A New Pricing Framework for Openreach

Carphone Warehouse plc response

Non-confidential version

1 Introduction and summary

This is Carphone Warehouse plc's ("CPW") response to Ofcom's consultation 'A New Pricing Framework for Openreach'. We welcome both the approach the consultation has taken as well as the opportunity to respond on these critical issues.

In the consultation, BT has suggested that to cover rising costs they need to massively increase prices including an unprecedented 38% rise on MPF rental from £81.69 pa to £113 pa in 2011/12. These rises are unjustified, unnecessary and will only serve to harm consumers' interests reducing competition, choice and innovation and increasing consumer prices and allowing BT's shareholders to enjoy excess profits.

We believe that the price rises are unjustified and unnecessary because Openreach[1] will be able to make an above cost of capital return until 2011/12 and possibly beyond with no change in prices. In fact over the next three years they will make excess profits of over £1.5 billion[2]. Thus for them to claim they need to increase prices is unjustified and misleading. Rather than increasing prices, Openreach should immediately reduce some of its prices to bring down its excess returns.

Our conclusion is based on a more plausible set of costs forecasts developed by reconstructing BT's costs and adjusting for some of BT's more unreasonable cost/profit projections. The sensible changes in assumptions we have made are:

- included the already announced and already active increase in MPF rental price from £80 to £81.69.
- increased annual efficiency gain to 4% pa (from 1%) in line with historic and international benchmarks, BT's own 5% projections to its shareholders, the huge potential for Openreach to improve its efficiency and the fact that even the most efficient firms improve efficiency by 1% to 2% each year.
- excluded about £260m of irrelevant costs particularly previously 'agreed' regulatory adjustments and excess allocation of BT Group costs.
- slightly lowered inflation levels on pay (3.5% not 4%) and non-pay (2.5% not 3%) to come in line with other reasonable forecasts.

[1] Here and throughout the document we do not include in Openreach numbers the revenue or costs for leased lines, Ethernet access and backhaul. This is because very little transparency has been provided on these numbers

[2] Excess profit – i.e. returns above the cost of capital

- Adjusted Openreach's cost of capital to 8.5% which draws on a more robust bottom-up method deriving Openreach's WACC from other utility companies (this compares to BT's estimate of 10% and Ofcom's range of 9% to 10%).

Just based on these few adjustments, across all its products Openreach will be able to earn a more than fair return at current price levels.

In addition they will also recover sufficient cost on MPF at the current £81.69 MPF rental price. Our initial assessment on the use of a more economically efficient approach to the recovery of fixed and common costs suggests that the appropriate amount of such costs that should be recovered from MPF is far less than the amount BT has allocated. The appropriate MPF price is therefore no more than the current £81.69. An approach to pricing that reflects this will result in a more economically efficient pricing structure and will better achieve consumers interests.[3]

We are also very concerned about the lack of evidence and justification that BT has provided to support its claims of increases in costs and prices – we find the current lack of transparency unacceptable and unjustifiable. We have pushed BT to explain and clarify its assumptions. Though we have met them once to discuss their projections they have cancelled three other meetings. When we did meet they have been either unable or unwilling to provide justification for the numbers.

Given BT's previous behaviour and strong incentive to exaggerate Openreach's costs (to maximise its shareholders' returns) the only conclusion we can draw from the lack of transparency and evidence is that BT have overstated costs and are not allowing fair scrutiny. To ensure that costs are fairly estimated and prices set at more reasonable levels Ofcom should require BT to provide far more transparency of its model and assumptions and the evidence (if any) supporting them to allow Ofcom and other stakeholders to fully scrutinise the numbers. This will probably require more time than has been allowed for in the planned timetable either by providing more information prior to developing the second consultation or by adding an additional consultation stage.

If Ofcom allows BT to increase prices as BT have suggested Ofcom will put at threat the competitive market that has delivered better services, more choice and lower prices to UK customers. In particular any increase in Openreach's prices will simply serve to fund BT's excess profits at the expense of UK consumers.

The remainder of this document outlines more of the arguments and evidence underlying our view that price rises are unjustified and unnecessary and why such rises will harm consumer interests. It is broken down into the following sections:

- The need for far more transparency, evidence and scrutiny (section 2).

[3] Openreach can maintain the £81.69 price up to 2011/12 by recovering about 15%[3] of the common costs it has loaded onto MPF rental from other Openreach products where it is making excess profits – this equates to a 2% to 3% increase in the cost of other products in a given year. This % is based on a lower number of MPF lines than Openreach have assumed and assumes fixed and common costs are recovered from all Openreach products including leased lines.

- Why price rises (particularly on MPF rental) are unnecessary and unjustified (section 3).
- The harmful impact of price rises on consumers (section 4).
- The appropriate charge control mechanism (section 5).

At the end we then provide answers to the specific questions that Ofcom has posed in its consultation (section 6) that have not been answered in the rest of our response.

A number of annexes are included that are referred to in the main document.

2. Need for more transparency, evidence and scrutiny

At an overall level we are deeply suspicious of BT's claims that Openreach's current costs are as high as they say or that costs will rise at the rate they claim. BT have provided very little transparency or justification of their claimed costs. We believe that Ofcom must insist on a far higher transparency and allow for far more scrutiny in order to ensure prices are not excessive and consumers are not ripped off.

The key reasons we believe that more scrutiny is essential is that BT's incentives and previous behaviour clearly point to a willingness to overestimate their current costs and future cost estimates. Furthermore, the current lack of transparency is both unfair and possibly inconsistent with BT's regulatory obligations. We present some ideas at the end of this section on how transparency can be improved.

For products such as MPF and WLR, which are in SMP markets, BT clearly has a strong incentive to raise prices by exaggerating costs since this will maximise profits and shareholder returns. Indeed the meaning of SMP or dominance is that an operator can profitably raise prices above cost.

