



**LLU & WLR CHARGE CONTROLS CONSULTATION  
RESPONSE BY BSKYB (“SKY”)  
NON-CONFIDENTIAL**

**EXECUTIVE SUMMARY**

1. As one of the largest providers of retail broadband and telephony in the UK, Sky spends hundreds of millions of pounds each year on Local Loop Unbundling (“LLU”) and Wholesale Line Rental (“WLR”) services, while making significant investments in its own network and equipment. LLU-based competition and investment has brought considerable benefits to consumers through increased availability of innovative products at lower prices. In this context, it is essential that the proposed LLU and WLR charge controls are based on sound logic and robust evidence.
2. At this stage, Sky’s key points in terms of Ofcom’s consultation on the next LLU and WLR charge controls are as follows:
  - (i) BT’s duct revaluation should be ignored for the purposes of setting LLU and WLR prices, partly because it does not reconcile with the actual investments BT has made in its duct assets (indexed forwards by the estimated change in costs) – which, with an appropriate allowance for recent efficiency gains, is a better method by which to evaluate costs and set prices.
  - (ii) Copper commodity price volatility has introduced potential instability into WLR and LLU costs. To counter this, Ofcom should consider smoothing or normalising holding gains (or losses) and subsequent changes in depreciation costs. Further, as the charge control model captures increases in copper depreciation that arise from increases in copper prices it should also adequately capture any off-setting effects of rises in the residual scrap value of copper.
  - (iii) Ofcom is correct, when drawing upon a variety of benchmarks in order to set target efficiency gains within the charge control, to place more emphasis on BT’s historic performance because it is a more reliable guide to future performance than other benchmarks. BT’s claims that past efficiency gains are unrepeatable have largely been discredited by its actual performance. Indeed, Openreach’s most recent gross efficiency gains (6.5% p.a.) and those indicated in BT’s own industry benchmarking study (7.5% p.a.) suggest that a higher target than currently proposed by Ofcom (5.0% p.a.) is reasonable.

- (iv) Certain cost allocations and assumptions in the charge control modelling do not appear justifiable. For example, Openreach, and Metallic Path Facility (“MPF”) in particular, are contributing to more of BT’s Cumulo rates (business rates) than they would if allocations were made on the basis of cost causation. Ofcom should review the allocation methodology within the model so that relatively more of these costs are borne by other BT lines of business as well as NGA and WLR.
- (v) The charge control model should be updated so that all costs caused by NGA are allocated to it, NGA makes an appropriate contribution to common costs, and allocations are dynamic in anticipating growth in NGA service volumes. There is no need to adopt an anchor pricing approach – even as a cross check – because there is no risk under a robust Fully Allocated Cost (“FAC”) approach that BT’s fibre-to-the-cabinet (“FTTC”) deployment will result in rising LLU and WLR costs.
- (vi) Ofcom tests that the differentials between the estimated FACs of each of the copper access services – WLR, MPF and Shared Metallic Path Facility (“SMPF”) – are efficient and are not distortionary. However, irrespective of what measure is used for this cross-check, the test is rendered meaningless because there are potentially material errors in Ofcom’s FAC calculations. Specifically, there is a risk that the proposed cost difference between WLR and MPF is too low because:
  - a) MPF prices are not based on what could be the most efficient forward-looking wiring arrangement in the exchange (“single jumper”). Single jumpers could result in fewer faults and cabling costs and, hence, a lower MPF price; and
  - b) there is evidence that contradicts BT’s assertion that the line length adjustment – whereby less copper costs are allocated to MPF on the basis that, on average, they are shorter than WLR lines – is no longer justified.
- (vii) There are important services that are either within one of the “ancillary service baskets” or not charge controlled at all. [confidential].

## STRUCTURE OF THIS RESPONSE

3. This submission comprises the following sections:

<b>SECTION 1</b>	<b>THE TREATMENT OF BT'S CAPITAL ASSETS: DUCTS &amp; COPPER</b>
<b>SECTION 2</b>	<b>EFFICIENCY</b>
<b>SECTION 3</b>	<b>GROUP COST ALLOCATION</b>
<b>SECTION 4</b>	<b>TREATMENT OF NGA COSTS</b>
<b>SECTION 5</b>	<b>PRICE DIFFERENTIALS</b>
<b>SECTION 6</b>	<b>KEY MIGRATION SERVICES, ANCILLARY SERVICES AND OTHER CHARGES</b>

4. It is supported by various papers commissioned jointly by TalkTalk and Sky from Frontier Economics and Analysys Mason which will be made available separately.

### **SECTION 1. THE TREATMENT OF BT'S CAPITAL ASSETS: DUCTS & COPPER**

5. For the purpose of setting the WLR and LLU price controls, it remains appropriate to value BT's older duct and copper assets on a Historic Cost Accounting ("HCA") basis through the so-called Regulatory Asset Valuation ("RAV") adjustment. This downwards adjustment protects consumers from over-recovery by BT of its past investment costs in duct and copper. For newer assets, the valuation should be based upon BT's past capital expenditure appropriately indexed forwards to account for both cost inflation and recent efficiency gains.

#### **The RAV adjustment is justified**

6. According to Ofcom, the cost of duct and copper – plus the allowable rate of return on these assets – accounts for half of the cost of a WLR or MPF line. Duct and copper have not been decreasing markedly in value over time and have long asset lives. Further, access networks typically have high sunk fixed costs that render competing infrastructure investments unlikely.
7. Since 1997, Ofcom has based the calculation of these asset values on CCA whereby valuation is made by reference to an estimate of today's cost of replacing BT's ducts and copper wires allowing for any depreciation (Net Replacement Cost, "NRC"). Prior to 1997, BT's regulated charges were based upon Historic Cost Accounting ("HCA") where the actual expenditure on constructing ducts and installing copper cables was depreciated over the respective asset lives to arrive at a valuation of the access network.
8. In 2005 it was recognised that, in the case of assets with rising values, such as duct and copper, moving from HCA to CCA would result in windfall gains<sup>1</sup> for BT over time and that the resultant higher wholesale costs could stifle LLU-based competition downstream of this point. As a result, in 2005, Ofcom introduced the RAV adjustment

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<sup>1</sup> Windfall gains occur in this situation because the trajectory of cost recovery is different under historic and current cost accounting. Under HCA, more cost is recovered earlier in the asset life compared to the CCA approach where more is recovered later on. Thus, BT would gain from the shift between accounting standards because its pre-1997 assets would benefit from both the higher early life recovery profile of HCA and the higher later life recovery profile of CCA.

whereby BT's pre-1997 assets were no longer valued on a CCA basis and valued on a (lower) HCA basis indexed forwards from 2005 instead. Subsequent LLU and WLR charge controls have been calculated in this way.

9. One of the key principles that underpins the use of CCA in order to set regulated charges is that, by setting charges on a forward-looking, efficient basis, the correct investment signals are sent to potential new entrants. In the context of the current charge control review, that means ensuring the prices only incentivise sustainable deployment of alternative local access networks and do not encourage inefficient entry by setting prices too high.
10. However, as recognised by Ofcom in 2005 when it reverted to evaluating part of BT's network on an historic cost basis, the likelihood of a new access network being built to compete with BT's local access network is very low. However, LLU-based competition has proved effective and sustainable downstream of this point and future competition may prove viable through shared access to BT's ducts (Physical Infrastructure Access, "PIA").
11. Given these conditions, Sky considers that greater weight should be given to Ofcom's other specific objectives for the LLU and WLR charge controls, i.e. preventing excessive charging, promoting efficient and sustainable competition in the delivery of LLU and WLR services, encouraging investment and innovation in relevant markets and allowing BT to recover its costs<sup>2</sup>.
12. In light of these priorities, it is justified to continue to use an adjustment to pre-1997 assets – such as the RAV adjustment – in order to prevent BT from over-recovering its costs as a result of the move to CCA from HCA in 1997.

