have no need to disaggregate. That the VOA do not think a disaggregation is possible is irrelevant to the question of how Ofcom should allocate since Ofcom needs to allocate the total cost between products whereas the VOA do not. Further, Ofcom cannot argue that the fact that the VOA has not decided on an allocation approach provides a reason for not adopting a principled and reasoned approach to allocating the cost.
- The cumulo cost is a fixed cost – for example, Ofcom says: "*BT's cumulo rates bill can be viewed as a fixed cost that is not related to BT's current output or the size of the access network over the period covered by the charge control. One way to approach this issue would then be to consider how to recover this fixed cost in the least distortionary way*" (§A14.42). This is simply incorrect. The cumulo cost varies with volumes of products[28] (through the MCC/rebate mechanism) like, for instance, fault repair costs do.
- Volatility. Ofcom rejected the previously proposed method in the appeal since it considered the results volatile. There is no volatility using the observed effects approach
- Simplicity and transparency. Ofcom considered that the method used should be simple and transparent – the effects based approach fulfils this criterion since it can be derived from publicly available data. PWNRC is not transparent – it is a black box where the numbers cannot be reproduced externally. Ofcom

[28] since the volume affects the profit which is the primary driver of the RV

itself noted that it could not replicate BT's calculations (see Consultation §A14.51)

2.46 Lastly, we note that correcting the method of allocating cumulo rates is a material correction since it might reduce the allocation to MPF by about £1.50 (based on the calculation above).

2.5 Directories

2.47 The (net) cost of printed directories is currently recovered in the WLR charge since BT is obliged to provide a directory as part of the WLR service. BT chose to meet this obligation by delivering a directory to all UK homes free of charge (reflecting the advertising revenue that it earns and the ease of delivering universally). In parallel to BT's WLR obligation all CPs who provide retail services are required to provide a directory to their customers on request (General Condition 8). This obligation is effectively met by BT delivering directories universally.

2.48 Ofcom is proposing that the WLR service no longer includes an obligation to provide directories with the consequence of that the current cost recovery approach is inappropriate. Ofcom outlines two options: either (1) the cost is not recovered in the WLR charge; or (2) that the cost is recovered across MPF and WLR charges. This second option is plainly unjustifiable since there is no rationale to include in the MPF charge the cost of a product feature (directories) that is not part of the product. With regard to the first option we accept that if there is no obligation to provide directories then (as for MPF) there is no rationale for WLR to recover that cost.

2.49 We consider that there are two consequential issues that arise if option one is adopted. First, whether the cost should be removed in a one-off adjustment and second the transition arrangements to allow operators to meet their GC8 obligation in the case where BT decides to cease delivery of directories to all UK homes.

2.50 With regard to making a one-off correction we understand that Ofcom considers that it is appropriate to make a one-off adjustment since it would not weaken cost minimisation incentives since the one-off adjustment will not have the effect of rapidly removing from BT efficiency gains that it had achieved:

> *However, for the directory costs in the WLR charge, we do not consider that the dynamic efficiency consideration is as important as it might usually be because the decision at hand is concerned with where printed directory costs are recovered (in particular whether this should be from regulated charges), not how quickly cost reducing efficiencies feed through to regulated prices for Openreach customers* (§3.118)

2.51 If Ofcom considers that this approach is reasonable then we consider that there may be other areas where one-off adjustments could/should be made since doing so will not reduce BT's cost minimisation incentives – for instance, changes in cost of capital assumptions and asset valuation methodology (which are effectively exogenous to BT). We consider that on balance it is probably best not to diverge from a glidepath approach in the case of the directory cost. Another reason for a glidepath on the

removal of this cost (i.e. a phased removal of the cost allocation) is that it would be consistent with the transition period discussed below.

2.52 As Ofcom highlights in the case that BT chose to stop their current phone book distribution practice a transition period will be required. We think it will inevitably take a reasonable period for retail providers to adjust their company processes to be able to comply with their requirement in General Condition 8 and to avoid any potential consumer harm.

2.53 [✂]

2.54 [✂]

2.55 With this in mind, TalkTalk believes it would reasonable and proportionate of Ofcom to require that BT maintain their current business practice up until 1 April 2016 to ensure a smooth changeover across the industry and to minimise any consumer harm in the event that GC8 is retained.

2.56 However, TalkTalk also considers that Ofcom should consider amending GC8 to reflect the manner in which consumers increasingly access the internet. For example, GC8 could be amended such that telephone directories do not have to be supplied by ISPs to customers who take both voice and broadband from the same ISP. This will ensure that customers who do not have internet access can continue to be provided with telephone directories on request, whereas those who are known to have internet access will no longer need to be offered a telephone directory.

2.57 TalkTalk notes that such an option is available to Ofcom, as it would continue to satisfy the requirements of Article 5(1) of the Universal Service Directive.

2.58 TalkTalk also believes that adopting this regulatory approach would be consistent with the evidence in Ofcom's most recent Telephone Directory Research. Only 5% of respondents with internet access would use the BT Phone Book as their primary method of finding a business which they did not know the number for. This compares to 62% who would use an online search.[29] Only 29% of individuals with internet access had made even a single usage of the BT Phone Book in the last year;[30] of these 29% of individuals, the vast majority (68%) used the BT Phone Book less than once a month.[31]

2.59 TalkTalk believes that removing requirements under GC8 for customers receiving voice and broadband from the same provider would be reasonable, proportionate and would run no risk of consumer harm given the widespread use of the Internet to

[29] Ofcom Telephone Directory Research, Table 3, at page 17.
[30] Ofcom Telephone Directory Research, Table 7, at page 50.
[31] Ofcom Telephone Directory Research, Table 8, at page 56. TalkTalk notes that the 'mean number of times per year' usage in this Table is likely to be unusably inaccurate, as it is unjustifiably assumed that individuals stating that they use the BT Phone Book less than once a month on average use it 6 times per year. TalkTalk would instead posit that an appropriate weight would be close to once per annum, consistent with the highly skewed distribution shown in the Table.

access telephone numbers and will at the same time provide cost savings that can be passed through In lower retail prices.

2.6 Other base year cost issues

2.60 There are a number of areas where we consider that Ofcom should scrutinise Openreach assumptions and possibly make adjustments. It may be that these have been done but it is not clear. We describe these below – we would like to follow up with Ofcom when it has the necessary information on these points.

2.61 In respect of these we note that in the in the Regulatory Financial Reporting consultation (Sept 2012) at §5.29 Ofcom accepted the need for Ofcom to set the allocation rules. Ofcom said: "*Ofcom should identify and review the most significant allocation bases; and propose changes where appropriate*". We understand that the Regulatory Financial Reporting project will not actually carry out this review itself and therefore the review must be carried out in the charge control(s).

2.62 IT costs. In the 2012 Charge Control Ofcom identified that these were grossly over-estimated by BT and adjusted them downwards by about £100m. We are concerned that BT may have once again substantially overestimated these costs.

2.63 Group overhead. The group overhead is allocated amongst the various operating divisions. Previously no allocation has been made to overseas activities even though overseas divisions would have benefitted from such activity meaning that the cost allocated to WLR/MPF services was excessive.

2.64 Allocation of LLU costs to BTNI. Previously BT has not allocated certain LLU costs (particularly 'IT Net Development' and 'Design costs') that should have properly been allocated to BTNI (since the LLU model effectively modelled the costs of LLU in the UK except NI) meaning that the cost (and so charge) for MPF was excessive. Given Ofcom's new modelling approach this adjustment may not be necessary any more.

2.65 Pension deficit contribution. BT have invented a new 'ruse' to get some pension deficit repair costs included in the LLU/WLR cost stacks by including it in the RAV. At the end of the day the effect of such an approach would be to recover some pension deficit repair costs from LLU/WLR. For the reasons it was wrong before (as was determined by Ofcom and confirmed by the CAT/CC) it remains wrong even with this new method.

2.66 Allocation of costs to previously non-regulated services. In 2009 it was found that BT had under-allocated costs to certain non-regulated services (e.g. SFI, TRC, enhanced care). This had the effect of inflating the costs (and so charges) for *inter alia* MPF and WLR rental. This under-allocation was corrected. It is unclear whether the RFS that Ofcom uses as the basis for BT's start year costs still reflects the previous incorrect allocation approach (or whether the RFS have been corrected). If any reallocation to TRC, SFI and electricity is required it must be done for this charge control. For instance, Ofcom must not base the charge control for MPF rental on

current cost allocation and then base (say) TRC Basis of Charges compliance on reallocating costs from MPF rental to TRC. It would allow BT to double recover costs.

2.67 We have two more general comments related to this issue:

- First, it would be very useful if Ofcom (or BT) could provide revenue and cost information for each of SFI, TRC and electricity. Since these services currently and will continue to have cost orientation obligations[32] applying to them such information should be provided so that compliance can be verified. We see no reason why this cannot be or is not provided.
- Second, Ofcom should be wary of double recovery – for example, excess construction charges have been double recovered in the past (being charged separately when cost was incurred and then the cost also being capitalised and recovered through the relevant rental charge)[33]

2.68 Copper scrap income. The copper in BT's network is recovered and sold at end of life and therefore has a scrap value. This income can be recognised as a revenue item when it is scrapped. However, this can result in a windfall to BT if the services that use the copper no longer exist. This happened in the case of several £100m of copper scrap revenue from the MUCJ network – since the leased lines products that used the MUCJ were no longer in existence the copper scrap revenue was not returned to customers and was retained as a windfall by BT. A preferable approach to recognising the scrap value of the copper which ensures that customers (and not BT shareholders and staff) benefit from this value is to reduce the depreciation on the copper during its useful life so that by the end of its useful life it has an asset value equal to the estimated scrap value[34]. Ofcom should adjust the copper depreciation to reflect this.

2.69 In addition, in the normal course of business BT generates copper scrap income that is attributable to the copper access network. This should also be netted off the costs of the network. It does not appear that this has been done.

2.70 Adjustments for one-offs. Ofcom must satisfy itself that the 2011/12 base year reflects an appropriate basis from which to forecast costs forward. For instance, 2011/12 would have included costs for the London Olympics that will not be relevant during the market review period (and would not be relevant for WLR/ MPF charges even if such an event were recurring).

2.71 Recovery of WLR cease / jumper removal costs. It appears that whilst the cost of MPF ceases is recovered in MPF rental the cost of WLR ceases are recovered in MDF

[32] Currently the cost orientation obligation is based on prices being below outturn DSAC costs though the proposal for the next period is that cost orientation is based on prices being below outturn FAC costs

[33] Business Connectivity Market Review Mar 2013 §19.131

[34] if the actual scrap revenue is greater (or less) than the remaining value then there would be an adjustment

Hardware[35] which is then recovered from MPF and WLR (and possibly SMPF). This is not appropriate.

2.72 WLR maintenance migration. The normal on-going operation of the PSTN/TDM network will involve some migration of WLR lines that will involve re-jumpering. For instance, if a BT PSTN switch needs replacing then the lines will need to be migrated from the old switch to the new PSTN switch or MSAN (i.e. manual jumpering). We have not been able to identify how the cost associated with this activity is allocated/recovered from different services. It may be that the cost is spread across all services (e.g. including MPF) if for instance the cost is included in MDF Hardware. Ofcom must confirm what cost is included and how it is recovered and then ensure that the allocation approach is appropriate.