BT's willingness to overestimate and exaggerate costs has been demonstrated time and again in previous situations. We observe this frequently – literally every time we 'scratch the surface' on BT's costs and prices we find BT has overestimated its costs (rarely are they ever underestimated). A few examples are listed below:

- in the CPW MPF bulk migration dispute the final cost was found to be ~30% less than BT's initial estimate[4].
- BT consistently makes excess profit under charge control regimes once reasonable adjustments are made to remove inaccuracies from the regulatory accounts[5]. This implies that cost forecasts made typically over-estimate the actual or likely cost.
- where new LLU products have been created (e.g. flexi-cease) BT has invariably initially overestimated the cost.
- RWT (right when tested) prices on SMPF were over-charged by over ten times and MPF prices still are being overcharged (and are only being addressed due to CPW requesting a review)[6].
- in a review of the NTS uplift charge for Ofcom external consultants found that 5% of costs that BT had attributed to NTS should not have been and 70% of costs were partly incorrectly attributed. Together this resulted in costs being overestimated by between 17% and 28%[7].

[4] £25 rather than £34.86
[5] Examples of inaccuracies include: in PPC regulatory accounts BT excluded of 19% of relevant revenue for which cost was already included; LLU regulatory accounts BT excluded regulatory adjustments for RAV, drop wire, line length and systemic over-attribution of common costs to regulated wholesale products
[6] RWT prices were £39 up to 1.1.2005 when they were reduced to £3.75 for SMPF only. MPF is still £39
[7] http://www.ofcom.org.uk/research/telecoms/reports/review_nts_retail_uplift/analysys_20031219.pdf. Figures are %'s of costs analysed

As we commented above we have had little transparency of the numbers in this consultation[8]. However, we have already seen a number of areas where their forecasts appear unreasonable and/or illogical. For example:

- pay for core rental service increases by 6% a year on a fixed number of lines though BT's own assumptions suggest that pay should not increase by more than 3% a year (they say pay increases by 4% a year and efficiency gains are 1% a year). BT claimed that this discrepancy was due to reductions in connections/provisions activity resulting in less common cost being recovered from these activities. We find that assumption strange since the transfer engineering to 21CN will increase provisioning volumes significantly. However, Openreach refused to share their assumption on provisioning activity with us.
- In projections provided by Openreach, depreciation grows year on year at more than 9.0% per annum over the period, yet little explanation is provided to justify the increase over this period. Again, when asked they provided almost no clarity. In particular, according to Ofcom, Openreach have included drop wire costs which is inconsistent with the 2005 consultation (which only included 15% of drop wire provision costs, as residential drop wires have already been recovered through the Retail Price Control [9]).
- The depreciation cost per line for MPF is higher than WLR even though simple logic suggests that due to the line length adjustment and lack of a line card for MPF the depreciation cost for MPF should be less than WLR. Again Openreach could not properly explain the discrepancy
- On capital expenditure the consultation document doesn't provide any detail of how capex is calculated or broken down (although Openreach suggested that £100m is on systems and £200m on additional drop-wire). For instance there is no clarity of inflation assumptions, capitalisation approach, split by activity, efficiency improvements. Furthermore there is no reconciliation between capex, depreciation and capital employed

Our view that the current costs are exaggerated is supported by the fact that though BT claim that MPF rental costs have been above £90 since 06/07[10] they did not increase the MPF price from £80 to the £81.69 ceiling until May 2008. This suggests in fact that the true and fair cost of MPF is far lower than what BT claim.

We see this lack of transparency and evidence (in effect an information asymmetry) as possibly inconsistent with BT's regulatory obligations, unfair, against Ofcom's regulatory principles and ultimately against consumers interests.

- On a regulatory level the lack of transparency/evidence may be inconsistent with BT's SMP obligations e.g. Condition FA3.1 requires that BT "*… shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that each*

[8] It is worth noting that in some respects there is lots of data available that relate to Openreach's existing costs. BT provides over 2,000 pages of regulatory financial statements, detailed attribution methodology (DAM) and LRIC model details http://www.btplc.com/Thegroup/Regulatoryinformation/Financialstatements/2007/Regulatoryfinancialstatements2007.htm). However, these are very detailed, poorly explained and inconsistent (e.g. regulatory accounts versus forecasts) to be of little or no use without accessible summaries and explanations of the various modifications that have taken place over time. We comment later in section 5.4 how they could be made more useful.

[9] http://www.ofcom.org.uk/consult/condocs/llu/statement/llu_statement.pdf Para 4.39 to 4.45

[10] http://www.ofcom.org.uk/consult/condocs/openreach/openreachcondoc.pdf Fig A7.1

and every charge offered, payable or proposed for Network Access covered by Condition FA1 and/or Condition FA9 is reasonably derived from the costs of provision".

- We feel that more generally the lack of transparency and evidence breaches the principle of natural justice – this is the concept that a person should be given advance notice of allegations and evidence and be given the opportunity to challenge them prior to any decision being taken. Neither ourselves nor UK consumers have seen proper evidence nor had the chance to challenge it.
- The lack of transparency and evidence is inconsistent with one of Ofcom's core regulatory principles: "*Ofcom will strive to ensure its interventions will be evidence-based, proportionate, consistent, accountable and transparent in both deliberation and outcome*"[11]. It is also contradictory with the Comms Act tests which requires regulation to be objectively justifiable, non-discriminatory, proportionate and transparent[12]. The current process lacks transparency, evidence and objective justification.

As we have highlighted above BT has a strong incentive and track record of exaggerating its costs through a lack of transparency and scrutiny. And it is 'trying it on' again. If it is allowed to get away with this UK consumers will suffer. Below we offer some views on how this problem can be overcome.

As a first principle we feel that the burden of proof should be on BT to justify that their assumptions are fair (to a reasonable level of proof) and be open to scrutiny rather than for Ofcom and CPs to justify that BT's assumptions are wrong. This position is consistent with European Directives which require that "*where an operator has an obligation regarding the cost orientation of its prices, the burden of proof that charges are derived from costs including a reasonable rate of return on investment shall lie with the operator concerned*." [13]

There are a number of ways in which this transparency could be provided and scrutiny allowed:

- BT must provide a much higher level of useful transparency on the assumptions they have used and the dynamics of how the costs are built up. For instance they should explain clearly what is in each cost category, how much is fixed/variable, what drives the variable cost, what assumptions have been used for the forecasts, what costs are attributed from BT Group[14], how much cost is common and how it is allocated.
- Ofcom should consider whether instead of or alongside this additional transparency it might be appropriate to have a form of 'open-book' accounting, audit checks and/or a shared model (a shared model approach has been previously used in early NCC assessments, mobile termination rate and for the DataStream/IPStream margin analysis). To allow some of these things to happen it might be appropriate to set up a 'confidentiality ring' whereby non-BT parties can see certain data but be bound by a confidentiality requirement.