### **BT's duct revaluation is not credible**

13. In 2009/10, BT changed a key assumption in its duct valuation methodology. BT had moved to a single national supplier, Telent Carillion, of civils work (duct construction and repair) that resulted in a lower per-metre charge for duct replacement but, crucially, BT reduced the "national discount factor" that it applied to this price in order to estimate what it would cost to replace its entire duct network. As a result, the NRC valuation rose significantly and, if allowed, could flow through to significantly higher regulated WLR and LLU prices. The effect of this single, arbitrary change added £1.8bn to BT's duct asset values in its 2009/10 Regulatory Financial Statement ("RFS").<sup>3</sup>
14. Ofcom proposes to ignore the duct revaluation for the purposes of setting LLU and WLR prices because it does not reconcile with BT's past capital expenditure on replacing its duct assets, indexed forwards by the estimated change in cost of

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<sup>2</sup> Paragraph 2.39, Charge control review for LLU and WLR services, 31 March 2011 (updated)

<sup>3</sup> Under CCA, changes in asset values should not alter overall cost recovery – because the resultant holding losses and gains should act as an exact counterweight to subsequent changes in depreciation costs – but, in fact, windfall gains or losses can occur because charge controls are re-set periodically. If the revaluation were allowed) BT would gain from higher regulated charges from 2011-14 to account for higher depreciation charges but it has avoided having to charge lower prices in 2010/11 to reflect the large holding gain that was booked in the 2009/10 RFS.

building those assets. Instead, Ofcom is proposing to base its own valuation of BT's duct network on the indexation of BT's past capital expenditure.

15. Sky agrees that it would be inappropriate to allow BT's recent duct valuation to form the basis of WLR and LLU charges because these costs bear no resemblance to what BT has actually been spending on its ducts in recent years, even allowing for some cost inflation. The report by Frontier Economics commissioned by Sky and TalkTalk Group ("TTG") corroborates Ofcom's view that BT's valuation is not credible. The Frontier Economics report states:

*"Our independent analysis supports Ofcom's view that BT's valuation is inconsistent with past capital expenditure, assuming credible price trends. Furthermore, incorporating BT's upward revaluation would lead to BT materially over-recovering costs and hence to prices that are higher than necessary to ensure an adequate rate of return...."*<sup>4</sup>

16. On the face of it, Ofcom's approach of indexing forwards recent capital expenditure appears more reasonable. However, the simple indexation suggested by Ofcom based on a general construction industry inflation index, which, in any case, broadly maps to the Retail Price Index ("RPI"), does not adequately capture movements in the true replacement cost of duct since 2005.
17. While there will have been some cost inflation over the relevant period, there will also be efficiency gains as clearly demonstrated by BT's recent move to a single national supplier of civils work. BT estimates that replacing a multitude of regional suppliers with one single supplier resulted in an 8% reduction in the unit cost of duct replacement work. This nominal cost reduction stems from the scale and scope efficiencies that a national supplier like Telent Carillion can offer.
18. Ofcom's historical indexation approach, however, does not adequately capture this and, as such, Sky considers that an indexation methodology should be used that also accounts for the 8% efficiency improvements when Ofcom sets final prices later in the year. As the Frontier Economics report states<sup>5</sup>:

*"As the rate at which BT makes efficiency gains apparently exceeds the rate at which unit costs of key inputs such as labour increase, the unit cost of duct should decline in real terms over time. This does not appear to have been taken into account in Ofcom's modelling which is based on a construction price index which appears to be a poor proxy for movements in BT's costs."*

19. By including BT's recent efficiencies within the indexation calculation, the duct valuation will be somewhat lower than Ofcom's original proposal.

### **The need for a longer term solution**

20. As the size of the RAV adjustment for BT's pre-1997 assets decreases over time (as these assets near the end of their asset lives), costs will converge to the full CCA

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<sup>4</sup> Page 1, *Duct and copper valuation*, Frontier Economics, August 2011.

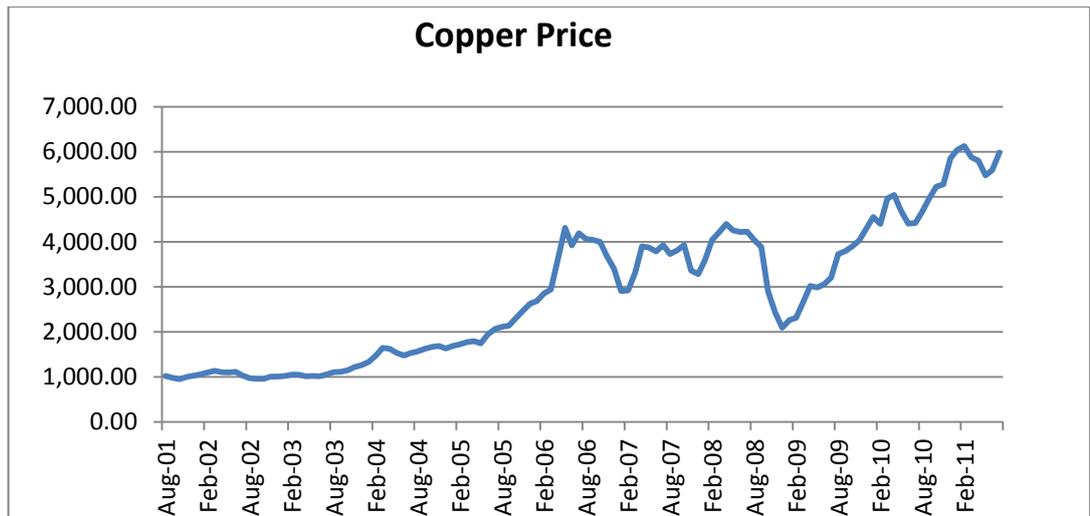
<sup>5</sup> Page 1, *Duct and copper valuation*, Frontier Economics, August 2011.

value. Given that there is no real prospect of alternative deployment of a local access network, but competition based on access to this common input is established through LLU and likely to develop further based on PIA, it is questionable whether such an approach (full CCA) best meets the objectives of the charge control.

21. Moreover, Frontier Economics found that it is likely that the CCA depreciation charges within the RAV model have significantly exceeded capital expenditure since 2005, and that the sustained discrepancy between the two suggests that depreciation may be overstated. Thus far this issue has not mattered because “RAV adjusted” depreciation has effectively brought depreciation into line with capex over recent years. However, as the RAV adjustment unwinds, adjusted depreciation will rise towards the CCA depreciation value and could deviate further from capex.
22. Such a deviation will not mean that costs are necessarily over-recovered but it will affect the timing of cost recovery by bringing it forwards and this raises the risk that incentives will be distorted or opportunities for windfall gains and losses may arise when charge controls are reviewed and renewed.
23. Frontier Economics lays out in its report a proposed alternative asset costing methodology that takes forward Ofcom’s current proposal but aligns future depreciation charges to operating capital maintenance (“OCM”) and ensures the previous charge control valuations are “rolled forwards” into the next to ensure consistency in cost recovery. This model has similarities to “renewals accounting” approaches adopted in other sectors like the water industry.
24. In light of weaknesses in the current RAV approach and the potential for BT to manipulate prices simply by changing cost assumptions, Sky recommends work begins now on considering whether there is a more robust approach – such as the one proposed by Frontier Economics – to asset valuation that could be adopted for the next charge control (2014-17). Any change in the accounting treatment of BT’s capital assets for the purposes of setting charge controls needs careful and full consideration.