2.73 BT made some material changes to its RFS in 2012/13. Our initial review indicates that many of the changes made by BT appear *prima facie* to be inappropriate, and that the main aim of BT's submissions in this area (both in substance and timing) appears to be to game the regulatory system. However, we have not yet had sufficient time thoroughly to review these changes, and note that BT has not yet produced a single consolidated set of regulatory accounts containing all the changes which it proposes. We may wish to supplement our submission in this area when we have had a chance to review the changes in full.

2.7 Modelling comments

2.74 Frontier Economics have reviewed the model and have some small observations to make that are included in their report (section 5).

3 Forecasts

3.1 In this section we provide our view on the key assumptions used to forecasts costs.

3.1 Volumes / CVEs

3.2 We are pleased that Ofcom has adopted a much more structured and transparent approach to forecasting volumes. This will help ensure greater understanding of Ofcom's approach, allow more constructive comments, reduce inherent bias in favour of BT and improve the reliability of the conclusion Ofcom reaches (which provides the further benefit of a much reduced chance of appeals).

3.3 We broadly agree with Ofcom's forecasts. The more structured approach has led Ofcom to make more soundly based assumptions. We have the following limited comments:

[35] MDF is the main distribution frame in an exchange and MDF Hardware is a cost category which includes certain costs related to the MDF

- Ofcom has assumed that mobile only will remain flat (at 15%) or increase (to 15.9% by 2016/17) based on the 'flattening' in 2012/13 being temporary (see Fig A8.1. We consider that a plausible scenario is that the flattening in 2012/13 represents a peak and that mobile only will trend downwards. This is consistent with the previous trend
- It would be useful if Ofcom could provide the mobile only data to an accuracy of one decimal place since the data at the moment is rather coarse.
- The volume forecasts should be rebased to actuals close to the final statement to ensure that they are reliable.

3.4 The CVEs look broadly acceptable – given the small change in volume their impact is limited. It would though be useful to understand how they are determined.

3.2 Efficiency

3.5 Ofcom has forecast a 5% efficiency improvement (net of implementation costs). Though this is higher than in previous charge controls we are of the view that this is too low and that Openreach can realistically achieve much more.

3.6 We first note that Ofcom has rightly made clear that it is not necessary to systematically under-estimate efficiency gains in order to provide BT with cost minimisation incentives:

> *Once the charge control is set, BT will have an incentive to try to maximise profits and reduce costs regardless of whether the efficiency target has been set too high or too low. Setting the efficiency rate is therefore not about giving BT incentives but about ensuring that future prices are set at an efficient forecast cost level. (§A7.18)*

3.7 Cost minimisation incentives depend on being able to relatively increase profits (or decrease losses) by reducing costs – they do not require BT to make a profit. We note however that in places in the Consultation Ofcom seems to have the misplaced view that the incentive only works if BT can outperform the target. For instance:

> *Price cap regulation (rather than 'rate of return' regulation) provides an incentive to make efficiency gains over and above those forecast as part of the control. If BT is able to deliver the required services at a lower cost than has been forecast, it can keep the profits resulting from these savings. In this way, price cap regulation provides incentives to 'outperform' the control and improve efficiency over time.* (§3.4)

3.8 It is critical that in setting the efficiency target Ofcom does not mistakenly think it needs to set a low assumption in order to provide BT cost minimisation incentives. Strong incentives would be provided even if the efficiency assumption made was practically unachievable.

3.9 In terms of the actual efficiency assumption to use we have the following comments.

3.10 First, BT has a proven track record of significantly (and probably knowingly) under-estimating its genuine future efficiency gains. For example:

- During the 2009 Review BT stated that they could only achieve an efficiency improvement of 0.6% to 2.4% in 2009/10 – yet their own internal plans from the same time showed that they had planned to achieve 5.1% in 2009/10
- In 2008 and 2009 BT insisted that Cumulo rates costs could not be reduced ('unambiguously non-compressible') but within a few months they had reduced these costs by over 40% - it is implausible that they did not know this or at least the possibility of this at the time of the charge control. For example in their first consultation response BT said:

  Almost 20% of Openreach's operating costs are unambiguously "non-compressible" operational costs and no efficiency assumptions can realistically be applied to the following items: ... Accommodation: 59% of these costs are considered non- compressible as they relate to cumulo rates (which are levied by the Government) and the rental of floor space …
- During the 2009 Review BT claimed that fault rates could not be reduced further. Yet in 2009/10 they reduced faults by 11%.
- These false and misleading claims about efficiency have been repeated on many occasions. For example, in each of the following cases BT claimed that they could only achieve around 1% efficiency – yet the evidence has shown that they then went on to achieve 4% efficiency improvements (or more). For example:

  "BT stated that the efficiency target [1.5%] was too challenging" [WLR price setting in 2006]

  "BT considers that an efficiency factor of 1.5% is very challenging and that a lower assumption should be used" [LLU price setting in 2005]

  "BT set out further arguments that a measure [of its inefficiency] of 0% to 1% is more appropriate" [PPC charge setting in 2004]

  "BT is already at the frontier of network efficiency. A target of less than 2% per annum improvement is more appropriate" [Network charge control in 2005]

3.11 Even in the most recent LLU/WLR charge control BT again significantly under-estimated the potential efficiency.

- It said that at most it could achieve 3.5%: "*Openreach considers, for the reasons set out below, that an appropriate efficiency target should be no greater than 3.5% per annum*"[36]
- In fact BT achieved 5% efficiency gains in 2010/11 and 6% in 2011/12[37]

3.12 Such cavalier and anti-consumer behaviour by BT is unsurprising. BT has an obvious incentive to over-estimate its costs in order to inflate its regulated prices. BT's past behaviour demonstrates beyond any reasonable doubt that BT has no qualms at

[36] BT response to 2012 LLU Charge Control Consultation §169. http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/responses/Openreach.pdf

[37] The base year Ofcom used was 2009/10. From Consultation A7.24 net efficiency gains were 6% in 2011/12 (including all sources – no reason not to). A7.25 shows net efficiency gains were 5% from 2007/08 to 2011/12

providing Ofcom misleading (or possibly deliberately false) information[38]. Ofcom should place no meaningful weight on BT's claims.

3.13 Second, Ofcom has in all previous charge controls under-estimated BT's actual efficiency gain. We are not aware of a single case where BT has achieved less than Ofcom's projected efficiency gain. This is evidenced by the substantial level of excessive regulatory profits which in 2011/12 were £570m[39] and have always been excessive.

3.14 That BT has always achieved a higher efficiency gain that Ofcom forecast may merely be a case of Ofcom making sound and unbiased estimates that happened (consistently) to under-estimate efficiency gains. However, it may also be that there has been some bias (albeit unintended) in Ofcom's estimates. For instance, Ofcom may have had a misplaced belief that it is appropriate to underestimate efficiency gains in order to create incentives for BT to outperform its target. Alternatively, Ofcom may have inadvertently placed too much weight on BT's claims since it felt BT was well placed to estimate its likely efficiency gains (not fully appreciating or controlling for the strong bias in BT's estimates due to BT's regulatory gaming).

3.15 In any case, in this charge control it is critical that Ofcom makes sound and unbiased estimates that are properly informed by evidence such as historical improvement, relevant benchmarks, anecdotal evidence and BT's public announcements and give little (or no) weight to BT's claims.

3.16 Third, though not determinative we consider that Openreach's historic performance is a key benchmark in judging future potential efficiency gains.

3.17 The relevant historic benchmark to use must include so-called 'one-offs'. Openreach claims that they should be excluded are nonsense. Even it were true that (say) a particular accommodation cost reduction was not possible in future (so might be classified as a one-off), one-offs might arise in other areas – say through use of new technology or in lower overhead – that cannot be foreseen now. The CC in the 2009 appeal agreed that this was the nature of efficiency gains, it said: "*We agree with Mr Heaney that future savings are likely to be made in places where savings did not previously seem possible*"[40].

3.18 The relevant benchmarks for historic net efficiency gain are between 5% and 6%:

- 2011/12: 6% (§A7.24)

[38] Another recent example of this behaviour related to copper scrap. During the 2012 LLU/WLR Charge Control BT provided Ofcom a forecast of copper scrap revenue (that projected an 80% decline). Later in the process Ofcom requested BT for an updated forecast. BT said it had no update even though there were internal estimates (but not a formally revised forecast) that projected an increase in copper scrap revenue. If the internal estimates had shown a greater reduction than 80% we can be pretty sure that BT would have provided these to Ofcom!

[39] NewStreet research (March 2013). BT, The hare and the tortoise. Chart 5. Some of the excess is due to no charge controls being in place allowing excessive returns though much of it is due to the efficiency gain being under-estimated

[40] 2009 LLU Charge Control Appeal CC Determination §2.184

- 2007/08 to 2011/12: 5% (§A7.25) or 6% (§A7.26)

3.19 Fourth, Ofcom has considered BT's Medium Term Plan ('MTP'). The costs and efficiency gains in this are set by means of 'negotiation' between BT Group and each line of business (including Openreach). The assumed improvement in the MTP for Openreach is within the 4% to 6% per year range in the next 3 years (implied from §A7.35).

3.20 Though this is a relevant benchmark it is likely to be an underestimate of the realistic potential level of efficiency gains:

- Openreach would have known that Ofcom may have sought evidence of Openreach's plans as part of its charge control work (particularly since similar documentation was sought in the previous charge control). Therefore, Openreach had an incentive to deliberately underestimate the efficiency gain (in order to attempt to dissuade Ofcom from assuming a high efficiency improvement)
- Even absent any charge setting procedure, Openreach's management would have a strong incentive to set lower targets so that they could reach their performance targets more easily and gain higher bonuses. That this type of behaviour goes on is implicit from the description of the process as being a 'negotiation'

3.21 It is important to recognise that Openreach, by its own admission[41], is constrained in achieving high levels of efficiency gains by its choice of employment practices. These hindrances are of BT's own making since they have over the last 30 years failed to tackle the causes of them (e.g. BT's non-compulsory redundancy policy and inflexible working practices). Any impact these might have on slowing down efficiency gains must be ignored since an efficient firm would not face these barriers. If Ofcom takes account of these impediments in its assessment of Openreach's efficiency target it will in effect be setting costs at a level much higher than that of an efficient operator.

3.22 Therefore, though Openreach's MTP may be a relevant piece of information, its reliability is highly questionable and is likely to significantly underestimate what is realistically achievable by an efficient firm.

3.23 Fifth, we consider that BT's announcements to analysts reinforce that there are plenty more efficiency opportunities.