[11] http://www.ofcom.org.uk/about/sdrp/
[12] Communications Act 2003, Section 47
[13] Access and Interconnection Directive (2002/19/EC) Article 13(3) http://eur-lex.europa.eu/pri/en/oj/dat/2002/l_108/l_10820020424en00070020.pdf
[14] A simple schedule showing total Group costs, % relevant to Openreach, % of relevant allocated to Openreach by key cost category could be prepared

- BT should provide a reasonable level of evidence to support and justify their assumptions – based on conversations to date, many of BT's assumptions appear unsubstantiated.
- across all assumptions Ofcom should have a starting presumption of healthy scepticism of BT's claims and should only accept BT's claims where they are properly justified. In other words, where there is doubt, Ofcom should err on the side of caution i.e. lower costs than BT claim.
- To allow these extra steps to happen Ofcom should either introduce an additional consultation stage or allow more informal information sharing and discussion between Openreach, Ofcom and stakeholders prior to Ofcom developing its proposals for the second consultation.

If some or all of these steps are not taken UK consumers risk losing out.

Notwithstanding this overall concern we have described in what follows where we have particular issues with BT's numbers. These are inevitably sometimes unspecific since we have little visibility of BT's assumptions.

3. Any rise in prices (particularly MPF rental) is unjustified and unnecessary

In this section we provide a range of evidence as to why we believe that Openreach's current and future cost estimates are excessive and unjustified and by implication why price rises are unnecessary for Openreach to maintain a fair return. Many of the issues are particularly salient to MPF rental where the suggested increase is most unjustified and unnecessary.

It is broken down into four parts:

- Why certain costs are exaggerated due to, for example, inclusion of irrelevant costs, significant underestimation of efficiency improvements and overestimation of the cost of capital.
- Why the current approach to common cost allocation is unjustified and works against consumers' interests.
- A number of other related issues such as treatment of previous excess profits and geographic de-averaging of prices.
- A recalculation of Openreach profitability under a far more plausible yet conservative set of assumptions.

Each of these is discussed below.

3.1 Openreach's overall cost projections are exaggerated and excessive

We believe that BT's existing costs and cost projections for Openreach are excessive. There are four particular areas where we think excess has been introduced:

- BT have allocated an excessive amount of BT Group common cost to Openreach.
- BT have included certain irrelevant and disallowable costs such as USO costs and previously 'agreed' regulatory adjustments on drop wires, RAV and line length.
- BT have significantly underestimated their current inefficiency and the potential for efficiency gains.
- A number of other individual assumptions are unreasonable – for example the costs of capital estimate is too high and pay inflation is over-estimated.

Each of these is discussed below.

3.1.1 Excessive allocation of BT Group common costs

We believe that BT systematically over-allocates costs from Group and competitive downstream activities to upstream services where BT is dominant[15]. We describe below the evidence that clearly points to this occurring and how we think this happens.

There are three reasons that strongly support the assertion that BT over-allocates the costs of Group/downstream activities into Openreach (sometimes referred to as 'kitchen sinking'):

- the high returns in non-regulated parts
- the implausibly high amount of allocation
- the relatively high level of mark-up

This conclusion is clearly supported by the fact that BT have a high incentive to over-allocate since by over-allocating BT increases regulated prices and thus profits and returns.

High returns in non-regulated areas

BT currently enjoys implausibly high returns in their downstream competitive businesses – the more credible reason for high returns is that they allocate costs away from these businesses onto regulated products.

On a CCA basis their returns on mean capital employed are approximately[16]:

- BT Group 14%
- Regulated wholesale 11%
- Non-regulated (e.g. BT Retail, BT Global Services) 26%

Other operators in these non-regulated markets make far lower returns than BT (typically 10% to 15%). Given that these markets are competitive[17] there could be a number of explanations for these far higher returns and supernormal profits. BT could be more efficient, more innovative or benefiting from scale economies. We do not consider that BT is more efficient than its rivals, or that it is more innovative. The size of BT could arguably contribute to it achieving lower unit costs compared to its rivals, but we expect such scale economies outside of network activities to be relatively limited. There is therefore good reason to believe that this high level of profitability is the result of BT allocating much of the cost from these downstream activities to upstream activities.

[15] For instance from downstream activities in BT Retail or BT Wholesale to Openreach
[16] these figures are for 06/07. We have not been able to confirm whether this same trend happened prior to this period though we believe so
[17] a no SMP finding implies the market is competitive and that BT cannot consistently make supernormal profits

Size of allocation to Openreach

This conclusion is reinforced when we examine the size of the allocation to Openreach for 'corporate overhead' compared to the cost incurred on corporate overhead activities by Openreach itself.

The intent of the Undertakings and operational separation is that Openreach should be a standalone entity – the vast majority of its corporate overhead activity should be incurred by Openreach itself and maybe only 10% or 20% of its total corporate overhead activity may be provided by Group. Instead the allocation from Group is over 200%[18] of the cost incurred by Openreach itself. This strongly points to a conclusion that an excessive amount of BT Group cost is allocated to Openreach.

High level of mark-up

Though we do not exactly know the level of mark-up in different parts of the BT business, analysis of the methods they use to allocate cost clearly points towards an excessive mark-up.

According to BT's DAM[19], corporate costs are attributed on the basis of salary or net book value i.e. the % of total common cost that gets attributed to Openreach is equal to the % salary cost/NBV in Openreach. This results in Openreach getting charged a higher allocation as a % of its cost (i.e. higher mark-up) than the rest of BT as shown in the table below. Given Openreach is a standalone entity one would expect the appropriate % mark-up to be much less for Openreach than non-Openreach parts of BT's business – yet it is 70% higher!

	Openreach	**Non-Openreach**
'Own' cost	23%	77%
Allocation %[20]	34%	66%
Mark-up ratio	1.48	0.86

Source: BT Annual Report and DAM

The points above (excess downstream returns, implausibly high overhead allocation, relatively higher mark-up) provide in our view very strong evidence that BT is over-allocating cost from Group into Openreach[21]. The example we gave before on NTS

[18] The common cost allocation in 06/07 from Group for 'corporate overhead' activities such as HR, Finance, Treasury, Legal, Strategy, Audit and Tax (excl IT, property) that Openreach does not provide for itself is £169m. In addition Openreach incur about £80m in these same activities (Openreach told us that about 10% of pay costs are corporate overhead).