### **Dealing with copper cost volatility**

25. The prospect of operators sharing BT’s ducts through PIA means that, unlike the ducts themselves, competing cable networks may be rolled out in the future and, therefore, it remains important that the costs of cables in the charge control calculation reflect the competitive level of prices, *i.e.*, those of an efficient operator.
26. Copper commodity price volatility since 2005, however, has introduced instability to WLR and LLU costs and increased scope for windfall gains or losses. Since large prices falls during the financial crisis of 2007 – 09, prices have tripled.

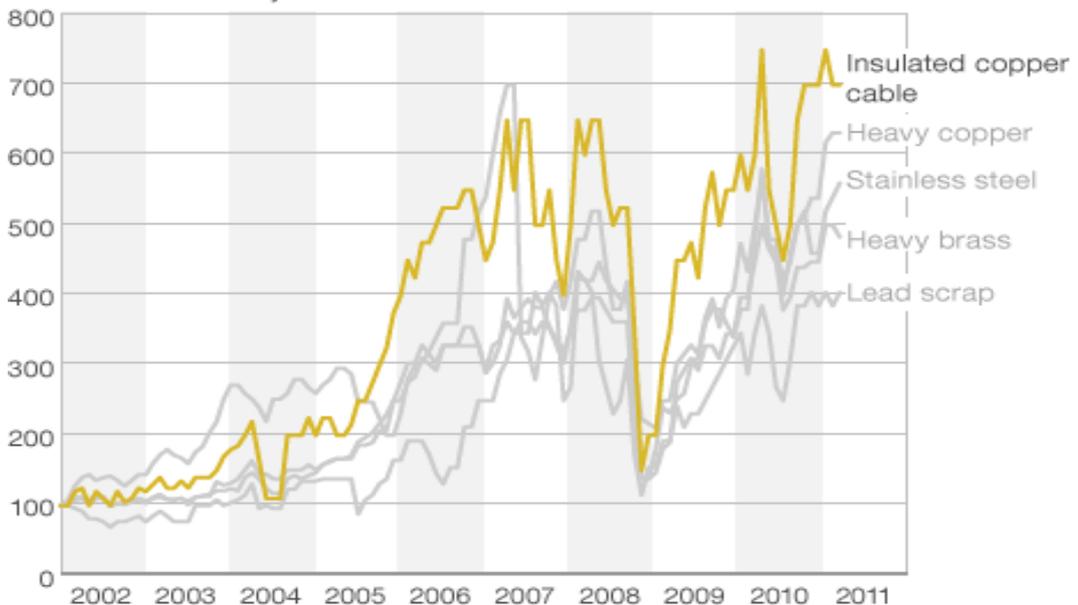


Copper, grade A cathode, LME spot price, CIF European ports, Pound Sterling per Metric Ton  
Source: London Metals Exchange

27. While copper commodity prices increased six fold since 2002, however, scrap copper prices have risen more quickly - by seven times over the same period. Currently, Cathode Grade A copper costs nearly £6,000 per tonne while scrap copper cable costs nearly £1,500 per tonne. As a result, any increases in depreciation that arise from increases in copper commodity prices will be partially offset by rises in the residual scrap value of copper.

### Scrap metal prices

Price as % of January 2002 level



Source: letsrecycle.com

28. It is important, therefore, that the residual value of BT's copper assets when they reach the end of their useful life in the network is reflected properly in BT's accounts and, subsequently, in Ofcom's charge control modelling.

29. More recently, fears of a “double-dip” recession and downgraded growth forecasts in many economies point toward growing downside risks to the global economic recovery. If the recovery falters, copper price inflation may slow or reverse. Ongoing volatility and uncertainty over future prices, coupled with potential new entrants deploying fibre rather than copper in BT’s ducts, strengthens the case for a valuation methodology based on past capital expenditure indexed forwards by a more reasonable and stable inflation measure (such as RPI).

## SECTION 2. EFFICIENCY

30. The target net efficiency rate (4.5% p.a.)<sup>6</sup> by which unit costs should fall under Ofcom’s proposed price cap is too low. The two most reliable indicators of future efficiency gains – Openreach’s most recent historic performance (6.5% p.a. gross) and an industry benchmark study (by Oliver Wyman) commissioned by BT (7.5% p.a. gross) – both indicate that efficiency gains should be nearer to, or even above, the top end of Ofcom’s proposed range (4% – 6% p.a. gross).
31. Sky and TTG commissioned a report from Frontier Economics on Ofcom’s approach to efficiency modelling and the benchmarks that it used to set the target efficiency rate.<sup>7</sup>

### Overall approach to efficiency

32. In setting the efficiency rate for the charge control, Ofcom states that it has:

*“..considered a range of indicators that may reasonably incentivise Openreach to bring its costs in line with those of an efficient operator.”<sup>8</sup>*

33. Ofcom says that it is trying to establish an efficiency rate that can be applied to all cash costs and captures all means of delivering efficiency<sup>9</sup>. Implicit in Ofcom’s approach is the need to capture two types of efficiency within the target:
- “Catch up” – the rate at which BT needs to reduce its costs in order to match those of an efficient operator; and
  - “Movements in the frontier” – the rate at which any efficient operator can expect to continue to reduce costs in the future.
34. As noted in the Frontier Economics report, the target should also capture all sources of efficiency:
- *“Changes to the mix of inputs - An efficient firm will seek to employ the “optimal” (i.e. least cost) combination of capital, labour and other input factors;*

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<sup>6</sup> Ofcom equates this to a 5% gross efficiency rate minus 0.5% to allow for the costs of achieving efficiency.

<sup>7</sup> *Charge control review for LLU and WLR services – Analysis of the estimation of efficiency assumptions*, Frontier Economics, August 2011

<sup>8</sup> Paragraph A7.6, Ofcom, *op cit*.

<sup>9</sup> Paragraph A7.2, Ofcom, *op cit*.

- *Labour productivity - If a member of staff produces more services in a given amount of time, this raises efficiency;*
- *Real unit input cost reductions - If the input costs per unit can be reduced, efficiency increases;*
- *Fault reductions - If fault rates decrease, this improves efficiency by reducing the costs of addressing these faults; and*
- *Technology changes - If a new, less costly technology can be used to perform a given task, efficiency increases.*<sup>10</sup>

35. Therefore, when assessing the various efficiency benchmarks in order to estimate future efficiency gains, Ofcom should give greater weight to those that capture all sources, and both types, of efficiency - or at least recognise that those benchmarks that do not do this are likely to underestimate the scope for future efficiency gains).
36. Ofcom's approach is a welcome departure from how it dealt with these issues in 2009 where it attempted to model efficiencies for only the subset of BT's total costs that BT had claimed were "compressible". This approach was flawed because it focussed too heavily on BT's stated view of what was achievable as opposed targeting where BT should be if it were an efficient operator.

## **Benchmarking**

37. In the current review Ofcom draws upon a variety of benchmarks in order to estimate the efficiency targets to be included within the charge controls:
- BT's historic efficiency;
  - Openreach's internal targets - based upon BT's Medium Term Plan ("MTP");
  - Unit Cost Study - KPMG;
  - Statistical studies comparing BT to other incumbent telecommunications companies<sup>11</sup> from the U.S.A - NERA; and
  - BT-commissioned confidential industry benchmarking report - Oliver Wyman.
38. In proposing a net efficiency rate of 4.5% (range 3.3% - 5.5%), Ofcom states that:
- "..we have not relied upon any one particular piece of evidence but have instead applied our judgement to the range of evidence available."*<sup>12</sup>
39. Ofcom produces the following chart<sup>13</sup> to show the various outturn efficiency gains implied by each of the individual sources of benchmarking.