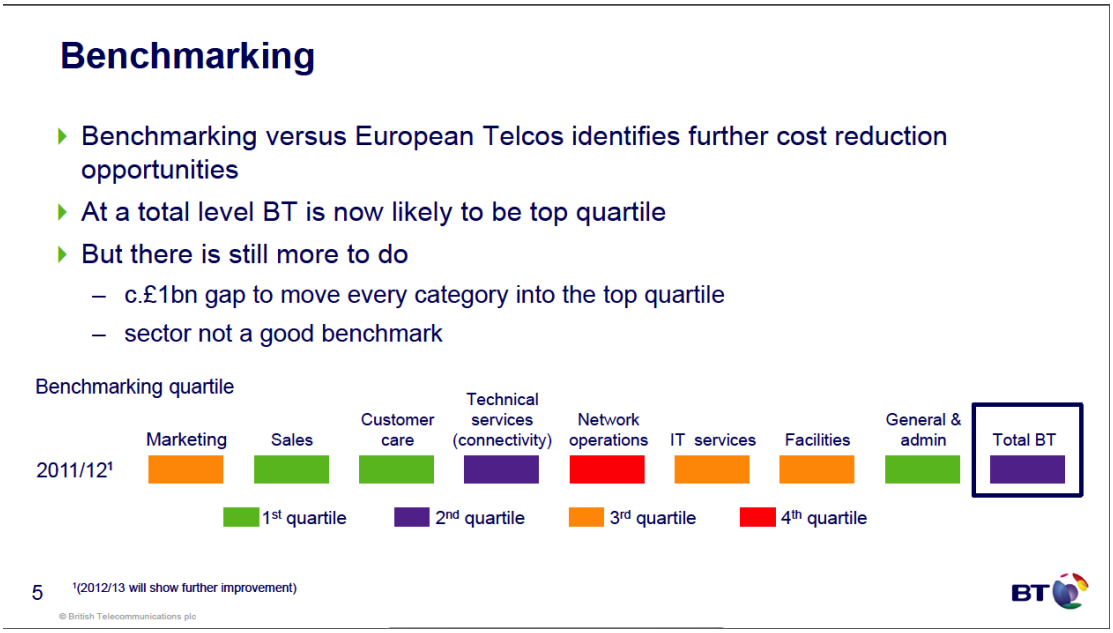
- First, there is still substantial room for improvement – the frequent claims BT makes[42] that BT that future efficiency improvement opportunities are limited is fallacious

[41] For example see 2009 LLU Charge Control Review BT second consultation response §115

[42] See above at 3.10 and also more recently in BT's response to Leased Line Charge Control consultation at §31 "*One further factor that Ofcom has not taken into account, is the fact that past productivity improvements may well have involved BT "catching up" with the efficiency frontier. Further productivity improvements become more difficult as the "catch-up" element diminishes, and*

- Second, Openreach has more potential for improvement than the rest of BT – BT's ranking is relatively worse on average in the areas that Openreach is involved in (network operations, facilities, technical services)
- Third, the telecoms sector is not a good benchmark since they are comparing BT to other incumbent monopolies, many of which are in state ownership, and are likely to be very inefficient.

3.24 The slide below is an extract from BT's presentation of its 2013 results which demonstrates these points:[43]



3.25 Ofcom's proposed 5% assumption sits below the key benchmarks e.g. historic rates. We consider that reflecting the various evidence described above, a net efficiency assumption of 6% to 7% would be appropriate.

3.26 It would be useful to understand Ofcom's assumption for the gross efficiency improvement and the costs of achieving the efficiency gains as well as the net efficiency gain assumption.

3.3 Pay levels

3.27 We consider that Openreach's pay levels (i.e. salary per employee) are excessive since pay levels are above market rates. This has occurred due to a combination of reinforcing factors including:

- No compulsory redundancy policy

as easy-to-do productivity improvements are implemented"
http://stakeholders.ofcom.org.uk/binaries/consultations/llcc-2012/responses/BT.pdf

[43] BT Group Full Year 2012/13 Results and Business Update – Part 2, May 10 2013, at slide 5.

- Grandfathering of previous salary levels into new job (even if the new role is more junior)
- Low staff churn
- High unionisation (and BT's acquiescence to those unions)
- Pay settlements above the UK average (see Frontier report)
- Limited/reducing use of contractors

3.28 Importantly, BT has had a weak incentive to reduce pay levels since each time Ofcom sets charges Ofcom effectively assumes that pay levels are reasonable and efficient and does not adjust them downwards (as it does for low productivity through an efficiency improvement). This means that BT can continue to recover through high charges the cost of excessively high pay levels. In essence the need to use efficient pay levels in setting costs and charges is similar to the need to set prices based on the MEA technology. If the legacy technology costs are used to set prices then BT's incentive to move from legacy technology to MEA technology is diminished.

3.29 We consider that pay levels are materially above the efficient level and Ofcom should conduct some benchmarking to confirm whether Openreach's pay levels are best practice/efficient. If they are not Ofcom should reduce pay levels to an efficient level when determining the charge control. This pay level adjustment should be in addition to any cost reduction from productivity/efficiency improvements which Ofcom assume is 5% (or cost increase due to inflation). The reason why it should be in addition is because the historic efficiency improvement (5% to 6%), which is a key benchmark in determining the future efficiency improvement, excludes any reduction in average pay levels towards the efficient level (since historically the pay level has risen above average pay settlements). Therefore, the historic benchmarks that Ofcom is using exclude the potential efficiency gains from reducing pay levels (and only include the productivity changes).

3.4 Inflation

3.30 The Frontier Economics report reviews Ofcom's proposals on inflation. A summary of the points are below.

3.31 CPI is a reasonable index to use in the charge control indexation (i.e. CPI-X rather than RPI-Y)

3.32 Ofcom has assumed pay inflation of 2.8% and non-pay inflation at 3.0%. We do not think that these are reasonable assumptions.

3.33 Ofcom has based pay inflation (for the period from 2011/12 to 2016/17) on a recent deal (at 2.8%) concluded with the CWU for the period April 2013 to April 2014. We consider that this is not an appropriate assumption for the period up to April 2017 and there is no reason to set an assumption above CPI (which is 2.3%) particularly since economy-wide earnings inflation has over the last 5 years been about 1% lower than CPI (i.e. unit labour costs are falling in real terms). We consider that (as

Frontier suggest) 0.5% below CPI is appropriate. Further, using a recent pay settlement as the basis to forecast future costs changes gives BT the incentive to conclude a high pay settlement just before a charge control and offset this with lower settlement during the charge control period.

3.34 Ofcom appears to have set non-pay inflation at 3% since this reflects the terms of the contract with Telereal for accommodation. We agree that 3% is appropriate for accommodation costs – however, for other non-pay costs CPI should be used (i.e. that they do not rise or fall in real terms).

4 Cost of capital

4.1 This section responds to Annex 15 of Ofcom's consultation paper, which deals with cost of capital. To the extent that the conclusions drawn in Annex 15 are replicated in the main body of the consultation, it should be considered to respond to those provisional conclusions as well.

4.2 In general, TalkTalk supports the approach taken by Ofcom for determining the cost of capital, including most of the individual parameter values adopted. TalkTalk considers that there should be revisions to Ofcom's proposals in two areas:

- the current risk free rate is excessive, and should be lowered to 1.0% or less, from the current estimate of 1.3%;
- Ofcom's approach and certain assumptions used to disaggregate BT Group's beta and derive the Openreach-copper beta do not appear to be based on sound economic principles and the evidence available. As a result we consider that the appropriate asset beta for Openreach-copper should be between 0.34 and 0.51 – Ofcom's assumption of 0.60 cannot be justified.

4.3 Overall, the cumulative effect of these two amendments is to reduce the mid-point WACC for BT Openreach from 8.8% to no higher than 7.9%, on a pre-tax nominal basis.

4.1 Risk free rate

4.4 TalkTalk considers that the risk free rate (RFR) proposed by Ofcom is excessive, and not supported by any relevant market data. The RFR should therefore be lowered to somewhere in a range between 0.4% and 1.0%.

4.5 Ofcom's underlying rationale for its conclusions on the risk free rate are set out at §§A15.52 to A15.60. The key elements which Ofcom states have led to its proposal of a 1.3% RFR appear to be as follows:

- *"Longer term rates are not materially different to those estimated in December 2012. We therefore consider that the rate of 1.3% estimated for the 2013 BCMR Statement remains reasonable".* (§A15.53)

- "*We would prefer to place more weight on evidence from observed yields on index-linked gilts and by using forward rates on interest-linked gilts.*" (§A15.56)
- "*In estimating the WACC, we take account of a range of data sources and in particular consider movements in the trend*" (§A15.59)
- "*We propose to continue to estimate the WACC using historical averages on index linked gilts and estimates of forward yields*". (§A15.60)

4.6 Thus, it seems Ofcom's principal approach has been to first base the RFR on historic yields and forward rates for interest-linked gilts, and second to consider whether there is justification for reducing the RFR that was set at 1.3% in the BCMR Statement based on data from December 2012.

4.7 With regard to the historic/forward rates we do not think that this evidence (as set out in the annex) provides empirical support for Ofcom's preferred RFR of 1.3%. Ofcom's conclusion is therefore not consistent with the evidence presented (and/or Ofcom has relied on evidence that has not been presented).

4.8 Ofcom reviews historical yields in Tables 15.2 and 15.3. It is, firstly, important to note that Table 15.2 does not appear to be relevant to Ofcom's analysis. This table presents data for historical gilt yields at December 2012. The data presented in this table have therefore been superseded by data from June 2013 presented at Table A15.3. TalkTalk does not consider that any weight should consequently be accorded by Ofcom to the data in Table A15.2.[44]

4.9 The data provided in Table A15.3 fail to support Ofcom's estimate of a 1.3% RFR. The figures presented in that table are in a range of -2.0% to +1.0%, and the majority of them are negative. Even averaging ten year gilts over a ten year period leads to an estimated RFR of only +1.0%. This is a sufficiently long period that it cannot be considered to be anomalously low: accordingly, TalkTalk considers that 1.0% is the upper bound of the RFR range that could reasonably be adopted by Ofcom. TalkTalk considers that a reasonable range for the RFR would be 0.4% to 1.0%.

4.10 However, TalkTalk considers that in light of the considerable movements in the RFR over the past few years, it may be appropriate to take a figure towards the top of the historical range of values. This is a conservative approach which is favourable towards BT. It also allows for smoothing of the RFR, with a smaller fall in this review than would be merited on the basis of market data, providing the potential to have a smaller increase at the next regulatory review if the RFR rises back towards the levels which were typical before 2008.

4.11 Ofcom states at §A15.59 that it 'take[s] account of a range of data sources'. However, Ofcom in its consultation document has set out only the data on historic yields provided at Tables A15.2 and A15.3. Either Ofcom is attributing weight to unreferenced data, which TalkTalk considers to be inappropriate as respondents to the consultation are not in a position to comment on it, or there are in fact no other

[44] Notwithstanding this, TalkTalk notes that every estimate contained even in this table is below the Ofcom's proposed RFR of 1.3%.

sources, and Ofcom's estimates are derived solely on the basis of historic market evidence, which is not supportive of a 1.3% estimate. In particular, at §A15.60, Ofcom states that it will estimate the WACC using estimates of forward yields. However, in its consultation document Ofcom has not set out any estimates of forward yields, or even which sources of forward yields it is using. TalkTalk considers that this is inappropriate and is inconsistent with Ofcom's duty to consult on material aspects of its proposals if Ofcom is using estimates of forward yields which it has not set out in its consultation document. Alternatively, if Ofcom is not using any forward estimates, then its stated and actual approaches to determining the RFR are inconsistent with one another.