[19] http://www.btplc.com/Thegroup/Regulatoryinformation/Financialstatements/2007/DAM2007.pdf page 331

[20] Allocation % is a 50:50 mix of allocation based on headcount and allocation based on NBV. Openreach accounts for 31%of salary and 36% of NBV so mix is 34%

[21] For the purposes of our model we conservatively estimate that on corporate overhead the 'correct' allocations should probably be less than a half of what it is now i.e. a cost reduction of £80m. We also believe that even with a far reduced level of allocation from Group the total amount of corporate overheads is anyway excessive – this is addressed below in section 3.1.3.

cost allocations (section 2) is in effect another demonstration of the fact that they do not allocate fairly.

Below we consider how this might happen and more importantly how it can be stopped;

- it may be that downstream activities that are in fact not common to Openreach are charged to Group (and then onto Openreach). For instance, the £80million cost of sponsoring the Olympics will be predominantly of benefit to BT Retail and BT Global Services and so should not be charged to Openreach (via Group).
- there are probably costs that are allocated from the Group corporate overhead pot that are irrelevant (in totality or majority) to Openreach. For instance, Treasury, Investor Relations, Audit and Tax are relevant/useful to Openreach and therefore appropriate to be in part recharged to Openreach. However, very little activity in Group Strategy, Group HR, Group Finance, Group Compliance, Group Legal and Regulatory, Group Technology and Group Portfolio[22] is relevant to Openreach since they have (or should have) their own resources to provide these functions (and/or Group is not allowed by the Undertakings to provide these activities).
- where an allocation to Openreach is appropriate we believe that using the DAM and allocating on the basis of salary and NBV can result in an excessive allocation being made to Openreach (as we described above). An additional 'sanity test' is therefore required, to ensure no excessive allocation.
- there may be some excessive recharges/allocations from other parts of BT Group. We anticipate that there are recharges from other business units (such as BT Wholesale) and/or common cost allocations for activities such as WLR, exchange space, common duct and IT. We are suspicious whether the transfer charges to Openreach are fair. Three examples of this:
    - a January 08 BT presentation regarding changes to financial results indicated that there was a £139m increase in EBITDA in 'Other' division (i.e. not Openreach, BT Retail, BT GS or BT Wholesale) "*primarily due to regulated return on line cards*" which suggests a transfer of profit out of (or cost into) Openreach from 'Other' division.
    - for duct that is shared between Openreach and other parts of BT (e.g. a single duct that is used in access or backhaul network and core network) the cost is allocated on the basis of cross-sectional area. This results in a very high proportion of the cost being allocated to access. As Ofcom said in 2005 "*BT's current proposals to establish an Access Services Division (ASD) will require it to re-examine the treatment of the costs of shared duct and should this indicate a more appropriate method can be implemented as part of this process Ofcom will consider at that time what alternatives are available*". In this review Ofcom should readdress this issue, to ensure that all fixed and common costs are being treated in the most appropriate manner.

[22] For example, in the DAM there is a cost group called 'Strategy, Convergence and Products Exception Base' related to developing predominantly end user products though it appears that some of the cost may be allocated to Openreach (via a cost code that partly gets allocated to Openreach. Source: http://www.btplc.com/Thegroup/Regulatoryinformation/Financialstatements/2007/DAM2007.pdf page 228. It is not clear where (eventually) this cost is allocated

- we are unclear how the allocation of the cost of 21CN used for WLR is charged to Openreach – BT have not been explicit how it is done.

To ensure that over-allocation is prevented we believe that at a minimum BT should provide a breakdown of the functions/activities charged to Openreach from other parts of the BT Group (at a reasonably granular level), how the attribution is decided and the justification for the attribution so that the costs are made transparent and open to scrutiny. More generally we think that the DAM should be reviewed and consideration given to whether it is still an appropriate basis for allocation given the creation of Openreach. Longer term it might also be worth considering whether the Undertakings need to be modified to ensure less recharging happens and so allow more clarity of costs.

3.1.2 BT's estimates include other irrelevant costs

Although we cannot be certain, since Openreach have provided little transparency around their numbers, we suspect that a number of other irrelevant and disallowable costs have been included in the Openreach costs. These are described below. Ofcom should confirm how these have been treated and open up the analysis to scrutiny;

- Regulatory adjustments. Ofcom has highlighted that a number of 'regulatory' adjustments to the costs have not been included in BT's forecasts – these total about £100m to £150m in 2011/12[23]. However, it is unclear to us how this total impact affects each of opex, depreciation, capex and mean capital employed (MCE) and how these build over time – we would value a much clearer picture of these. In addition we have a number of specific concerns:
  - Regulatory Asset Value (RAV). Ofcom indicated that Openreach's treatment of the unwinding RAV is reasonable though we do not have visibility of the value of the unwind on MCE through the period. The base line RAV may be biased upwards due to the current historically high cost of copper (in real terms) feeding through into the CCA based estimates of copper cable replacement cost. It is questionable whether the replacement costs of the current copper network is the correct basis for the estimation of the RAV given the high copper costs. Given that any potential new entrants in the future are unlikely to roll out a copper based network, basing future prices on the replacement cost of the copper network could send misleading price signals to investors. The correct implementation of the Modern Equivalent Asset principle in the calculation of the RAV could lead to a significant downward revision in the asset base used to set the price control.
  - The upwards revaluation of BT's access network will also have a detrimental impact on consumers. The significant holding gains BT have enjoyed to date due to the revaluation of copper cable have not been fed through to a reduction in customers' prices, yet an upwards revaluation of the assets due to a mechanistic approach to CCA valuation could well lead to an increase in forward looking prices.

[23] http://www.ofcom.org.uk/consult/condocs/openreach/openreachcondoc.pdf para 6.29

- Line length adjustment. The consultation document doesn't provide any detail on adjustment Openreach have made to MCE.
- Drop wire. According to Ofcom, Openreach have included drop wire costs which is inconsistent with the 2005 consultation which only included 15% of drop wire provision costs, as residential drop wires have already been recovered through the Retail Price Control. Therefore in Openreach's projections in this consultation there could well exist a double count in this regard.