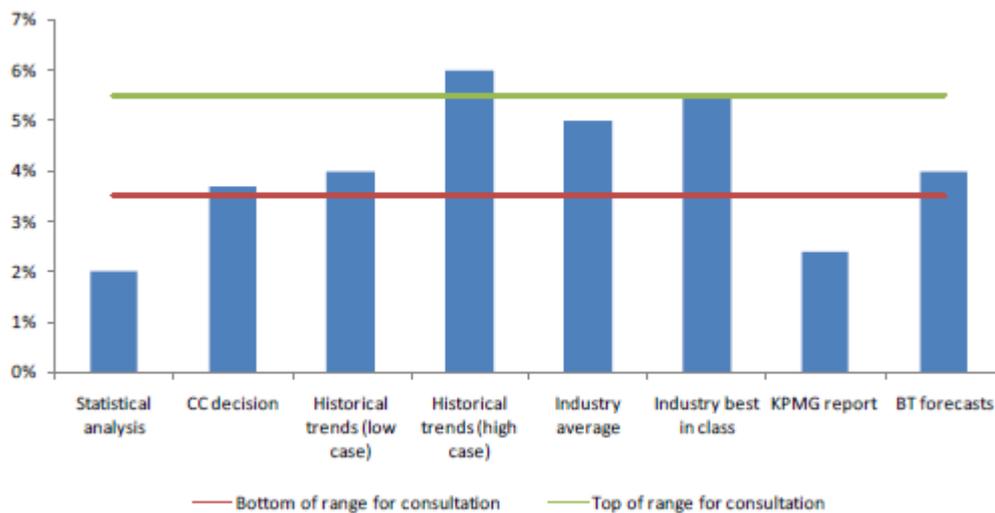
<sup>10</sup> Page 2, Frontier Economics, *op cit*.

<sup>11</sup> Local Exchange Companies ("LECs").

<sup>12</sup> Paragraph A7.41, Ofcom, *op cit*.

<sup>13</sup> Figure 7.1, Ofcom, *op cit*.

Figure 7.1: range of evidence to inform efficiency



40. From this it is possible to discern that Ofcom has placed relatively little weight on the statistical study (NERA) and the unit cost report (KPMG) compared to the other benchmarks such as historic performance. Frontier Economics considers<sup>14</sup> that the statistical study is of limited use for benchmarking because it:

*“..is based on an accounting view of costs which is not directly comparable to the “cash costs” basis which Ofcom uses.”*

Whereas, both NERA and KPMG studies:

*“...seem to be the least robust because, in part, they rely on data which will limit the accuracy of the results.”*

41. Further, Frontier Economics found that:

*“Of the other three approaches [Wyman, Historic performance and BT forecast], it appears likely that they account for all potential sources of efficiency and, as such, are more comprehensive. In addition, they rely on data which is likely to be more relevant to BT. However, the Wyman study, by not taking into account movements in the efficiency frontier, provides a conservative estimate of efficiency savings. These sources of evidence support an assumption for efficiency gains of the order of 4-6% which is slightly higher than Ofcom’s range. This suggests that a number at the higher end of the range may be justified.”*

42. While these three remaining benchmarks are likely to be more useful when estimating future efficiency gains, Wyman is likely to underestimate BT’s scope for future efficiency gains. This is because, according to the latest report, BT would have to achieve 5.5% annual efficiency gains for three years to merely catch up with the top 25%<sup>15</sup> efficient incumbent telecommunications companies across Europe today.

<sup>14</sup> Page 4, Frontier Economics, *op cit*.

<sup>15</sup> It should be noted that other studies, such as NERA’s, define “best in class” and the top 10%.

To account for movements in the frontier as well would imply a higher efficiency gain of around 7.5% (an additional 2%<sup>16</sup>).

43. BT has continually claimed during previous charge controls consultations and any subsequent appeal that the scope for further efficiency gains was limited. It has argued that past (higher) gains should not be given too much weight because they were unrepeatable as they related to discrete one-off projects.
44. For example, in its response to the first stage of the 2009 LLU Charge Control review<sup>17</sup>, BT argued that:

*“Openreach firmly believes that Ofcom’s cost modelling should assume an efficiency target closer to the lower end of Ofcom’s range (i.e. 1%)...”<sup>18</sup>*

45. However, by the time it responded to the second stage of the consultation and after BT’s results had demonstrated much higher efficiency gains, BT argued that:

*“Ofcom must set an achievable rate of efficiency. Openreach’s recent financial results illustrated that we continue to strive for cost savings and efficiencies, and in this time of economic crisis, we will bring forward similar programmes of work to drive more efficiencies which, in the short-term, are in the order of the ranges proposed by Ofcom. We expect to deliver to the 4% range in 2009/10. The scope for efficiency and Openreach’s ability to realise efficiencies will diminish over time - Ofcom’s proposed target of 4% year-on-year is not economically sustainable or replicable, even for the short 1 to 2 year charge control now proposed.”<sup>19</sup>*

46. According to Ofcom in the current review, however, Openreach has actually delivered average annual efficiency savings of 6.5% over the last two years:

*“We estimate that Openreach delivered efficiency savings of around 4% in 2009/10 and 9% in 2010/11 (after adjustments for inflation and changes in volumes).”<sup>20</sup>*

47. Nevertheless, in this current review, BT continues to argue that these efficiency gains relate to unrepeatable one-offs:

*“Openreach has argued that these savings are not indicative of the recurring efficiency gains that might be achieved in the future. Specifically, Openreach has argued that some of the savings were one-off in nature and will not be repeated in the future.”<sup>21</sup>*

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<sup>16</sup> This based on the KPMG report conclusion on long term efficiency trends (section 3.8.1). This element of the KPMG report provides a reasonable estimate for movements in the frontier because it is based on OECD data of the UK’s 20-year historical average of labour productivity growth.

<sup>17</sup> A New Pricing Framework for Ofcom, 2008/9.

<sup>18</sup> Page 33, *A New Pricing Framework for Ofcom – Openreach Response to Ofcom Consultation (dated 30 May 2008)*, 8 August 2008,

<sup>19</sup> Paragraph 5(e), *A New Pricing Framework for Openreach – Openreach Response to the Ofcom Second Consultation of 5 December 2008*, 6 March 2009. Non-confidential version.

<sup>20</sup> Paragraph A7.29, Ofcom, op cit.

<sup>21</sup> Paragraph A7.30, Ofcom, op cit.

48. However, BT's argument that the scope for future efficiency is low and that past gains would not occur again has been undermined by the facts. BT's historic efficiency gains show that it continues to be able to identify and execute discrete one-off projects aimed at improving efficiency.
49. In fact, the CC has already expressed a view on this issue in its determination of the appeal of the previous LLU charge control where it supported the appellant's view that, just because BT claimed that certain cost reduction projects could not be repeated, it did not mean that there are no other sources of future efficiency - both identified and unidentified - that will enable BT to achieve similar rates:

*"We also noted Mr Shurmer's [Director of Regulatory Affairs, BT Openreach] argument that specific savings made in the past were unsustainable. In our view, Mr Shurmer's arguments explained why specific savings made in the past might not be repeated but did not explain why historic rates of savings were an unreliable guide to savings that may be made in the future."*<sup>22</sup>

50. In summary, historic performance can be a useful guide to the scope for future gains, albeit - as recognised by the CC<sup>23</sup> - it may prove less useful for longer term efficiency forecasting. As such, it is appropriate for Ofcom to place relatively more weight on Openreach's increased efficiency gains of 6.5% p.a. over the last two years as well as the 7.5% gross figure implied from the Wyman Study. If it were to do so, it would find that a target efficiency rate well above its current proposal of 4.5% net efficiency gain is justifiable.