4.12 With regard to maintaining the 1.3% that was derived from December 2012 data TalkTalk disagrees with Ofcom's statement at §A15.53 that "*longer term rates are not materially different to those estimated in December 2012*". Ofcom uses this as a rationale for retaining the same estimate of the RFR as that used in the 2013 BCMR Statement. The 10 year average yield on a 10 year gilt has fallen from 1.2% to 1.0% i.e. by a sixth; while the 10 year average yield on a 5 year gilt has fallen by a fifth, from 1.0% to 0.8%. TalkTalk considers that these are very material differences whether in absolute terms (0.2 percentage points reduction) or in relative terms (one fifth decrease). Further, the RFR of 1.3% is in excess of any of the historical yields found even in the data over periods to December 2012. TalkTalk notes that at §A15.123 Ofcom sets out that a 20% increase in the debt beta should not be considered 'broadly invariant'; it is unclear, therefore, why a 20% decrease in yields should be immaterial. Therefore, even if 1.3% was previously a reasonable assumption, based on December 2012 evidence (although given the empirical evidence we do not believe that it was) the changes in evidence subsequent to December 2012 support a lower RFR than 1.3%.

4.13 Ofcom's approach is also inconsistent with its approach in the BCMR where it reflected the continued downward trend in observed data (see §A15.45). Despite the continuation of this trend – Tables 15.2 and 15.3 demonstrate that market estimates of RFR have continued to fall – Ofcom is proposing in the current review not to further amend its estimate downwards. TalkTalk therefore considers that the approach proposed by Ofcom in this review is inconsistent with regulatory precedent, as well as being inconsistent with the underlying market data.

4.14 As such, an estimate of the RFR of 1.3% cannot reasonably be adopted by Ofcom at the present time. TalkTalk believes that the RFR should be set close to, but below, 1.0% based on the data set out in the Annex. This would have the effect of smoothing the changes in RFR, whilst still being consistent with market evidence.

4.15 Lastly, TalkTalk notes Ofcom's discussion of the linkage between the RFR and ERP at §A15.54. However, it is not clear what the relevance of this is to the discussion on the RFR. If the RFR and ERP are negatively correlated, this is not a valid reason for using an inappropriate estimate of the RFR; rather, Ofcom should adopt an appropriate measure of the RFR (which is observable from market data) and then adjust its estimate of the (unobservable) ERP to be consistent with the RFR estimate.

4.2 BT Group debt premium and Openreach-copper debt premium

4.16 TalkTalk is in broad agreement with the approach used by Ofcom for calculating BT Group's debt premium, and in particular the use of forward-looking estimates for the cost of debt, without any adjustment for the cost of embedded debt.[45] TalkTalk considers that such an approach is consistent with a forward-looking cost approach, and therefore is the most appropriate approach for Ofcom to adopt.

4.17 TalkTalk notes Ofcom's finding at §A15.70 that BT's observed debt premium has continued to decline over time, such that it is now about 0.1% below the December 2012 evidence used for the 2013 BCMR Statement. However, as the debt premium is still within the range estimated by Ofcom, of 1.7%-2.3%, TalkTalk does not consider that it is inappropriate for Ofcom to retain the range used in that earlier decision.

4.18 Whilst 0.1% might seem 'within the range' given that the Openreach-copper debt beta is set at the bottom of the range we consider that the 0.1% decline is relevant and the Openreach-copper debt beta should be reduced to 1.6%.

4.19 Furthermore, TalkTalk considers that this falling debt premium derived from bond yields (which Ofcom does not propose to adjust for recent changes) has an additive effect with the RFR (which market data demonstrates has also fallen, but which Ofcom does not propose to reduce). Ofcom's position of not amending the RFR for recent market changes therefore risks a very inappropriate estimate of the total cost of debt in a situation of falling debt premia.

4.3 Debt beta

4.20 TalkTalk has no comments on Ofcom's approach to calculating the debt beta.

4.4 Equity beta

4.21 TalkTalk considers that Ofcom's proposed approach of using equity betas calculated over different periods as cross-checks on one another is appropriate.

4.22 It is unclear to TalkTalk why Ofcom has cited an estimate of beta to the end of March 2013, rather than a more recent estimate, as the most up-to-date data on BT's overall equity beta. TalkTalk considers that it would be appropriate for Ofcom to use the most recent data when calculating beta. However, subject to that, TalkTalk considers that Ofcom's core approach of adopting two year betas based on the most recent available market data to be broadly appropriate.

[45] We comment at section 4.6 below on the disaggregation of this debt premium into estimates for the Openreach copper business, and for the RoBT.

4.5 ERP

4.23 Beyond the points made at §4.15 above regarding the interrelationship of ERP and RFR, TalkTalk has no further comments on Ofcom's approach to estimation of the ERP.

4.6 Beta disaggregation

4.24 The second major area, after the risk free rate, which TalkTalk has serious concerns over is the asset beta for Openreach's copper business which has been derived by disaggregating BT Group's beta. TalkTalk's analysis on this topic should be read in conjunction with the accompanying report by Europe Economics, which covers some of the underlying technical detail.

4.6.1 Ofcom's approach to disaggregation

4.25 BT Group is an aggregate of several different businesses. For the purpose of beta disaggregation we are interested in two parts of BT which have very different characteristics: the Openreach-copper business (referred to as 'Openreach-copper) and the rest of BT (including both non-Openreach business lines, and non-copper parts of Openreach referred to as 'RoBT')). It is important to recognise that what is referred to as Openreach in Ofcom's annex on cost of capital is only the subset of Openreach that provides copper services – it excludes in particular provision of leased lines and NGA which are also part of Openreach.

	Products/markets	Risk / volatility profile
Openreach - copper	LLU and WLR wholesale services which are used to provide retail voice and broadband services	Overall market demand for these services is stable and predictable; as is Openreach's market share which means the volumes are stable Openreach's cost base is predictable and since there are limited future investments much of its forward looking cost base is variable Regulation means that profit margins are steady and new investments have a guaranteed return There are high barriers to entry, so returns cannot be undermined by increased competition
Rest of BT	BT Retail: voice and broadband retail services to consumers and business BT Wholesale: mostly wholesale voice / broadband services. Also wholesale leased lines within Openreach BT Global services:	Though some traditional revenues have a steady market size, many of these markets are new and have unpredictable market size Vast majority of these businesses are in fully competitive markets so suffer significant market share risk

	Telecommunications solutions and consultancy to major global corporates (47% of RoBT revenue[46]) BT Sport: £0.5bn a year fixed investment in sports channels NGA: Claimed £3.0bn investment in FTTC network (part of Openreach)	Costs in some areas are less well understood and predictable (since products are new) and substantial future fixed cost investment Significant competition) means margins are volatile

4.26 It is well accepted that due to the lower risk and cyclical return volatility of the Openreach-copper business (compared to the RoBT) its asset beta (and consequently equity beta, and WACC) should be lower. The process of deriving an asset beta for Openreach-copper (and also for RoBT) is referred to as beta disaggregation.

4.27 There is no single analytical basis that has been used for disaggregation. Rather in deciding the asset beta for Openreach-copper Ofcom has considered a number of factors:

- BT Group asset beta (0.67) – this is taken as a given (from previous analysis based on observed market data).
- Data on the natural comparator group for Openreach-copper beta, which is other regulated network utilities (beta range 0.28 to 0.33) though it should be expected that the Openreach-copper beta should be at the top of this range
- Ofcom considers that the RoBT beta should not be significantly above either the BT Group beta (0.67) or a comparator group of other UK telcos (range 0.40 to 0.65) (see §A15.186)
- The weightings of each business in the disaggregation should reflect the relative economic value of Openreach-copper and RoBT. The formula for this is:
  - $\beta_{BTG} = W_{ORC} \times \beta_{ORC} + W_{ROBT} \times \beta_{ROBT}$
  - Where **W** = weight, BTG – BT Group, ORC – Openreach-copper, ROBT – Rest of BT
  - Ofcom assumed a weight of 50% for Openreach-copper (and 50% for RoBT), based on a rough estimate of the book value of assets in each part of the business

4.28 These considerations and comparators leave Ofcom a quandary which is almost impossible to solve – given the 50% weight it is impossible for the Openreach-copper beta to be close to network utility comparators (say 0.35) without the RoBT beta being substantially above the UK telco comparators (about 1.00). Ofcom does not address this quandary anywhere, or seek to ascertain the underlying reasons for it and resolve it.

[46] 39% of BT Group external revenue in 2012/13 (BT Annual Report 2013 p116). Openreach-copper was 17% revenue. Thus BTGS 39% / 83% = 47% of RoBT revenue

4.29 Ofcom also faced data showing a large recent increase in the BT Group beta from 0.50 to 0.67 (see Fig A15.2) which Ofcom found difficult to solely or mostly attribute to an increase in the RoBT beta (and a consequential increase in the wedge). Accordingly Ofcom assumed that both the Openreach and RoBT betas had risen.

4.30 Given these various factors, Ofcom made the following proposed asset beta determinations (the comparison against the previous LLU/WLR charge control, based on data from 2011, is also shown):

	2011/12	**Ofcom proposal**
betas		
BTG	0.53	0.67
OR-copper	0.48	0.60
RoBT	0.58	0.74
wedge	0.10	0.14
weights		
OR-copper	50%	50%
RoBT	50%	50%

4.31 We consider that there are several areas where Ofcom has not taken an appropriate approach or reached an inappropriate conclusion with the consequence that the Openreach-copper beta is materially too high:

- The weight for Openreach in the disaggregation is too high and should be 20% to 30% (rather than the 50% assumed by Ofcom);
- the UK telcos used as comparators by Ofcom for RoBT are not good benchmarks
- Ofcom's view that the increase in BT Group asset beta is due in significant part to an increase in the Openreach-copper beta is unfounded;
- Ofcom has not given sufficient (or seemingly any) weight to the network utility comparators for Openreach-copper and has set the Openreach-copper beta above that of UK telcos which face higher cyclical risk;
- the wedge between Openreach's copper business and the RoBT is greater than estimated by Ofcom, in particular since it has increased over time.

4.32 We discuss these points below – first the weightings and then the Openreach-copper and RoBT betas and the wedge in the betas. Prior to that we explain the inter-relationship between the beta and weights.