- USO costs. The costs of USO services should not be included in Openreach's costs since the benefits of the USO accrue predominantly to BT Retail[24] e.g. advertising on call boxes, 'halo' benefits (brand enhancement and corporate reputation)[25]. We are unsure how these costs have been treated but given the current corporate structure it is possible that the net cost of uneconomic lines of ~£30m has been incorrectly included in Openreach.
- Costs of operational separation. We are unsure how the costs of operational separation and other costs involved in implementing the Undertakings have been treated. We believe that these costs are not allowable in the recoverable costs of Openreach charges[26]. Given the high cost of developing new systems and organisations if these costs have not been treated correctly then £10s million of excess cost might be included in Openreach's costs.
- We believe that there is or might be double counting in a number of areas including drop wire (as mentioned above) and line card costs which have been included in MPF (MPF does not use a line card!)[27]. Also, the higher level of depreciation on MPF rather than WLR suggest that they there may be double counting. Given these, there could well be other areas where double counting occurs.

3.1.3 Openreach are inefficient / have underestimated efficiency gains

Regulation rightly requires that the regulated charges must be based on efficiently and necessarily incurred costs[28] else UK consumers will in effect to be forced to pay inefficient and inflated prices. In other words, BT has a responsibility to 'run a tight ship' in markets where it is dominant.

There is a wealth of evidence that demonstrates that Openreach is currently highly inefficient and has significant scope for efficiency improvements. Below we initially highlight the macro level evidence that indicates that Openreach is inefficient and secondly we provide real-life examples of inefficiencies in BT's working practices (both engineering activities and central costs such as 'corporate overhead' and product development). We imagine that the OTA could provide additional evidence to support these points.

[24] The same impact could be achieved by BT Retail paying a higher price for these services
[25] http://www.ofcom.org.uk/consult/condocs/uso/statement/statement.pdf para 8.6. Note these figures are for 03/04
[26] ✂
[27] This may be a reallocation from WLR, rather than a double count, but unclear from the information provided in Annex 7, and Openreach unable to provide explanation.
[28] http://www.ofcom.org.uk/consult/condocs/rwlam/statement/rwlam161204.pdf para 6.62

There are a number of macro level indications that BT is currently inefficient and/or can achieve far higher efficiency gains than the 1% per year they have projected. Whilst singularly they may be seen as partial evidence, collectively they form a compelling case that BT is highly inefficient. We think that together this evidence suggests that Openreach should be able to achieve at least 4% efficiency improvements per year on operating costs over the next three years.

Historic performance

Historically, according to Ofcom, BT has achieved about 2% to 5% efficiency gains per year in operating costs (including both fixed and variable portions) on copper rental products. Historic performance should set a rebuttable presumption for projecting future efficiency gains, especially as Ofcom is intending to move to a multi-year price cap approach, which is expected to incentivise BT to achieve further efficiency gains.

BT's own projections to shareholders

The sense that historic rates of efficiency gains are likely to continue is reinforced by BT's statement to its own shareholders. BT claim in their 07/08 annual report[29] that they have delivered efficiency net[30] savings of over 4.3% in 07/08 (the underlying/gross level was higher than 4.3%) and expects to achieve 4.6% in 08/09. If anything one would expect higher efficiency savings in Openreach (than BT overall) since it has perhaps the least efficient and least modern working practices and the most potential to benefit from new IT (such as EMP).

International benchmarks

International benchmarks[31] show that BT's MPF prices are slightly above EU average. Whilst we agree with Ofcom that it is difficult to draw a definitive conclusion from this evidence, the information strongly suggests that Openreach has room for substantial efficiency improvements. We see no reason why BT should not be amongst the most efficient operators in Europe – for example BT has been privatised for longer than any other operator, it enjoys more flexible labour laws and the scale economies of a relatively large country and it has recently heavily upgraded its IT systems. If BT did achieve the average of the top quartile their prices (and by implication costs) would be about 16%[32] less than today on rental only. Including connection charges their prices/costs would be 30%[33] less on a basket of rental and connection. This clearly suggests significant scope for cost efficiency improvements.

KPMG study of BT efficiency

Ofcom commissioned KPMG to complete an assessment of the potential for efficiency improvements. KPMG's initial conclusion is that there is £300 million of potential efficiency savings – this is equivalent to approximately 10% of 2007/08 operating costs. ✂.

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[29] http://www.btplc.com/Report/Report08/pdf/AnnualReport2008.pdf page 23
[30] net of one-offs e.g. EOI implementation cost
[31] http://www.ofcom.org.uk/consult/condocs/openreach/openreachcondoc.pdf Figs 6.6 and 6.7
[32] BT is €9.60 versus top quartile (excluding EE as an outlier) about €8.10 i.e. top quartile is 16% lower than BT
[33] BT is €13.50 versus top quartile (excluding EE as an outlier) about €9.50 i.e. top quartile is 30% lower than BT

NERA study of BT efficiency

We have not seen this report (which was commissioned by BT) though we understand a little of the nature of the report and its conclusions. It is worth considering that in these type of benchmarking studies it is difficult to make definitive comparisons, unless if the studies include comparable and efficient operators, and appropriate adjustments are made to control for other factors affecting costs.

Excessive corporate overhead

Openreach's cost of corporate activities e.g. finance, HR, strategy, legal is excessive and thus inefficient.

The costs of these activities accounts for 8.4% of their total cost base[34]. For CPW Telecom[35] we provide the same activities for ✂ of cost even though we have much lower scale economies. Thus on a simple level Openreach should be able to reduce its overhead cost by over two thirds just by operating its corporate overhead efficiently which equates to a 5% reduction in its total costs. ✂

Openreach's own development plans and EMP will deliver lower cost of failure and other operating efficiencies

Openreach's own operating and service performance plans in effect demonstrate the ability to drive lower operational costs by reducing avoidable costs of failure and operating more slickly. BT has recognised this itself, for example:

- BT mentioned in its Annual Report "*Many of these programmes are closely linked to 'right first time' initiatives, which have the dual benefit of reducing our cost of failure as well as enhancing the customer experience*"[36].
- Openreach's own detailed plans (see Annex 2) show that performance improvement will come through working smarter supported by changes in attitude, culture, new systems and processes rather than working harder or using more resources in the business[37].

These operational changes alone will deliver substantial reductions in the cost of failure reducing operating costs by up to £10 per line per year (i.e. 10-15%) and provisioning costs by 5-10%.