#### **Evidence of BT's continuing inefficiency**

51. BT's employment practices provide a demonstration that BT operates at a level of inefficiency that does not occur in more efficient firms - and that the costs of BT achieving efficiency are higher than elsewhere:
- BT has a non-compulsory redundancy policy and a low staff attrition rate. A further ramification of the former is that poorly performing employees have less incentive to improve because there is little danger of being compelled to leave;
  - Equally, for those that do choose to leave, BT's redundancy policy - especially in conjunction with its final salary pension scheme (to which, due to BT's low staff attrition rate, many current employees continue to contribute)- is generous in offering 6 - 12 months' severance pay; and
  - The Communications Workers Union (CWU), under the threat of strike action, brokered a three year pay deal in 2010 (9.3% over three years) of which Andy Kerr, CWU Deputy General Secretary, said:

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<sup>22</sup> Paragraph 106, *The Carphone Warehouse Group plc v Office of Communications - Case 1111/3/3/09 - Determination.*

<sup>23</sup> *"In general terms we think that the predictive power of historic rates of efficiency saving diminishes over time as circumstances, including cost structures and technology trends, change. In our view, however, the historical indicators of Openreach efficiency should be reliable for at least the first year of the price control, and represent useful indicators for the whole of the period under review."* (Paragraph 185, CC, op cit.)

*“This deal is among the highest pay settlements in the country this year...”<sup>24</sup>*

52. In light of this evidence of continued inefficiency, we recommend that Ofcom places most emphasis upon BT’s historic performance and accepts that there is a considerable way to go in terms of BT catching up with any reasonable idea of an efficient operator.

### **The high costs of BT achieving efficiency**

53. The benchmarks that Ofcom uses as indicators of future efficiency gains at BT are expressed in gross terms. Ofcom, in setting a net efficiency target of 4.5%, has assumed that this equates to a gross efficiency rate of 5% reduced by 0.5% to allow for BT’s cost of implementing the required cost cutting programmes i.e. 0.5% is the cost to BT of making the requisite staff redundant (leavers’ costs).

54. This approach is flawed in two ways:

- It assumes that all efficiency is delivered through staff reductions as opposed to other, cheaper sources of efficiency gain; and
- BT’s leavers’ costs are too high because – as stated above – staff attrition rates are very low, there is no compulsory redundancy and voluntary redundancy packages are overly generous.

55. Unless the assumed cost of implementing efficiency gains – i.e. BT’s leavers’ costs – is itself subject to control and efficiency targets, there will be no incentive on BT to introduce more efficient employment practices and its wholesale customers and consumers will continue to pay higher prices as a result.

56. Sky recommends that Ofcom benchmarks BT’s leavers’ costs against standard industry practice and revises downwards its assumed cost of achieving efficiency in the model. This will have the effect of increasing the target net efficiency rate. As an alternative, Ofcom could aim higher in its gross efficiency range in order to allow for inefficient leavers’ costs.

### **Ofcom’s implementation of efficiency gains in the charge control models**

57. Frontier Economics also reviewed Ofcom’s implementation of the target efficiency factor within the charge control model. It found that the precise implementation was overly complicated and suggested a simpler alternative. Further, the efficiency factor is not applied uniformly throughout the model (in contrast to Ofcom’s proposed approach in the consultation).

## **SECTION 3. GROUP COST ALLOCATION (TRANSFER CHARGES)**

58. Whilst it is not possible to test the reasonableness of many of the group cost allocations, the allocation of BT’s Cumulo (business) rates to Openreach and its services does not appear to be done on a causal basis which, in this case, should be

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<sup>24</sup> <http://www.bbc.co.uk/news/10568420>

one that only reflects profitability and not the extent to which capital assets are used by services. As a result, MPF and to a lesser extent WLR, contribute too much to BT's Cumulo rates bill in the charge control model while NGA and other BT lines of business do not contribute enough.

59. Before Ofcom sets the final price caps later this year, it should adopt a different allocation methodology that allocates Cumulo rates on a pure profit basis and not on the current "profit weighted net replacement cost" approach.

### Background to transfer charges

60. Openreach makes a contribution to a variety of costs that are incurred directly at the BT Group level. Five items make up 80% of the overall transfer charge:
- Accommodation;
  - Cumulo rates;
  - Corporate overheads;
  - BT Fleet; and
  - IT Spend.
61. Ofcom has produced the following table<sup>25</sup> to show its forecasts of the total of group costs that are allocated to Openreach over the period of the charge control:

**Figure 8.3: Openreach transfer charges (2009/10 to 2013/14) – Ofcom numbers**

£m	2009/10	2010/11	2011/12	2012/13	2013/14
Accommodation	182	137	134	131	127
Cumulo Rates	178	101	100	97	95
Supply Chain	×	×	×	×	×
Mobile Comms	×	×	×	×	×
Supply Chain & Mobile Capitalisation	×	×	×	×	×
Fleet	×	×	×	×	×
Corporate Overheads	141	123	113	108	107
Insurance Charges	×	×	×	×	×
Low User Social Telephony	63	58	55	52	49
Phonebook Cost Recovery	39	39	38	38	38
Other Charges	×	×	×	×	×
Managed Services Net	64	52	51	49	48
SLG Charges	15	8	8	8	7
IT Spend	401	403	391	380	370
<b>Total</b>	<b>1,216</b>	<b>1,075</b>	<b>1,037</b>	<b>1,003</b>	<b>970</b>

Note: IT Spend is shown net of capitalisation. For reference IT capitalisation totals £73m in 2009/10 and £79m in 2013/14.

62. The methodologies that are used to allocate group costs to BT's lines of business can vary dependent on the cost category and include allocations based upon full time equivalents ("FTEs"), revenues, costs, accommodation and occupied capital. By way of illustration, Ofcom points out that:

<sup>25</sup> Figure 8.3, Ofcom, *op cit*.

*“The table shows that, for example, Openreach receives 25% of accommodation costs, 83% of Cumulo rates, 43% of corporate overheads and 24% of IT spend. To put these figures into some context, in 2009/10 Openreach generated around 20% of BT Group revenue, employed around 30% of BT Group staff, and accounted for around 40% of BT Group’s capital base.”<sup>26</sup>*

63. It has not been possible to test fully the reasonableness of all these allocations because the charge control models are heavily redacted and the consultation documents do not always offer a full explanation. Some allocations appear defensible such as some of those for accommodation costs. However, for Corporate Overhead functions like Group HQ (including tax, treasury, legal and reporting costs), there are other allocation methodologies – not just FTE-based – that are plausible and may better reflect causality.

### **Cumulo rates**

64. The allocation of Cumulo rates to Openreach and then on to WLR and MPF services does not appear to be sound.
65. Cumulo rates are the non-domestic (business) rates liability that BT Group pays on the rateable assets in its network. They relate mainly to ducts, cables, manhole covers and exchange buildings. The rates bill is calculated by multiplying the rateable value (RV) of BT’s network (or “hereditament”) by the “rate poundage”.
66. The government’s Valuation Office Agency (“VOA”) estimates the RV of BT’s network by reference to the “receipts and expenditure” method – in other words, the total net profits or cash flows of all the services that make any use of the network. It does not matter the extent to which individual services make use of the network – it is the aggregate net profits of any services that use the network which drives the RV.
67. However, while net profits cause the size of BT’s Cumulo rates bill, these costs are not allocated to Openreach and its services in this way within the charge control model. BT allocates 83% of its rates costs to Openreach even though it only accounts for only 20% of the group revenues<sup>27</sup>. The result is a BT forecast Cumulo rates allocation to Openreach of around £100m p.a. over the three years of the charge control. In 2010/11, approximately £5.40 is allocated to WLR and MPF respectively falling to £3.10 by 2013/14.<sup>28</sup>
68. This does not appear plausible. BT Group earned revenues of c£15bn in 2010/11 and a very conservative assumption would be that two thirds of BT’s products and services made use of its network. This would imply that at least £10bn of total revenue relates to services that use the network and, as such, contribute to the RV calculation. In 2010/11, there were 3.8m MPF lines generating total revenues of £340m – equating to an estimated 3.4% of BT revenues that contribute to the RV.