4.6.2 Interplay between wedge and betas

4.33 The Openreach-copper beta depends on the weights, wedge and how the RoBT beta is set. The table below shows how adjustments can be made to the weight and the betas under different illustrative assumptions. These assumptions are:

- A: weighting 50%, wedge increased (to 0.20), Openreach-copper and RoBT beta increase/decrease by same amount
- B: weighting 30%, RoBT beta held constant
- C: weighting 30%, wedge held constant

	Ofcom	Alternative assumptions		
		A	B	C
betas				
BTG	0.67	0.67	0.67	0.67
OR-copper	0.60	0.57	0.51	0.57
RoBT	0.74	0.77	0.74	0.71
wedge	0.14	0.20	0.24	0.14
weights				
OR-copper	50%	50%	30%	30%
RoBT	50%	50%	70%	70%

4.34 Thus, if for instance Ofcom decided that the Openreach weight should be reduced to 30% the resulting Openreach-copper beta would depend on whether:

- the wedge was held constant (leading to the Openreach-copper asset beta = 0.57); or
- the RoBT asset beta was held constant (leading to the Openreach-copper asset beta = 0.51).

4.35 Ofcom recognised this interplay in its cost of capital annex at §A15.205.

4.6.3 Approach to weightings

4.36 Economic theory tells us that the weightings that should be used in beta disaggregation / aggregation should be the economic value of the different constituents (see Europe Economics, section 2.1). It appears that Ofcom supports this theoretical approach[47]. Economic value in the strict sense is the net present value of the future cash flow derived from a particular business or asset. Typically the best proxy for economic value is the enterprise value (EV) of a business which represents the value of all the equity (i.e. market capitalisation), debt, and preferred stock less cash and cash equivalents.

4.37 Ofcom has used assets (MCE) of BT's different businesses as its basis for the weights used in beta disaggregation[48]. MCE would be a good proxy for economic value and so a reasonable approach for weighting if the capital intensity of the different

[47] For example: A15.205 "*An alternative approach could be to increase the weight ascribed to the Rest of BT, for example if it were thought that the economic value of the assets for the Rest of BT was higher than that implied by the book value …*"

[48] Though it has wrongly used the MCE for all of Openreach rather than the MCE for only the copper part of Openreach

businesses was similar since the ratio of assets to economic value/EV would be similar. However, in the case of BT this is not the case since Openreach-copper is highly capital intensive and the RoBT is much less capital intensive i.e. the ratio of economic value/EV to assets for Openreach-copper is lower than for RoBT. Therefore relative assets are not a good proxy for the EV or economic value of different elements of BT Group.

4.38 For BT whilst it is possible to derive the EV for the whole business (from BT's stock price and balance sheet – it is £27.8 billion, as set out in Europe Economics' paper at Table 3.1) we cannot derive the EV for Openreach in the same way since it is not listed as a separate company, nor does it issue its own debt. However, it is possible to reliably infer the EV of Openreach-copper. Openreach-copper is a price regulated business. Prices are set (by Ofcom) in such a way that the present value of future profit/cash flows equal Ofcom's assessment of the value of the assets (known as the RAV – regulatory asset value). Therefore the Openreach-copper RAV is a good estimate of the Openreach-copper EV. The Openreach-copper RAV is approximately £6.4 billion, and so we can derive the appropriate weight for Openreach-copper as a proportion of the economic value of BT Group as 18%.

4.39 Such a weighting based on using EVs (and using RAV as a proxy for the EV of Openreach-copper) is far preferable to using book value asset weights since the EV much more closely reflects the economic value of the different businesses and therefore the weights that should be used in the disaggregation formula.

4.40 There are also other weights that could be considered as a proxy for economic value though, in our view, they are all clearly inferior to using EV (and RAV). The alternative weights (for 2012/13) for Openreach-copper that could be used are:

- Assets (MCE) – 46% (Openreach-copper only)[49]
- Revenue – 17%
- EBITDA – 29%
- Income – 30%
- **EV – 18%**

4.41 We consider that a weight for Openreach-copper, as a proportion of the overall economic value of BT Group, in the 20% to 30% range is a conservative and reasonable assumption.

4.6.4 Approach to the wedge between Openreach-copper and RoBT

4.42 Ofcom has presented various evidence and reasoning as to why it thinks the wedge between Openreach-copper and RoBT should not be too large and sets the wedge at 0.14. We think that this is materially too low and does not reflect the evidence

[49] We note also that the data that Ofcom provides for Openreach assets (58%) is not appropriate since it appears that it include the non-copper parts of Openreach. Obviously it is only appropriate to include the copper part.

presented by Ofcom. There are several overlapping reasons that relate to the Openreach-copper beta, the RoBT beta and/or the wedge between the two. In particular:

- the comparators used by Ofcom for RoBT are not appropriate, and underestimate the risk of the RoBT
- the Openreach-copper beta should be much closer to the beta of the network utility comparators;
- the wedge between Openreach's copper business and the RoBT is greater than estimated by Ofcom, in particular since it has increased over time;
- Ofcom's view that the increase in BT Group asset beta is due in part to an increase in Openreach-copper beta is unfounded and there is no evidence to support Ofcom's contention.

RoBT comparators

4.43 Ofcom considers that the RoBT beta should be close to the betas of other UK telcos (Virgin, TalkTalk, Sky and COLT)[50]. We do not consider that the UK telco comparators used for RoBT are suitable since the RoBT business includes a number of very high risk activities that are not undertaken by the UK telco comparators used by Ofcom:

- Almost half of RoBT (47%) is a highly risky consulting and solutions business (BT Global Services) that has seen substantial volatility over recent years, and has been generally loss-making. Consulting is a highly cyclical activity, particularly for unsuccessful firms such as Global Services.
- BT's NGA business is riskier than Virgin's, as roll-out is costly for BT, whereas Virgin's NGA roll-out involves only software upgrades, and is therefore considerably cheaper.
- BT's Sports business is new and risky (as against Sky's which is mature), and relies on being cross-subsidised by profits made from BT Retail's broadband sales, rather than being a stand-alone profit centre.
- BT has a poorly performing TV business which makes its core BT Retail business more vulnerable to loss of customers to TalkTalk and Sky's stronger TV offerings.

Openreach-copper comparators

4.44 We consider that the natural comparator group for Openreach-copper is similar UK monopoly regulated network utilities (e.g. water, electricity, gas).

- Both Openreach-copper and the comparators are essential utilities facing stable demand

[50] We note that Ofcom appears to compare the BTG beta to the UK telco betas e.g. see §A15.183 last sentence. We consider that the part of BT that might be a relevant benchmark to the UK telcos is RoBT (not BTG) since evidently Openreach-copper is very different to UK telcos, none of which are regulated monopolies and most of which do not contain substantial volumes of fixed line assets.

- All firms face either no competition, or in Openreach-copper's case limited competition, leading to stable market shares, with no cyclical volatility;
- Cost levels are predictable, with no relationship to the economic cycle
- Heavy price regulation sets returns in a predictable manner which is closely related to investments.

4.45 However, though Ofcom refers to these benchmarks[51], Ofcom has effectively ignored them and set the Openreach-copper beta (0.60) at about twice the beta observed for other network utilities (0.28-0.33).

4.46 Further, Ofcom has set the Openreach-copper beta (0.60) higher than the UK telco comparators (which range from 0.52 to 0.59). This is illogical since they the UK telcos comparators all exhibit higher degrees of risk and return cyclicality than Openreach-copper. We consider that this is unsupportable and shows that Ofcom's underlying assumptions and methodology is inappropriate.

Wedge between betas

4.47 The observed BT Group beta has increased significantly over the last two years (0.5 to 0.67). Ofcom considers that a significant contributor to this increase is a significant increase in the Openreach-copper beta (from 0.48 to 0.60), while the wedge between Openreach and RoBT has been close to constant. We think this is unfounded, as explained below.

4.48 First, a consideration of the different businesses in BT and how they have changed supports the view that the wedge has increased over time.

4.49 The Openreach-copper business is in many respects unchanged over the last 5 years. It still provides the same LLU/WLR wholesale products to the same wholesale customers for broadly the same retail customers under the same regulation[52]. Therefore, one would not expect much change in the beta of Openreach-copper. It is relevant in this respect that other network utilities' asset betas have remained flat over the last 2 years and had previously fallen. One would therefore have expected Openreach-copper to show the same profile and stay around the 0.48 it was in 2010.

4.50 Ofcom presents no evidence which would be supportive of any increase in Openreach's asset beta. Indeed, as can be seen from Figure A15.5, Openreach's operating leverage fell in every year from 2007 to 2011. This would be consistent with a *decrease* in beta.

[52] TalkTalk considers that there is no reason to believe that Openreach's copper business has become riskier over the past few years; if anything, the increasing prevalence of fixed-line broadband and IPTV means the opposite is the case, with little evidence of increased cyclical demand volatility for Openreach's core products. Demand for fixed line broadband has continued to grow through a recession which has seen demand for many other products fall.

4.51 In contrast the RoBT has seen notable changes and increase in risk over the past few years.

- The core retail markets that RoBT operates in have become steadily more competitive;
- RoBT has begun a substantial network investment in NGA which is by BT's own admission high risk[53] since it involves a large fixed investment of (according to BT) £3.5bn[54] and demand for the service (and willingness to pay) remains unclear;
- RoBT has made a substantial investment in its BT Sports channels (£0.5bn a year for three years) which has substantial demand and revenue uncertainty, and is currently underperforming its predecessor ESPN in viewing figures.

4.52 In respect of the NGA and BT Sports investments Ofcom presents various reasons as to why these should not have increased the RoBT beta. As we explain below we do not think these are valid.

NGA / Fibre

4.53 NGA is a premium product (at least when not subject to a margin squeeze by BT), and demand for superfast broadband is therefore more likely to be correlated with the economic cycle than demand for copper broadband, which has substantial utility characteristics. As such, the larger proportion of revenue derived by both BT Retail and BT Openreach from NGA/SFBB (superfast broadband) related products is likely to have increased the cyclicality and volatility of BT's returns.

4.54 Ofcom suggests that because Virgin, which has also deployed NGA, has a lower beta than BTG/RoBT then NGA cannot have increased the RoBT beta (§A15.198). TalkTalk does not consider that a comparison with Virgin Media is of any meaningful relevance since the costs of upgrading the networks are substantially different. For Openreach, NGA involves fibre roll-out, including groundworks and in some cases the installation of new duct costing about £3.5bn. On the other hand, Virgin Media's network is principally software upgrades costing £10s millions. As such, there is no valid comparison between the risks of Virgin Media's NGA roll-out and that of Openreach.

[53] For instance from BT FAMR Call for Inputs response: "*NGA remains a risky investment with long payback periods*" and "*Multiple interventions could cause regulatory arbitrage and hence potentially undermine already very risky and long term investment in fibre*"

[54] BT claim the investment for the commercial roll-out is £2.5bn and BT's funding for the BDUK roll-out another £1.0bn. e.g. from BT comments to PAC: "*At the outset of the process, BT indicated to government that if it were successful in winning the £830 million government announced for the rural broadband programme at the comprehensive spending review in autumn 2010 (£530 million was announced at that time for the period up to 2015 and £300 million for the period 2015–17), then it would be able to contribute up to £1 billion of extra funding (on top of the £2.5 billion committed to its commercial area deployment).*"
http://www.publications.parliament.uk/pa/cm201314/cmselect/cmpubacc/474/474vw06.htm. It is not clear whether these figures are reflective of the actual costs incurred by BT.