- Reducing in-life MPF faults from 0.3 to 0.7 per line per year (experienced in 06/07) to 0.1 planned will reduce in-life/rental costs by £5 or 8% of the annual cost[38]. Achieving the lower level of faults of 0.06[39] that is set as target for some other telcos would reduce failure costs by an additional £2.

[34] cost = operating cost plus depreciation
[35] This includes: Finance, Legal, Regulatory, Strategy, HR (Admin, Training, Group Services), MDs, Exec, some central commercial functions, revenue assurance, and allocations of Property Management, Group Legal, Corporation Tax, Group Finance, Corporate Treasury, M&A, Group Risk, Group Continuity, Group Marketing, Banking and Information Security.
[36] http://www.btplc.com/Report/Report08/pdf/AnnualReport2008.pdf page 23
[37] See attachment in Annex 2 pages 4 to 6
[38] 0.3 are faults definitively due to Openreach and 0.7 where unclear if Openreach or LLUO. Assuming a mid-point of 0.5, an efficient level of 0.1 implies the inefficiency was 0.4 faults per line per year. Estimating that each fault cost £50 to repair the extra costs is £5 per year or 8% of the total cost
[39] see Annex 5

- Openreach's Project Turtle should reduce cost of repairing faults and in particular repeat faults through using previous fault histories, information of line characteristics (such as noise levels, capacitance, line loss – some from LLUOs' DSLAMs) and 'working more intelligently'. This alone will save £1 per line per year[40] on MPF rental.
- Reducing DOA rates from 5% to the 2% claimed in the plan will reduce average costs of provision by £2 or 7% of provision costs[41]. Other savings can be expected in other provision failures (i.e. not DOAs).

We would expect that the new operating plan will also achieve additional cost savings over and above the reductions in the cost of failure. For instance, the following initiatives (taken from Openreach's own presentation) will deliver further cost reductions;

- *Reduced hand-offs to/from OMC* will reduce the number of staff required.
- *Removal of unmatched/unstructured addresses* will reduce the need for manual intervention.
- *Work will be doable when it arrives with the engineer* will reduce unproductive/wasted time.
- *A new process for that ensures good stopped lines are restarted first time* will reduce need for engineer visits.

More generally, as the EMP platform is adopted by customers it will reduce costs as it provides for more automated processes than the old tactical systems (e.g. dialogue services, KCIs, better address matching, better information at POS, fewer manual workarounds). Obviously the cost benefits will grade in as its is adopted for different products and by different CPs.

Overall, we would expect the new initiatives in the operating plan to deliver savings of at least 15% to 25% in total cost over the next 2-3 years (as well as improved performance). This is absolutely achievable given the substantial IT investment that Openreach has and is making. Openreach has recently implemented the EMP system and is spending a substantial share of its £100m IT budget on further improvements (it is relevant in this context that the majority of system changes in each EMP release are internal requirements that are focussed on delivering improved efficiency and performance).

Current pricing regime

Another factor that further supports the conclusion that Openreach is highly inefficient is the current regulatory pricing regime which does not incentivise efficiency. The nature of the current price regulation on MPF and WLR (i.e. not a charge control but charges that can be re-determined) does not create a strong incentive for efficiency since BT will have thought that inefficiency could be offset by increases in a price review. Ofcom recognised this dynamic when it commented "*Charges that are re-*

[40] Currently about 12-20% of MPF faults are repeats and these on average incur 3 testing/engineering intervention cycles to get solved. Assuming 0.1 faults per line per year, 15% repeat faults, 2 additional interventions per repeat fault at £30 each results in a cost of £1 per line per year

[41] During 2007 DOA rates for MPF were running at around 5%. Openreach plan 1% in their new plan. Assuming that the cost of remedial action (i.e. cost of failure) is £60 then the 3% improvement should reduce costs by £2.40 or 7%

determined regularly … provide the dominant provider with limited incentives towards cost minimisation ….[42]".

Improving efficiency frontier

As well at catching up with best practice another factor that must be reflected when estimating future efficiency improvements is the movement in the 'efficiency frontier'. These are driven by improvements in best practice efficiency levels than come from innovation in technology, processes or working practices for example, new testing equipment, new trenching techniques, more flexible working practices, better use of field force IT for engineers, and new central IT. These deliver efficiency gains beyond those of just removing existing inefficiencies and 'catching-up'. These are difficult to assess precisely but a sensible proxy would be the rate of productivity growth (Total Factor Productivity) in the overall economy which typically varies between 1% and 2% per year.

Possible scale economies

Though not highly significant we think there may be some efficiency improvements in certain activities due to scale economies. Though the number of lines is flat at around 24 million, strong competition (and so high churn between operators) and the transfer engineering involved in the transition to 21CN will drive increased migration/provisioning activity.

Together this macro level evidence paints a compelling picture of an organisation with huge potential for efficiency gains far in excess of the 1% they have estimated.

The macro level evidence that Openreach is inefficient is supported when one looks at what happens 'on the ground' – both engineering activities and central activities such as 'corporate overhead' and product development. Openreach is pervaded by inefficient working practices/culture and processes that drive high and inefficient cost levels. Below we have provided some anecdotal evidence to support this view. Our evidence is fairly limited since we obviously are not working inside BT – the reality is that there is almost certainly far more widespread inefficiency than we see.

Engineering examples

- The current engineering practices and behaviours result in high levels of costly DOAs and faults.
- Fault diagnosis is very poor as revealed by high rates of no fault found (NFF) and right when tested (RWT). We have found that Openreach engineers often do not carry out appropriate testing within the exchange in terms of the Openreach demarcation resulting in repeat faults or in effective use of tie pair change requests. The fact that many of the new initiatives are focused on diagnosis improvement highlights the current poor practices.
- We have many examples of time related charges (TRCs) charged to CPs for 3hrs+ of engineering time spent only to have faults resolved as NFF (no fault

[42] http://www.ofcom.org.uk/consult/condocs/rwlam/statement/rwlam161204.pdf para 9.151

found). It seems improbable that this was the most efficient approach to resolving the fault.