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<sup>26</sup> Paragraph A8.9 – A8.10, Ofcom, *op cit*.

<sup>27</sup> Given that most of Openreach’s services are subject to price controls, net profit contribution to BT Group (on a CCA basis at least) is likely to be even lower.

<sup>28</sup> Paragraphs A8.89 and A8.34, Ofcom, *op cit*.

69. Using this share of revenue as a proxy for MPF's share of total net profits, MPF should be allocated 3.4% of BT's Cumulo rates bill i.e. 3.4% of £122m<sup>29</sup> = £4.15m equating to £1.09 per line (five times less than what is proposed). Further, while per line Cumulo rates cost allocations appear to broadly similar for WLR and MPF (MPF contributes slightly more), WLR's share of net profits is likely to be more than MPF because it earns higher revenues but at the same regulated rate of return. This, too, appears an implausible allocation of Cumulo rates.
70. Moreover, the RV is revised in each year to adjust for what are described as foreseeable Material Changes in Circumstance ("MCCs"), the most material of which are those that relate to greater MPF take-up and NGA adoption. The former would reduce the RV because it is less profitable for BT while NGA growth increases profitability and, hence, the RV.
71. Sky and TTG commissioned Analysys Mason to investigate Ofcom's treatment of Cumulo rates within the charge control model. On the basis of the little detailed information that was provided, Analysys Mason estimated that the rates charge for Openreach's non- WLR / LLU services (i.e. NGA, AISBO<sup>30</sup>) falls more quickly than Openreach's total rates cost. This does not appear to be plausible either considering that both AISBO and NGA are likely to be growth services with higher profitability<sup>31</sup>. It appears that Ofcom's model does not attribute any Cumulo costs to NGA.
72. Analysys Mason proposed an alternative methodology that would allocate 17% of Openreach's Cumulo transfer charge to NGA by 2013/14. On this basis, MPF rental and WLR rental could fall by £0.52 p.a. and £0.51 p.a. respectively.

### Overseas subsidiaries

73. Specifically, Sky understands that BT's overseas subsidiaries – not BT Global Services – do not make any contribution to group costs. It has been argued by BT and Ofcom that many of the functions performed centrally within the UK are not relevant to overseas subsidiaries which, instead, need to conduct those activities themselves – such as some legal and HR functions.
74. However, this is not the case for all group activities, such as IT costs. In line with the principle of cost causality, Ofcom should ensure that overseas functions make appropriate contributions to recovery of group costs.

## SECTION 4. TREATMENT OF NGA COSTS

75. Ofcom should adopt a charge control model that is FAC-based for all Openreach services including NGA. This means that all direct and indirect costs caused by NGA are allocated to it and it makes an appropriate contribution to fixed and common costs. The model should not be static and should account for anticipated growth in NGA services. There is no need to adopt an anchor pricing approach – even as a

<sup>29</sup> Figure 8.3, Ofcom. *Op cit.*

<sup>30</sup> Alternative Interface Symmetric Broadband Origination.

<sup>31</sup> AISBO will continue to benefit from the strong decline in traditional leased line services in favour of Ethernet, while Ofcom is forecasting in its charge control model that NGA lines will increase to 3.7m by 2013/14.

cross check – because there is no risk under a thorough FAC-based approach that BT’s fibre-to-the-cabinet (“FTTC”) deployment will result in rising LLU and WLR costs.

### Anchor Pricing

76. BT has begun rolling out NGA services, mainly through FTTC<sup>32</sup>. FTTC is an overlay service in that the copper wires from the street cabinet to the customer’s home continue to be used but NGA-based broadband connectivity is supported over fibre from the street cabinet to the local serving exchange. The customer’s voice services, meanwhile, continue to be supported on both the (shared) copper path from the home to the cabinet and on the copper cable back from the cabinet to the exchange. In effect, no infrastructure is removed – FTTC is merely overlaid on the existing copper access network.
77. Ofcom considered adopting an “anchor pricing” approach for the LLU and WLR charge controls because, it argues, that such an approach can ensure that prices for current generation services do not rise due to the availability of NGA:

*“For the LLU and WLR charge controls, the relevance of anchor pricing is to ensure that charges for regulated products and services do not rise as a result of NGA deployment.”<sup>33</sup>*

Equally, the lower prices of the charged controlled current generation broadband products could constrain the uncontrolled prices of NGA based services.

78. Ofcom previously has used an anchor pricing approach:

*“In some other charge controls set by Ofcom, we have implemented the anchor product pricing approach by using a hypothetical on-going model of the current technology network. Essentially, this methodology sets price ceilings with reference to existing technology by assuming no investment or migration to the new technology network.”<sup>34</sup>*

79. Setting prices in this way could guard against rising unit costs of legacy services that may result from fixed costs being shared over declining volumes. However, as FTTC is an overlay and MPF or WLR must be purchased alongside<sup>35</sup>, this is not a relevant consideration in these circumstances.
80. Therefore, if Ofcom applied an anchor pricing approach to the WLR and LLU charge controls and NGA roll out resulted in increased network scale and scope economies – such as the increased use of shared duct between the cabinet and the local serving exchange – then none of these cost savings would flow through to a lower price for current generation services.

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<sup>32</sup> The economic slowdown has reduced the new home building where fibre-to-the-premise (“FTTP”) will be deployed. As such, for the time being at least, it is likely most NGA lines will be FTTC lines.

<sup>33</sup> Paragraph 3.27, Ofcom, *op cit*.

<sup>34</sup> Paragraph 3.28, Ofcom, *op cit*.

<sup>35</sup> Openreach’s FTTC product is Generic Ethernet Access (“GEA”) and is purchased with WLR or MPF.

81. However, Ofcom has not used the anchor pricing approach as the primary basis for setting prices and instead uses the actual costs that are contained within the BT's RFS and the charge control models:

*“For the LLU and WLR charge controls, we have not created a hypothetical on-going model. The modelling approach we have used for these controls is based on a detailed view of cost allocation, and abstracting from this to create a hypothetical view would not be straightforward. Therefore, we propose to use off-model calculations to ensure that our modelling outcomes are consistent with the anchor product pricing approach.”<sup>36</sup>*

82. Instead, Ofcom states that it will adopt the anchor pricing principle as a “cross-check” to the outturn costs from the charge control models:

*“We believe that the most appropriate application of the anchor product pricing principle in the setting of these charge controls is to set an upper bound for prices under charge control.”<sup>37</sup>*

83. Further, Ofcom goes on to explain:

*“... since the complex allocations in our model result in marginally lower levels of cost than the anchor product pricing cross-check, we believe it is reasonable to set the charge controls with reference to costs derived from the Cost Allocation model (CA model). As this is based on a comprehensive view of the allocation of costs in Openreach, it is likely to reflect the early stages of NGA roll-out. This approach has the advantage of including economies of scope which are already realised in the allocation of costs to NGA assets. The setting of charges with reference to this model can therefore be regarded as including a “technology dividend” in the form of these economies of scope, and is also consistent with the over-arching objective of anchor product pricing in that it ensures that prices will not rise as a result of technology change.”<sup>38</sup>*

84. This approach is incorrect. The primary objective of anchor pricing is to ensure that the introduction of a new technology does not raise the cost of existing services but, in this instance, because there are common and fixed costs that are shared between the new and old services, associated scale and scope economies should flow through to all services. There is no need to apply an anchor pricing approach because there is no risk that FTTC deployment will trigger higher WLR and LLU costs. On the contrary, costs should fall.