4.55 TalkTalk acknowledges Ofcom's point at §15.197 that take-up of SFBB has increased since 2010, despite the presence of a recession. Ofcom concludes from this that SFBB has little systematic risk. However, Ofcom is here making the mistake of confusing correlation and causality. Prior to 2010, there was almost no roll-out of SFBB in the UK– as such, it could not be acquired at any price. This is likely to have led to significant suppressed demand for SFBB, with customers wanting higher speeds unable to get them. As SFBB has been rolled out, and become available to a greater proportion of customers in the UK, this suppressed demand has therefore been revealed as take-up of SFBB.

4.56 The correct counterfactual for determining the elasticity of SFBB demand with respect to GDP (which will feed into the beta attributable to the fibre access network) is what demand for fibre would have been if there had been strong economic growth over the 2010-2012 period. This will avoid the distorting effect of roll-out revealing suppressed demand. TalkTalk considers that such a counterfactual analysis would reveal that SFBB demand is strongly correlated with income levels, given the higher costs of SFBB as embodied in BT's GEA charge.[55]

BT Sport and TV

4.57 A key strategic move which has increased RoBT beta is BT's acquisition of FAPL television rights and subsequent launch of BT Sport. TalkTalk believes that such a risky and expensive move, particularly given its positioning within BT as solely a way to sell more retail broadband, is likely to materially have increased BT Retail's (and therefore BT Group's) beta. TalkTalk believes that the value of premium sports rights is likely to be correlated with the economic cycle (as well as displaying an overall rising trend through time).

4.58 [✂]

4.59 Ofcom suggest that BT's TV/ Sport initiatives cannot have had a large impact on BTG/RoBT's beta since Sky's beta is lower than that of BT Group (§A15.199). We think this conclusion is misplaced because of the very fundamentally different scale and maturity of Sky Sports' installed base from that of BT over the period covered by Ofcom's analysis. At the time represented by the data, Sky Sports had an installed base in excess of 5m customers, whereas BT had no sales. To say that these businesses are comparable would be analogous to stating that a software start-up, without any sales, should be considered to have the same systematic risk, and therefore the same beta, as Microsoft. Such a comparison would never be considered to be valid; as such, it is unclear why Ofcom considers that there is a valid comparison between Sky Sports and BT Sport.

4.60 Second, Europe Economics' analysis of how the operating leverage of different parts of BT has changed over time implies a material increase in the wedge. They conclude that over the last 5 years the difference in asset betas of Openreach (including copper and NGA) and the other divisions in BT will have increased from

[55] TalkTalk also notes that comparisons should be undertaken at a retail price level which is not distorted by BT's ongoing anticompetitive margin squeeze in the SFBB market.

0.13 to 0.19 (at section 4.4). Europe Economics were only able to conduct this analysis for the whole of Openreach and not solely for Openreach-copper. An analysis for Openreach-copper should exclude NGA and certain leased lines. We consider that excluding these activities would result in a lower Openreach-copper beta and a higher RoBT beta (and higher wedge) since, in particular, NGA, which did not exist in 2007 has high risk and operating leverage (Ofcom agrees with this – see §A15.194). Thus the wedge might have increased from 0.13 to (say) 0.25.

4.61 Third, in respect of the increase in the BT Group asset beta, Ofcom posits two possible reasons (A15.174): an increase in RoBT beta and/or an increase in Openreach-copper beta. We think there is a third reason for the increase in BT Group beta which is an decrease in the proportion of Openreach-copper in the beta. An analysis of the weighting based on the EV/RAV method highlighted above shows that the RoBT weighting has increased as the overall EV of BTG has increased (BT's market capitalisation has increased substantially) but the RAV of Openreach has remained broadly steady. This reinforces the need for a lower Openreach weighting as proposed above and that Openreach-copper beta has not increased.

4.6.5 Conclusion

4.62 Below we summarise the key points from our analysis above and present three scenarios for the asset beta for Openreach-copper

- The Openreach-copper weight used in the disaggregation should be between 20% and 30%, consistent with Openreach-copper's share of economic value
- The Openreach-copper beta (currently proposed as 0.60) should, given the substantial similarities in risk, be much closer to the network utility betas (0.28-0.33). 0.60 is illogical since it means that Openreach-copper has a higher beta that UK telcos none of which own low-risk monopoly network assets.
- Further, and in any case, Openreach-copper beta should not have increased (from 0.48 to 0.60) over the last 2 years since
  - The underlying risk of Openreach has not increased
  - The asset betas of similar network utilities have not increased
  - The obvious explanation for the increase in beta of BT Group is an increase in risk of RoBT (due to BT's investments in NGA and Sports) and/or a reduction in the weight of Openreach-copper as a proportion of BT Group
- Analysis of operating leverage supports a widening of the wedge between Openreach-copper and RoBT, and an overall decrease in Openreach's asset beta
- The desire to benchmark the RoBT beta against UK telcos is misplaced since the nature of their businesses and their risk profiles are very different

4.63 Reflecting these points we present three plausible scenarios for betas assuming different wedges and weights which give Openreach-copper betas of between 0.34 and 0.51.

- Proposal 1: Openreach-copper weight reduced to (conservative) 30% and RoBT beta held constant at 0.74
- Proposal 2: Openreach-copper weight reduced to (mid-case) 25% and RoBT beta held constant at 0.74
- Proposal 3: Openreach-copper weight reduced to (mid-case) 25% and RoBT beta increased marginally to 0.78 to allow Openreach-copper beta to be (just above) the top end of utility comparators

	Ofcom	Proposal 1	Proposal 2	Proposal 3
betas				
BTG	0.67	0.67	0.67	0.67
OR-copper	0.60	0.51	0.46	0.34
RoBT	0.74	0.74	0.74	0.78
wedge	0.14	0.20	0.28	0.44
weights				
OR-copper	50%	30%	25%	25%
RoBT	50%	70%	75%	75%

4.7 Gearing

4.64 TalkTalk considers that Ofcom's approach of using the average actual gearing over the (historic) beta estimation period is appropriate for de-levering the equity beta rather than, as BT has previously suggested, using an estimate of what analysts perception of the future gearing might be.

4.8 Conclusions

4.65 Overall, TalkTalk agrees with large elements of Ofcom's view of BT Openreach's cost of capital for its regulated business. There are two key areas where we disagree: we believe that the risk free rate which is set is excessive, and that Ofcom has incorrectly disaggregated BT Group's beta in order to obtain a beta for Openreach.

4.66 Regarding the risk free rate, we believe that Ofcom has adduced no evidence which could lead it to the conclusion that 1.3% is an appropriate figure; indeed, the data is not consistent with the stated reasons for such a finding. Rather, the data points towards the risk-free rate having consistently declined in recent years, and

remaining negative based on market data. Even on a generous interpretation of the evidence, Ofcom could not rationally conclude that the risk free rate should be in excess of 1.0%.

4.67 Ofcom's approach to disaggregating BT Group's beta is unnecessarily '*ad hoc*', lacks sound economic underpinnings, and fails to properly reflect the comparator data presented in Ofcom's paper. Instead of attempting to base the disaggregation on a firm theoretical basis, Ofcom has used a figure from previous decisions, which themselves suffered from a fundamental lack of any underlying reasoning. The empirical evidence which Ofcom has adduced does nothing to support Ofcom's position.

4.68 As such, although TalkTalk believes that large elements of Ofcom's proposed ruling on cost of capital are appropriate and should stand, we consider that Ofcom should revisit its findings on both the risk-free rate and beta disaggregation. As a result of this, the risk-free rate should be reduced to no more than 1.0%, while the beta wedge between Openreach-copper and the RoBT should be increased, with Openreach's asset beta lowered to 0.51 at most, and potentially as low as 0.34.

4.69 With these two changes in place, TalkTalk considers that the most favourable calculation of BT Openreach's cost of capital to BT which remains consistent with the data is as set out in Table 1 below:

Table 1: Openreach estimated cost of capital for copper business (high case)

	Openreach
Real risk-free rate	1.0%
Inflation	2.8%
Nominal risk-free rate	3.8%
Equity beta (mid-point)	0.81
Asset beta (mid-point)	0.51
ERP	5%
Gearing	40%
Debt premium	1.7%
Debt beta	0.15
Tax rate	20%
Pre-tax real WACC	5.2%
Pre-tax nominal WACC	7.9%

5 Pricing controls on migrations/connections

5.1 In this section we discuss the proposed pricing controls on migration/connection products (excluding[56] MPF stopped line provide and MPF WLTO[57]). Ofcom's high-level approach on these controls has been that:

- prices are set on the basis of incremental (LRIC) costs;

[56] These products are included in the MPF ancillary basket
[57] WLTO – working line takeover

- prices are aligned in cases where the products are similar;
- the price of each product is controlled by means of an individual charge control.

5.2 We agree with almost all of Ofcom's proposals in this area. It is a principled and consistent approach that is a clear improvement over previous charge controls, where different approaches were taken for different products (e.g. in the 2012 charge control WLR transfer charge was controlled below LRIC; WLR conversion was not charge controlled at all; while most other migrations were charge controlled at FAC).

5.3 We have the following comments on Ofcom's proposals on migrations:

- We consider that pricing connection charges at LRIC or below is strongly in consumers' interests (see the AlixPartners paper)
- We agree with alignment of prices where services are similar (notwithstanding the point below regarding dynamic efficiency). One of the benefits of this is that it will neuter BT's ability to manipulate the allocation of costs between products to meets its own objectives[58].
- There are economic benefits from having MPF connection prices set relatively lower than the WLR/SMPF connection prices (for analogous products) since there are dynamic efficiency benefits from MPF based competition over WLR/SMPF based competition (see above at §2.6)
- The alignment approach that Ofcom has adopted in practice penalises MPF (albeit slightly) since the MPF services that are priced at the same price as WLR/SMPF services in fact will have slightly lower LRICs. For example, all of the following migration products' prices are aligned at £28.43 in 2016/17 (Table 4.14) yet the MPF products have, on average fewer jumpers and so lower costs:
  - MPF migration: 2, 3 or 4 jumper moves
  - SMPF single migration: 4 jumper moves
  - WLR conversion: 3 jumper moves
  - WLR+SMPF sim provide: 4 jumper moves
- There does not seem to be any sound justification for SMPF New Provide (£23.67) to be priced so far below other connections/migrations such as MPF Single Migration and WLR Conversion (£28.43 – Table 4.14)
  - SMPF New Provide involves 3 jumper moves
  - MPF Single Migration involves 2, 3, or 4 jumper moves
  - WLR Conversion involves 3 jumper moves

[58] See FAMR footnote 190 which notes how BT allocates cost in a way that is not consistent with activity which could allow it to charge higher prices on externally used products. Also in Table 4.13 it shows the FAC of WLR Conversion being £25.45 and the FAC of MPF Single Migration being £30.21 even though the same jumper removals (WLR Conversion 3, MPF Migration 2,3 or 4)

– The FAC cost difference (and consequently the LRIC cost difference) may be unreliable since BT is able to (and has the incentive to) manipulate the cost figures in its favour. See footnote 58 regarding migration costs and also see LLU service assurance costs in the Frontier report §§3.58-3.61, which show an illogical cost trend suggesting manipulation.