- Where an MPF line has previously been ceased and a new tenant into the premise wants to take a WLR2 service, Openreach have no way of not sending an engineer to the customer's site to activate the WLR2 service (even though this is not needed). There are other cases (not involving MPF circuits) where Openreach send an engineer to perform an installation that could have been activated remotely. We understand that this is due to mis-allocation of work by the SMC.
- Prior to the re-design of the LLU cease process Openreach disconnected the jumpers when there was a cease request even though there was no need to do so. Now they do a 'records only' cease (called flexi-cease) which costs about 80% less. Stopped line provides also unnecessarily involve jumpering activities and costs.
- BT in Greater London spend over £3m on parking fines[43] – we very much doubt that this is a cost efficient working practice. ✂
- ✂

Corporate overhead examples

- Openreach still operate with excessive layers of management. BT recognise this themselves when they said in their annual report "*We also made progress in 2008 in our drive to streamline our organisation and eliminate duplication. This will remain a priority in 2009*"[44].
- At industry meetings Openreach regularly attend with more people than all of the other operators put together. However, most of these attendees make no contribution.
- Openreach are habitually slow and bureaucratic which is inherently inefficient and adds unnecessary cost. For example, they have multiple / complex contracts when one would do, they overcomplicate, they overanalyse, simple decisions are reviewed/approved by multiple groups. This in some ways can be summarised by a trait that the OTA describes as 'being difficult to do business with'.
- Openreach still maintain an expensive central London HQ in Judd Street – they are almost unique (apart from BT Group in BT Centre) in running such a high overhead.

Product development examples

The way Openreach develops products is highly inefficient and wasteful (as well as ineffective) absorbing an excessive amount of Openreach's time (as well as ours). Some examples of this area:

- We worked for 12 months with Openreach on an out-of-hours Business Single Migration product requirement. Even though we clearly communicated the commercial requirements up front, after 12 months the solution they developed did not fit our requirements.

[43] http://www.telegraph.co.uk/money/main.jhtml?xml=/money/2008/07/17/ccdiary117.xml
[44] http://www.btplc.com/Report/Report08/pdf/AnnualReport2008.pdf page 23

- On LLU flexi-cease functionality (to be launched September 2008) there have been multiple workshops and presentations to industry over the last 12 months. Openreach identified an issue which meant that the required functionality could not be supported in the planned release – this was only identified close to the planned to the launch date and having to withdraw the functionality caused lots of wasted analysis / development work.
- Voice Line Access (VLA): Openreach has been central to the development of a 21CN based VLA product for the last 24 months. Industry has put people forward to represent and assist in the product development process. Openreach have recently announced that they are now not planning on launching a VLA-type product. This has in effect wasted a huge amount of Openreach time and resources (as well as ours).

Summary of efficiency arguments

Drawing together the macro level evidence and the anecdotal evidence paints a compelling picture that BT should be able to drive efficiency gains of at least 4% a year over the next three years.

- Estimates for cost reduction solely from closing existing inefficiencies to become closer to 'best practice' suggest that Openreach can reduce costs in the region of 15% to 30%.
- the fact that even the most efficient 'best practice' firms improve efficiency by 1% to 2% per year through innovation with new technology and processes.
- combining the existing inefficiency (say 15% improvement over three years i.e. 5% annually) plus 1% frontier movement suggests a 6% efficiency gain for the next three years.
- actual historic and BT's own forecasts to its shareholders suggest feasible future annual efficiency improvements of around 5%.

3.1.4 BT have used a number of other assumptions that have unreasonably inflated their costs

There are a number of other assumptions that BT have used in their cost estimates that we think have inflated and overstated their costs. We have only been able to comment on a few of these assumptions since BT have only disclosed a few assumptions. In line with our comments regarding transparency and scrutiny we feel more of BT's assumptions should be made transparent and open to scrutiny by Ofcom and others.

Cost of capital

BT have used a cost of capital of 10% (in line with the previous estimate made at the last review in 2004/2005). Ofcom have suggested a range of 9% to 10% based on updating the previous methodology with more up to date assumptions. Frontier Economics has developed analysis using an alternative and more robust approach that suggests a cost of capital between 7.7% and 8.8% - the report is attached in Annex 3. Their approach is based on deriving Openreach's cost of capital using

other utility companies as a proxy rather than Ofcom's approach which is to disaggregate BT Group's cost of capital.

Both approaches are valid, neither is absolutely right or absolutely wrong. However, we believe that given Openreach's increasingly separate and utility-like nature a method using other utility companies as proxies is more likely to derive a sensible result. Therefore, we conclude that the likely cost of capital is in the range of 7.7% to 8.8% (in our model we have conservatively used 8.5%).

Cost inflation

BT have assumed pay inflation of 4% per year and non-pay operating cost inflation of 3%. We think these are too high.

- We think a 3.5% average rate of annual pay inflation is a more realistic estimate than 4%. This is more in line with BT's previous annual pay increase (2.8%), its recent pay settlement[45] (3.5%) and our own experience / forecasts. Although RPI inflation is currently over 3% this is likely to fall after 2008 and the economic slowdown is likely to depress wage rates.
- Inflation for 'other costs' (e.g. vans, computers, rent etc) has been reduced from 3% to 2.5%. Again we believe in the current economic climate headline inflation is currently high and likely to fall. Furthermore, we imagine that BT will gain some procurement efficiencies and factor productivity improvements which will result in non-pay inflation being below the headline rate.

On CAPEX, depreciation and MCE there is no explicit inflation assumption. However, we note that depreciation per line on core rental services grows at about 6% per year which we believe is excessive. We note in this respect that unit costs of assets may also increase by less than inflation. For example, as current copper prices fall back from their historically high level and as capitalised unit labour costs increase at rates below inflation (combining impact of pay inflation and efficiency gains).

Capitalisation approach

The capitalisation approach has not been made explicit. We are concerned that this needs to be made transparent. In addition cost and revenue capitalisation treatments are aligned to avoid confusing data – for example, co-location set-up costs are charged in full in the connection charge yet are capitalised in BT's accounts.

3.2 BT have included an arbitrary common cost attribution onto MPF that is neither necessary nor justified and works against consumers interests

As in many other telecoms businesses a large proportion of Openreach's cost base is 'common' – Ofcom has estimated at ~30% of the total cost base or about £600m[46].