85. Indeed, Ofcom recognises that its approach here based on the actual costs contained within the charge control model – which include some NGA as well as LLU and WLR – has some benefits compared to the pure anchor pricing approach because it *has the advantage of including economies of scope* and it *can therefore be regarded as including a “technology dividend”*. Accordingly, Ofcom is explicit that a model that includes scope economies that stem from NGA deployment is superior, in this instance,

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<sup>36</sup> Paragraph 3.29, Ofcom, op cit.

<sup>37</sup> Paragraph 3.30, Ofcom, op cit.

<sup>38</sup> *Ibid.*

compared to a pure anchor pricing approach that assumes absolutely no deployment or investment in new technology.

86. Sky agrees that this is the correct view but, while accepting this principle, the cost model itself does not adequately capture this “technology dividend” and does not properly allocate common costs to NGA. Further, by accepting that the inclusion of the effects of the scale economies created by NGA deployment within the calculation of charge controls for LLU and WLR is the correct approach, Ofcom has recognised that LLU and WLR prices would be lower than under a pure anchor pricing approach and, as such, conducting a pure anchor pricing cross-check is meaningless.
87. It is more important to ensure that the charge control model is constructed properly in order to account for NGA-related costs. This means that all costs that are directly and indirectly attributable to NGA should be allocated to it and where there are common costs then NGA should pick up an appropriate allocation.
88. In this regard, there are significant deficiencies in the model where appropriate allocations have not been made (or it is not clear whether they have):
- Some common cost allocations to NGA are static and do not account for the growth in NGA to 3.7m by 2013/14;
  - There is no corporate overhead allocation to NGA;
  - There are no adjustments to account for higher fault rates on existing lines as a result of increased local intervention to support FTTC;
  - There are no duct or existing cabinet costs allocated to NGA;
  - There are no duct upgrade cost allocations to NGA;
  - It is not clear whether NGA service provisioning costs are included; and
  - There are no provisioning system cost allocations to NGA.

While all of these are a cause for concern, if NGA does not contribute to duct costs but PIA, LLU and WLR all do, this will distort prices in favour of Openreach’s GEA and against LLU and WLR operators as well as network operators looking to share BT’s ducts.

89. Ofcom has erred in not ensuring that NGA is attributed all relevant costs within the charge control model (and on a dynamic basis). As we have stated and Ofcom admits, it is beneficial for the technology dividend and scale economies that stem from NGA deployment to flow through to the regulated prices for LLU and WLR and for these prices to exclude any cost impacts that may arise from NGA.

## SECTION 5. PRICE DIFFERENTIALS

90. The efficacy of any test for checking that the price differentials between WLR, SMPF and MPF are at efficient levels is rendered meaningless if the FAC estimates for each of the services themselves are incorrect. In this respect, there is strong evidence to suggest that it is premature to remove the line length adjustment that has been used to allocate less copper costs to MPF than WLR. Further, FAC based estimates for MPF would be lower if they were based on a more efficient single jumper wiring configuration.

### Ofcom's approach

91. Ofcom's charge control model aims to calculate the FAC of a given service in order to set prices. FAC relates to the average price for a service and ensures full cost recovery.
92. As several products and services in different wholesale markets share common infrastructure and because different combinations of these wholesale products can be used to provide the same retail service<sup>39</sup>, it is important that the relative prices of the wholesale inputs are not distortionary or inefficient. Basing prices on FAC may not necessarily lead to the most efficient outcome.
93. Therefore, Ofcom seeks to cross-check the FAC differentials between the combinations of LLU and WLR services in order to ensure that they are not inefficient. Ofcom estimates the long run incremental cost ("LRIC") differences for this purpose.
94. There are three types of efficiency to consider;
- Allocative - where prices are close to costs;
  - Productive - where costs of production are lowest; and
  - Dynamic - where appropriate investment and innovation incentives are set.

Ofcom considers that, of these efficiency types, productive efficiency is the most important so that overall costs are minimised through the efficient choice of inputs.

95. The adoption of any of these efficiency types as the primary arbiter of relative pricing for WLR, MPF and SMPF requires a robust calculation of FAC for each of the services. However, such a calculation is not achieved in this review. As such, even if Ofcom's promotion of productive efficiency considerations was the right choice and that measuring LRIC differentials between the relevant FACs of the wholesale services was appropriate<sup>40</sup>, the exercise will be rendered meaningless if there are material inaccuracies in the FAC calculations in the first place.

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<sup>39</sup> E.g. WLR+SMPF or MPF to deliver bundled voice and broadband retail services, or MPF or WLR to deliver solus voice services.

<sup>40</sup> Given the difficulties in identifying and allocating to each of the services all truly incremental costs, it is questionable how robust any estimate of LRIC would be in practice.

96. Therefore, first and foremost, the FAC estimates for each of the services needs to be reasonable. There are two key areas where MPF prices have been set too high relative to the prices of WLR and SMPF.

### **Single jumper MPF**

97. The wiring arrangement for MPF on the main distribution frame (“MDF”) in the local exchange is described as “double jumpering” and involves more than one wire in order to connect a customer’s line through the frame, into the testing equipment – known as a Test Access Matrix (“TAM”) – and then back to the frame so that it can be connected to the LLU operator’s co-mingling space.
98. In contrast, WLR has a single jumpering arrangement. WLR and SMPF together on a line requires double jumpering.
99. Double jumpering has been identified as the source of a significantly higher incidence of faults on MPF compared to WLR – in the past the blame for this has been attributed to the fact that broadband services may be more sensitive to faults. However, it now appears to be a simple case of more potential points of failure in the wiring arrangements for MPF.
100. The higher fault rate on MPF and the increased MDF usage, results in considerably more costs being assigned to MPF than WLR within the charge control models. Therefore, it is entirely appropriate to consider whether multiple jumpered MPF is the most efficient wiring arrangement on the frame.
101. Sky considers that a more efficient jumpering arrangement for MPF would be a single jumpered solution where either the LLU operator itself invests and innovates around its own testing equipment or, as an alternative, BT continues to provide TAMs – but in this case they would be “in line” and, as a result, still only require a single jumper.
102. Sky considers that the much lower incidence of faults, reduced frame costs (including those related to provisioning, cease and migration) and the opportunity for innovation and investment by LLU operators in their own testing equipment is likely to make this solution worthwhile (even allowing for higher tie-cable costs).
103. Some of the benefits to Sky in developing its own testing capability would include:
- Characterisation of lines when they are first installed so that degradation can be monitored and remedied;
  - To “routine lines” – a rolling sample of testing – to proactively pick-up faults;
  - Testing all the way to the line card;
  - Cost efficiency;
  - Richer set of metrics to allow more accurate fault determination;

- Reduce "false positive" call out charges; and
  - "Distance to fault" testing using capacitance measurements.
104. Ofcom offers three potential approaches to dealing with single jumper MPF – if it is deemed to be the most efficient and viable solution in the future<sup>41</sup>:
- Base all MPF prices on single jumpering costs irrespective of whether it is employed or not – on the basis that this is a reflection of forward looking efficient costs;
  - Base all MPF prices on an assumed blend of single jumper and double jumper MPF costs that includes an implied migration from double jumpering to single jumpering;
  - Spread the additional costs related to double jumpering across all copper access services, not just MPF; and
  - Require Openreach to offer a single jumper MPF product and price it on the basis of the implied lower costs.
105. The preferred option should be one that incentivises Openreach to roll out single jumper MPF quickly. Further, regulated prices typically should be based on efficient forward looking prices. Basing all MPF prices on a single jumper solution would accord with these principles.