6 Pricing controls on other products

6.1 This section discusses Ofcom's proposals on the pricing constraints (e.g. baskets, sub-caps, cost orientation etc) on products that do not have individual charge controls applied to them – for example, MPF jumper removal, tie cables, enhanced/expedite services, accommodation, electricity, SFI, TRC[59]. These are important services whose revenue totals around £400m[60]; it is therefore vital to regulate them appropriately.

6.2 We understand Ofcom's proposals to be as follows:

	Constituent products	Form of price regulation
MPF ancillary services basket	MPF Stopped Line Provide, MPF WLTO, MPF Tie Pair Modification, MPF MDF Remove Jumper, order cancellation/amend, line test	Basket: CPI-8.5% Each individual charge: 5% to 7.5% higher than basket
SMPF ancillary services basket	SMPF Tie Pair Modification, SMPF MDF Remove Jumper (single and bulk), order cancellation/amend, line test, SMPF Flexi Cease Fault Investigation	Basket: CPI-8.5% Each individual charge: 5% to 7.5% higher than basket
Co-mingling ancillary services	Co-location connection, co-location rental, tie pair connection, tie pair rental, HDF, survey, various facilities	Basket: CPI-10.75% Each individual charge: 5% to 7.5% higher than basket
TRC	Standard chargeable, additional hours, supplementary charge	Price = outturn FAC
SFI	Base module, additional modules	Price = outturn FAC
Electricity	Usage charge per kWh (power facilities included in co-mingling)	Price = outturn FAC
Enhanced/expedite	Care levels (above standard), expedite care, expedite MPF/SMPF connection,	Nothing

[59] In effect it is all products/services except: MPF rental, MPF single migration, MPF bulk migration, MPF new provide; SMPF rental, SMPF single migration, SMPF bulk migration, SMPF new provide; WLR rental, WLR transfer, WLR connection, WLR+SMPF SIM provide, WLR conversion.

[60] Ofcom has not provided this data. We estimate this revenue from previous charge controls. From Openreach Financial Framework May 2009 Table A6.7 TRC revenue was £100m (2012/13 estimate), Enhanced care £40m, SFI £37m and A6.255 Co-mingling £181m (2012/13 estimate). In any case, the amount is material

6.5 We discuss these in three sections below: the ancillary services; TRC, SFI and electricity; and enhanced/expedite.

6.1 MPF, SMPF and co-mingling ancillary services

6.6 For each of these three groups of products Ofcom has opted for a basket charge control rather than individual charge controls. We agree in principle with this approach since setting charge controls for each individual service could be difficult. However, although a basket charge control restricts overall cost recovery (i.e. that BT can recover aggregate revenue equal to forecast aggregate cost) it provides no constraint on the price of individual products. We discuss below the risk and potential remedies.

6.1.1 Potential harm from baskets

6.7 Using a basket to control charges allows BT flexibility on the price of individual products. BT can increase its profit by using this flexibility in two ways, both of which are anti-competitive and welfare harming[61]:

- by raising prices on externally used products and lowering prices on internally used products; and/or,
- raising prices on less competitive products and lowering prices on more competitive products (in its consultation Ofcom failed to recognise this form of anti-competitive harm).[62]

6.8 Notably, it is easy for BT to implement this pricing strategy since it is simple to identify which products are purchased more internally.

6.9 The price flexibility could hypothetically be used in a welfare enhancing way by BT recovering differing amounts of common costs from products to increase demand and allocative efficiency (this pricing approach is known as Ramsey pricing and involves recovering more common cost from low elasticity products). This pricing approach can also increase profits. However, the degree to which this might happen in practice is limited

- The potential increase in profit and efficiency from Ramsey pricing is low since (a) the elasticities are likely to be fairly similar and (b) the degree of common costs for these ancillary services is generally low (there is no large common costs such as duct)
- By Ofcom's own admission (§4.344 second bullet), BT does not have the cost information (e.g. LRIC costs for each product and common costs) that would be needed to optimise prices in this way. Further, BT is unlikely to have the price elasticity information necessary either

[61] There is a third form of abuse – gaming the use of current year weights (see Consultation §4.218). We discuss that below

[62] Note that this is different from Ramsey pricing, where economic distortions are minimised by setting higher prices on products with lower *market* elasticities of demand.

- To the extent that BT does have price elasticity information, for products which are competed it will only know the elasticity of demand faced by BT, not the market elasticity of demand (which is the relevant elasticity for Ramsey pricing)
- We are not aware that BT has ever tried to Ramsey price

6.10 The obvious implication of these facts is that BT's pricing approach will be focussed on anti-competitive tactics (e.g. increasing the price of externally used products) which is easy to do and highly profitable rather than Ramsey pricing which is difficult to do and results in limited additional profit. Ofcom gives far too much credence to the idea that BT might price in a welfare enhancing manner – Ofcom seem to think that BT is a benevolent institution which will act against its shareholders' interests in order to benefit society. Such a view is simply unrealistic.

6.11 For products in baskets there are two ways to prevent or deter abuse:

- Designing baskets in such a way that the incentive to price anti-competitively is limited i.e. by designing baskets that are homogeneous in terms of the mix of external versus internal use and competitive versus non-competitive; and/or
- Imposing pricing constraints that prevents excessive prices on individual products

6.12 These two dimensions need to be considered together – if a basket is heterogeneous then the constraint on individual prices needs to be tighter (and visa-versa). We discuss Ofcom's proposals below.

6.1.2 Proposed basket structure

6.13 We agree with Ofcom's basket structure for the MPF ancillary services and SMPF ancillary services i.e. that there should be in two baskets one including MPF ancillary services and one covering SMPF ancillary services. Separation is vital given that MPF is used almost exclusively externally and SMPF is used predominantly internally. If these services were in a single basket BT would have a significant incentive to raise the price of MPF services and lower the price of SMPF services (whilst remaining within the overall control).

6.14 However, we consider Ofcom's approach to co-location, tie pairs and other facilities as clearly flawed. The co-mingling basket comprises services which are used exclusively externally (co-location) with services which are used mostly internally (tie cables). The rationale for combining is particularly weak given that there are no (or very few) costs that are common between the two services and so no allocative efficiency benefits that could be achieved. On a materiality basis it is reasonable to split them up – tie cables alone are £23m and co-mingling £87m[63].

[63] From RFS 2012/13 page 78. Co-mingling includes 'new provides' and rentals. It is not clear where other co-mingling services such as HDF and power facilities are included

6.15 The co-mingling basket has always been poorly designed (and TalkTalk has repeatedly requested it to be redesigned in 2009 and 2012). However, its design is today even more anomalous and inappropriate than it was before:

- Ofcom is proposing substantially weakening the constraints on individual products' prices (see below) making the need for homogeneity in the basket even more critical to prevent abuse
- Ofcom has (rightly) adopted individual charge controls on products with less than £10m of revenue. Thus materiality cannot be a good reason not to redesign the basket
- It cannot be a credible argument that Ofcom wishes to maintain continuity and avoid disruption since (a) there would be no material disruption since the change will be prefigured and (b) Ofcom has (rightly) made significant changes elsewhere for less material products

6.16 We can see absolutely no objective justification for continuing the current highly flawed approach.

6.1.3 Proposed individual pricing constraints

6.17 The second approach to restricting abuse is through constraints on individual prices. There are broadly two ways of doing this:

- Setting one or more price caps in advance that apply to each individual product (based on forecast costs)
- Requiring prices for individual products to be less than a ceiling set by their actual outturn costs

6.18 In both cases, the cost used to set the cap would need to be above FAC in order to allow BT some price flexibility.

6.19 Previously Ofcom has opted to impose constraints based on outturn costs under what is typically referred to as a cost orientation obligation. This required that the price of each and every charge should be below the DSAC cost of that product. In this charge control, Ofcom has opted to instead set a price cap in advance (called a sub-cap). It has proposed to set the sub-cap that applies to each product at 5% to 7.5% above the basket – i.e. basket at CPI – 10.75% and each individual product at CPI – 5.75% (or CPI – 3.25%). It has, it says, set the sub-caps to prevent excessive pricing and gaming and ensure that prices remain below forecast DSAC. For example:

> *we think that a tighter inertia clause or an equivalent sub-cap will be sufficient to prevent the potential risk of excessive pricing for the ancillary services in the Co-Mingling basket that are used by CPs other than BT. (§4.192)*
>
> *[the sub-cap] can be calibrated to mitigate the risks of gaming whilst allowing some pricing flexibility §4.243*
>
> *we have crossed checked that the proposed sub-caps will keep charges below projected DSACs. We therefore consider that the proposed basket caps and further sub-caps are an*

effective means of addressing the varying risks of excessive pricing for ancillary services §4.344

6.20 We agree in principle with the use of price caps set in advance (provided they are correctly calibrated) since this will tend to improve predictability. However, we strongly disagree with the actual approach that Ofcom has adopted. There are several key problems with Ofcom's approach.

6.21 First, Ofcom's claims regarding the effect of the sub-caps on preventing excessive prices are wrong and misleading. What is relevant to prevent abuse is that the prices of individual products are kept at or below their cost (whatever the measure of cost might be). Yet, as Ofcom clarified, the sub-cap will only keep the aggregate revenue for all tie cable and accommodation products below the DSAC for all tie cable and accommodation in the basket[64]. This does not prevent individual product prices being set above DSAC. If Ofcom thinks it does then it is plainly mistaken.

6.22 Second, and more generally, sub-caps (and similarly inertia clauses) cannot prevent excessive prices. All they can do is limit the rate at which prices can increase, which means that prices that are currently excessive can remain excessive (and indeed become more excessive) and prices that are close to being excessive can become excessive. The only way of preventing excessive prices would be to understand the costs of each individual product.

6.23 Third, the premise underlying Ofcom's approach is that prices on individual products that are as high as DSAC are not excessive. There is no logic behind this. Ofcom has not articulated or, it seems, attempted to articulate why prices as high as DSAC are not excessive. Though DSAC is one possible efficient price (since it lies between LRIC and SAC) DSAC is an arbitrary level without any underlying economic rationale attached to it.[65] In practice, DSAC allows BT a very high (and unnecessary) degree of price flexibility since on average DSAC is 80% above FAC[66]. Ofcom has not advanced any evidence that this degree of flexibility is necessary to achieve allocative efficiencies yet we know that this degree of flexibility will allow BT to price anti-competitively (in both an exploitative and an exclusionary manner). Furthermore, there are several other problems with DSAC: it can be gamed by BT since BT selects the product groupings used; it is complex, opaque and unaudited; and it requires

[64] Ofcom said: "*We can clarify that we do not have cost information (neither FAC nor DSAC) on an individual product basis for the products in the baskets. However, we do have cost information for products at the aggregate level of RFS categories. In particular, we do have the FAC and DSAC in 2011/12, published in BT's RFS, for the aggregate RFS categories of Tie cables, Room Build and Hostel Rentals (among others listed in BT's RFS). When we say "we have crossed checked that the proposed sub-caps will keep charges below projected DSACs" we mean this cross check at the aggregate level (using the reported DSACs for the aggregate products)*."