### **Line length adjustment**

106. In past charge controls, MPF has attracted less copper cabling costs compared to WLR. This is because, unlike voice services, broadband is less likely to work over longer line and because MPF is adopted mostly in denser, urban exchange areas where, on average, lines are shorter than those served from smaller, rural exchanges.
107. When the MPF price was first set by Ofcom, 16% less Distribution-side ("D-side") copper cost was allocated to MPF compared to WLR. However, over subsequent charge control reviews this cost differential has been falling to the point that now BT claims that there is no longer any justification for the line length adjustment:

*"The data that BT has now provided indicates that there is no meaningful difference between the average amount of copper in a WLR line ..... and that in a MPF line."*<sup>42</sup>

108. BT and Ofcom justify the falling differential in D-Side copper consumption on the following basis:

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<sup>41</sup> It is recognised that the scope for retro-fitting legacy double jumpered MPF lines is limited given the additional costs involved.

<sup>42</sup> Paragraph A8.137, Ofcom, *op cit*.

- Broadband can now work over longer lines;
  - Broadband availability and take up has increased;
  - Copper consumption also includes the gauge, or thickness, of the line; and
  - As there is now just one price cap for WLR that includes both (shorter) business and (longer) residential lines, the overall average line length for WLR has fallen.
109. BT has submitted survey data to Ofcom based on its Local Line Costing Study (“LLCS”) to support its case for removing the line length adjustment. As Ofcom has not provided the detail from the LLCS, Sky is unable to verify the reasonableness of the assertion. However, there are a variety of other data sources<sup>43</sup> that imply there is still a meaningful differential between average lengths of WLR lines and MPF lines.

### The Analysys Mason report

110. Sky and TTG commissioned Analysys Mason to investigate this issue. While BT has previously stated that the average length of all copper access lines in BT’s network was 3.47 km<sup>44</sup>, Analysys Mason estimated from the available evidence that the average length of all broadband lines was 2.2 km<sup>45</sup>.
111. Analysys Mason also estimated that the average length of an ADSL1 line was 3.0 km compared to 1.9 km for an ADSL2+ broadband line. As MPF operators mostly offer ADSL2+ while ADSL1 is offered mainly in rural locations and over SMPF, it is likely that the average MPF line is much shorter than the average broadband line length of 2.2 Km and more likely to be at, or close to, the ADSL2+ average of 1.9 Km.
112. Meanwhile, the average WLR line length is likely to be considerably longer than the average of all copper lines (3.4 Km) because, if broadband lines are shorter than the average, then average WLR lengths must lie considerably above the average. So, as Analysys Mason recognises, while broadband lines generally could be as much as a third shorter than average copper line lengths, this is likely to significantly underestimate the line length differential between MPF and the average copper line and between MPF and WLR averages:

*“In effect the result provided above (“33% to 35% length difference”) is likely to be an underestimate of the average length difference between an MPF line and a WLR line.”<sup>46</sup>*

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<sup>43</sup> Including *UK fixed broadband speeds, November/December 2010, the performance of fixed-line broadband delivered to UK residential consumers*, by Ofcom, published 31 March 2011. *Assessment of the theoretical limits of copper in the last mile* by Sagentia for Ofcom, published 16 July 2008 and *Review of the BT duct valuation 2009/2010 report*, (redacted version) by BDO for Ofcom, published 21 March 2011.

<sup>44</sup> Presentation by BT on access network spectrum, November 2004.

<sup>45</sup> 3.4 Km is the average of all lines whether they are WLR, WLR+SMPF or MPF. Broadband lines - that average 2.2 Km - are either MPF lines or WLR+SMPF lines. BT does not consume MPF lines in any scale itself. As such, MPF lines are mainly supplied from up to 2,000 exchanges - covering up to 90% of UK premises (where lines are shorter) - which have been unbundled by some LLU operators. SMPF is used nationally. Operators in urban exchanges typically offer faster broadband over ADSL2+ compared to ADSL1 which is used by BT in Market 1 and parts of Market 2.

<sup>46</sup> Page 9, Line length and line costs, 8 July 201, Discussion document Ref 18457-276 , Analysys Mason.

113. As part of its argument that there was no longer any justification for making the line length adjustment, BT cited the gauge, or weight, of copper lines as other factors that influence the amount of copper consumed. Implicit within this statement is an assertion that MPF lines are thicker than WLR lines. Again, without any visibility of the underlying LLCS data that may support BT's argument, it is difficult for Sky to address this assertion properly.
114. However, line length in the past was deemed the appropriate proxy for assessing copper utilisation costs for each of the access services. It is still probably the correct approach. In this regard, Analysys Mason's findings supported this view:
- "We would suggest that an allocation based on local loop line length is more appropriate than an estimate based on the weight and age of the copper cables."<sup>47</sup>*
115. Once one elects to draw upon a more detailed set of factors over and above the line length proxy in order to model copper usage of access lines, one needs to be mindful that there are other important drivers of cost other than copper gauge.
116. In this respect, in its report prepared for the Broadband Stakeholders Group ("BSG"), Analysys Mason found that deploying access networks in rural areas was more expensive per premise than in urban areas.<sup>48</sup> Sky considers that, compared to rural access networks, the scale and scope economies in urban access networks will far outweigh any additional costs related to the terrain itself.
117. Ofcom, therefore, needs to revisit the line length data submitted to it by BT as there is clear and compelling evidence suggesting that the line length differential remains.
118. Ofcom has argued that there is "*no meaningful difference*" in the average line lengths any more but, whatever the final outcome of any further review into actual line length differentials, even a small differential will have large impact on overall prices and, just as importantly, *relative* prices. For example, if BT's LLCS data were accepted so that its observed 6% differential in 2009 had halved by 2011, then MPF costs should still be over £1 p.a. lower than the current proposed starting prices for forthcoming charge control.
119. Further, Ofcom's dismissal of the line length adjustment on the basis of materiality is inconsistent with its approach to other factors that relate to copper utilisation in BT's network - namely, the treatment of "pair gain" equipment which is sometimes used to enable lines to share the same copper pair and, as such, cannot be used on broadband lines:

*"There does however remain a small difference in the allocation of D and E side copper costs to WLR and MPF due to 'Pair gain'. In the past BT has deployed digital Access Carrier Systems (or 'DACs) in the Access Network to allow two analogue lines to be carried over one copper pair. As the DACs system does not*

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<sup>47</sup> Page 10, Analysys Mason, *op cit*.

<sup>48</sup> "The costs of deploying fibre-based next-generation broadband infrastructure", Analysys Mason, 8 September 2008.

*support Broadband it can only be used on WLR lines only, and the number of lines it is falling on is decreasing. It does still however reduce the WLR usage factor of copper lines marginally below 1.*<sup>49</sup>

120. Accordingly, while Ofcom has chosen to dismiss the line length adjustment on the basis of materiality - which even on the basis of BT's unverified numbers from 2009 showed a 6% lower usage factor for MPF - it has chosen to persist with an adjustment in favour of WLR that only adjusts the copper usage factor by 0.6%.

## **SECTION 6. KEY MIGRATION SERVICES, ANCILLARY SERVICES AND OTHER CHARGES**

121. [ confidential ]

**Sky**

**August 2011**

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<sup>49</sup> Paragraph 8.138, Ofcom, op cit.