[65] TalkTalk does not accept that there is any link whatsoever between DSAC and contestable market theory, a fiction which is occasionally advanced. There is no economic literature supportive of this proposition, and indeed it is unclear how contestable market theory even has any relevance in a market characterised by sunk costs and meaningful economies of scale. DSAC is not regularly used by any other regulator that we are aware of.

[66] TalkTalk have previously provided Ofcom analysis to Ofcom that shows that FAC+20% is ample enough flexibility to allow allocative efficiencies to be reaped. We can provide this analysis again if useful.

additional effort to compute. Ofcom should stop using DSAC for any regulatory purpose.

6.24 Therefore, Ofcom's proposed regulation does not prevent BT from pricing excessively. We discuss below what options Ofcom has.

6.25 The first, which would be in line with its existing sub-cap approach would be to properly understand the current costs of individual products[67] and then set one or more sub-caps that would ensure that individual product prices could not become excessive. In doing this Ofcom would have to consider what level of price would be excessive. We consider DSAC is not an appropriate measure and FAC+20% would be ample pricing flexibility given the low common costs and likely similar elasticities. The sub-cap(s) would then be set to keep all individual product prices below the forecast FAC+20% for each product.

6.26 The second, would simply require that the outturn mark-ups on products were the same (or less) for external sales than for internal sales[68]. The mark-up could be derived as:

- Mark-up = (price – FAC) / FAC; or,
- Mark-up = (price – LRIC) / LRIC.

6.27 This would require Ofcom to know costs (LRIC or FAC) for each product.

6.28 The third, would be to design the baskets so that they were much more homogeneous (and also have a sub-cap but much nearer to the overall basket cap).

6.29 If Ofcom does not adopt any of these approaches then the sub-cap must be significantly lower e.g. CPI – X + 2%. This will not prevent abuse but will limit the extent to which BT can increase its ongoing abuse of its market power.

6.30 As a general comment we find it rather curious that BT is unable to provide costs for individual products (e.g. see §4.344 bullet 2). BT will clearly be unable to set prices efficiently if they have so little knowledge of their product costs. Furthermore, we do not understand how BT can meet its current cost orientation obligations to demonstrate that 'each and every' charge is priced below (say) DSAC. It is also worrying since it means that (as described above) Ofcom is hampered in being able to regulate effectively. Ofcom's RFS project must consider this issue.

6.1.4 Other issues

6.31 We have a number of other comments on the proposals for ancillary baskets below:

- We note in respect of these ancillary baskets that the Xs are set based on modelling of the glidepath required to align current prices with forecast cost in

[67] If this approach was adopted (or indeed separate baskets for tie cables and co-mingling) then Ofcom would need to scrutinize the allocation of costs as between tie cables and co-mingling

[68] A similar rule would be required for mark-ups on sales in competitive and less competitive markets

2016/17 rather than setting X to equal the efficiency gain which was outlined as an option in the consultation (§4.201). Ofcom's chosen approach is clearly superior since it is more accurate by taking into account prices being substantially above cost today (which would not be corrected under the other approach).

- We note that Ofcom has had difficulty correctly identifying the costs of the ancillary baskets (§A4.209*ff*). Ofcom should require that BT in future reports the costs and revenue for each basket (separately) in its RFS.
- It appears (from §4.203) that in setting the cost/revenue of the MPF ancillary basket the cost/revenue of MPF New Provide is included. This is inappropriate since MPF New Provide is not included in that basket.
- We appreciate that the potential gaming by BT that would result from the use of prior year weights (PYW) has been reduced by removing bulk migrations from broad baskets. However, we consider that using current year weights (CYW) is a superior method to PYW. If Ofcom decides it does not wish to adopt CYW to assess compliance (§A4.251) then we consider than the RFS should report the average basket price change based on both CYW and PYW. That way all parties will be better able to understand whether BT is gaming CYW to 'outperform' the intended control.

6.2 SFI, TRC, electricity

6.32 We broadly agree with Ofcom's proposal that (over each 12 month period) the prices for each of these services should be no more than the *actual* FAC cost (imposed under a Basis of Charges obligation) – see FAMR §§12.53*ff*. The reasons for constraining prices are compelling:

- BT has SMP
- These services are wholly non-contestable in the case of SFI and electricity (and mostly non-contestable in the case of TRC) and therefore absent a hard price constraint BT will price excessively
- The level of common costs for these services are low meaning that the need for price flexibility to achieve allocative cost efficiencies is minimal (even if BT had access to the detailed cost and price elasticity data to be able to set Ramsey prices, which it doesn't)
- Since costs are well understood and predictable (in the case of SFI and TRC) and because charges can be altered mid-year if input costs change (relevant in the case of electricity) we think that the problems of forecast errors resulting in prices materially above or below *actual* FAC are likely to be small

6.33 We presume (taking TRC as an example) that the obligation will be that the TRC prices in aggregate (i.e. standard chargeable, additional hours and supplementary charge) must equal the TRC FAC cost in aggregate – rather than each individual TRC price equalling individual FAC costs. We think that this is acceptable, since although there is a potential for anti-competitive abuse (by for instance pricing up the TRC

additional hours services if it is used more externally) the extent of differences are likely to be relatively small.

6.34 In respect of SFI and TRC (where the costs are mostly predictable and controllable) we think that Ofcom should consider imposing a (basket) charge control (or possibly two) rather than requiring that prices are set to equal outturn FAC. This would provide better cost minimisation incentives. It would also eliminate the risk of gaming whereby BT allocates costs to (say) MPF/WLR rental for the purposes of calculating the charge control and then to TRC and SFI in subsequent RFS that are used to check compliance allocate costs.

6.3 Enhanced / expedite services

6.35 Enhanced or expedite services are optional higher quality services that are charged an additional amount to the standard service (e.g. faster new provide, faster fault repair). Ofcom has proposed that no pricing constraints apply to these services i.e. no basket charge control, and no constraints on individual prices. We do not consider this lack of any price regulation is in consumers' interests:

- BT has SMP so has the incentive and ability to price excessively
- Openreach is significantly over-recovering cost – for instance £500 for a single fault to be fixed 24 hours more quickly[69] where the cost might be £50 and the proposed additional price for a 3-6 day was £50 versus a cost of about £5[70]. This demonstrates a lack of sufficient constraint on their pricing.
- Ofcom itself has previously noted that a lack of pricing constraint would be reason to price regulate these services: it has previously said "*Nevertheless we think basket control would be a credible option for enhanced care services in the event that other options are found to provide insufficient constraint on price behaviour*"[71]
- Openreach sometimes argues that these service are optional, 'value-added' services that are in some sense luxuries where price regulation is not appropriate (it may be that Openreach is also suggesting that the price of these services is in some way constrained by the basic charge). However, this is not the case – for some customers higher service quality is essential and for them the higher quality is standard and not a 'nice to have'. There is no justification for Openreach to make hugely excessive returns for offering these services.
- Such high prices are not necessary in order to provide the incentives for Openreach to innovate[72] - in fact there has been almost no innovation in

[69] Expedite to move from Care Level 2 to Care Level 3 - see TalkTalk response on FAMR for details
[70] see TalkTalk response on FAMR for details
[71] LLU Charge Control Consultation Mar 2011 §4.158
[72] LLU Charge Control Statement Mar 2012 §4.391 "*We also considered whether LLU Enhanced Care services should be charge controlled in baskets or using a safeguard cap (Option 3 in the March 2011 Consultation). However, we felt that this approach could result in inflexibility and/or stifle innovation*"

enhanced/expedite services in the last 3-4 years[73] despite the lack of price regulation. In any case, providing service options is not a difficult innovation

- As we explain in our response to the FAMR regarding service performance, setting enhanced/expedite service prices to equal their LRIC cost differences provides significant benefits in allowing consumers better choice, helping the market to work efficiently and driving better service performance[74]
- The sometimes used reason for allowing price flexibility is that it allows Openreach engage in Ramsey pricing (which is allocatively efficient). However, that argument is not relevant here since under Ofcom's no price regulation approach higher cost recovery on enhanced/expedite is not offset by lower recovery on standard products. In any case, the level of common costs for fault repair is low

6.36 In respect of whether prices are excessive Ofcom seems to be of the opinion that since enhanced/expedite prices have not increased over recent years then regulation is effective. It says: (§4.312)

> *We have assessed BT's prices for LLU and WLR enhanced care services, and note that these have not changed since the March 2012 Statement (or indeed prior to that review). We therefore consider that the current regulation appears to be effective and that there is no evidence to suggest further more onerous regulation would be necessary or proportionate.*
>
> *In light of this, we propose that the existing obligation on BT to align LLU Enhanced Care service charges with WLR Enhanced Care service charges should be retained and consider it would be unnecessary for a more interventionist approach as suggested by TalkTalk. We propose to continue to monitor the charges for LLU Enhanced Care services, and will look carefully at any significant increases, over the course of the charge control.*

6.37 To suggest that regulation is not needed since prices have not increased is plainly illogical. First, just because prices have not increased does not mean that prices aren't excessive. Whether prices are excessive depends on whether prices are above costs (not whether they are higher than they were previously). Second, that prices have remained static (in nominal terms) means that in effect prices are increasing compared to cost (since, for instance, costs fall due to efficiency improvements). That is, even if costs were not excessive (which they were) in March 2012, they may still be excessive in October 2013. Ofcom can only make a judgement about whether prices are excessive based on an analysis of costs. To make any conclusion otherwise is invalid.

6.38 We also note that the price alignment requirement as between WLR enhanced/expedite and LLU enhanced expedite services is *a priori* not sufficient to discourage excessive prices.

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[73] Around 2009 Openreach harmonized the availability and pricing of different care levels across its various products. This is not really genuine innovation but rather 'tidying up'. There has been no meaningful innovation in terms of new service options

[74] given that the standard service is price regulated (since part of the relevant new provide or rental charge) then requiring that the prices of these additional services reflect the cost differences will effectively mean that the prices of these additional services are regulated.

7 Charge control design

7.1 We agree with Ofcom's approach to the charge control design with one small exception – we think the X should be set to the nearest 0.1% rather than nearest quarter of a per cent. There seems little benefit to the 'coarse' approach Ofcom has adopted and previously Ofcom has set Xs to the nearest 0.1%.

7.2 There is a possibility that this new charge control will not be ready in time to be implemented on 1 April 2014. If this is the case then no charge control will apply and an interim price will need to be applied. We wish to discuss with Ofcom how it might tackle this possibility.

8 Other

8.1 We note that BT's margins on its copper products are much higher than on its fibre products (e.g. BT Infinity) – this is evident from the fact that BT Infinity products have only marginally higher retail prices even though the costs (e.g. GEA connection and rental charges) are substantially higher. Whilst this may be indicative of sub-normal profits on fibre products and a margin squeeze (and we think there is a margin squeeze) it may also be indicative of super-profits on copper products. Ofcom should consider whether this is the case and if so, whether it implies that wholesale LLU charges are too high.