[45] BT's current settlement for CWU represented grades was calculated as RPI+0.5% i.e. about 3.5% and would have been linked to productivity improvements

[46] This excludes copper which is common but is wholly recovered on voice

Common costs are those costs which are used in the provision of more than one product and also are invariant to changes in the volume of these products[47]. Openreach common costs include activities such as HR, finance, strategy, CEO, some product development/management, some IT and common network equipment (such as MSANs and combi cards) and accommodation to house them. [48]

These costs are necessary to the provision of services and thus (provided they are efficiently incurred) they should be allowed to be recovered in prices. However, there is no 'right' method as to how to recover these costs across different products. Indeed Ofcom has recognised this lack of 'right' method:

- The SMP Condition imposed on BT allows for an 'appropriate' mark-up. "*… the Dominant Provider shall secure … that each and every charge … is reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs including an appropriate return on capital employed*."[49].
- The appropriate mark-up can be between the incremental cost floor and the (stand-alone cost) ceiling. "*An appropriate mark-up could be interpreted as that within a reasonable range determined by parameters such as the incremental cost floor and ceiling.*"[50].

In other words, the regulation only requires that:

- incremental costs for a particular product are fully recovered in the price of that product in order to ensure that a return is made on marginal investment – in other words, common costs should not include incremental costs.
- common costs must be recovered in aggregate across all products.

Provided that these criteria are met Ofcom should then consider other objectives that might guide how costs should be allocated between products. The primary guiding principle when considering how to allocate costs must be consumers' interests.

BT have allocated common cost on the basis of their DAM (Detailed Attribution Methodology) which uses a combination of number of lines and other volumetric drivers. Though it is not inherently wrong or inherently right, there is no justification behind this method and it is arbitrary and subjective. Actually if anything their attribution methods work against consumers interests. For example:

- on BES pricing they have (in effect) allocated a far lower level of common cost from WES services (which they use themselves) onto BES services (which they

[47] Ofcom define common costs are follows:
The costs incurred in the production of two or more products can be classified as:
• incremental costs - those costs which are incurred directly as a consequence of producing a specific good or service (i.e. there is an unambiguous relationship between these costs and the good or service in question); and
• common costs – those costs which arise in the production of two or more goods or services, and which are not incremental to the production of any specific one of these goods or services.
(source: http://www.ofcom.org.uk/consult/condocs/rwlam/statement/rwlam161204.pdf footnote 17)
[48] some cost may be common to certain products e.g. copper to WLR and MPF whilst other may be common to a wider number of products or all products e.g. CEO office costs
[49] http://www.ofcom.org.uk/consult/condocs/rwlam/statement/rwlam161204.pdf FA3.1
[50] http://www.ofcom.org.uk/consult/condocs/llu/statement/llu_statement.pdf para 3.8

do not) [51] – this allocation method is in effect acting against BT's rivals and against consumers interests.

- the way in which they allocate Group costs 'over-allocates' cost to regulated services (as we described in section 3.1.1) – again their allocation method is against consumers interests.

One method of aligning the attribution method with consumer interests is Ramsey pricing as a means of maximising static efficiency. Ramsey pricing proposes that a mark-up[52] be applied to the marginal cost of each product. To maximise the static efficiencies the mark-up on marginal (or incremental) cost should be inversely proportional to the elasticity of demand for that product or service. This means that products with low elasticity should have a higher mark-up.

Frontier Economic's paper Annex 3 illustrates how Ramsey pricing could be applied to the pricing of MPF and WLR services.

The analysis, although illustrative (for example it does not include cross-price demand elasticities), shows that the efficient % mark-up on WLR should be significantly higher than the mark-up on MPF. In the most conservative scenario Frontier estimate the appropriate mark-up on MPF rental is 13% (£9 common cost on £67 incremental) and on WLR rental 80% (£54 on £69). This reflects the higher price elasticity on broadband and voice than on voice only. We recognise that these results have limitations. However, they do provide a clear indication that the recovery of Openreach's fixed and common costs can be achieved in a way that achieves a more efficient price structure. Ofcom should therefore consider how it can use an approach that will result in the setting of prices that are closer to their efficient levels.

For the avoidance of doubt, in proposing the use of Ramsey pricing we are not suggesting the use broad baskets (which are sometimes justified on the basis that they allow flexibility in the recovery of fixed and common costs). Rather the contrary, if broad baskets are used BT is likely to use this flexibility to allocate cost inefficiently and against consumers interests.

Aside of the efficiency arguments inherent in Ramsey pricing, there are other compelling reasons as to why consumer interests would be best met by reducing the allocation/mark-up on MPF rental and increasing the mark-up on other services (particularly WLR rental).

Firstly, reducing the attribution to MPF would support Ofcom's stated aim from the TSR of increasing deep infrastructure competition and deliver greater consumer benefits. We describe in section 4 how competition and competitors need to evolve onto NGNs that are based on MPF to continue to deliver consumers choice, innovation, low prices and reduce the digital divide. This shift to NGNs can be supported by reducing the common cost allocation to MPF.

[51] see Annex 4
[52] mark-up is % added to incremental cost base of each product

Secondly, reducing the attribution to MPF will also improve the degree of equivalence and so level the playing field, another key objective of Ofcom's. The full incentive properties of equivalence of input (EOI) only work properly when BT uses a particular EOI product in similar volumes for a similar purpose and at a similar time as other operators. Else Openreach does not have a strong incentive to deliver a good wholesale product. This phenomenon has been very apparent where the performance of SMPF has been relatively good (and BT used the product itself for a similar purpose to other operators) and the performance of MPF has been low (BT only used it for a few thousand business SDSL lines). By reducing the attribution/mark-up on MPF rental it will make MPF more attractive to be used by other parts of BT and so will improve equivalence, level the playing field and so increase consumer benefits.

What these points highlight are:

- that Ofcom has both the discretion and powers to require a different attribution method to the one used by BT.
- BT's has previously attributed in a way that is detrimental to consumers interests and is likely to do so in the future.
- that a reduced attribution to MPF rental will benefit customers – the reduced attribution could be recovered on other rental products and/or other Openreach products so ensuring Openreach still recovers all its efficiently incurred costs.

We think Ofcom should take hold of this important lever in regulation to use it for consumers interests and not allow BT to exploit for its own aims and so harm consumer interests.

3.3 Other considerations

In this section we have highlighted a number of other issues that we believe Ofcom should consider in its assessment of the appropriate level of Openreach prices going forward.

Openreach's excess returns to date

BT have made excessive returns (i.e. above cost of capital) from Openreach in last two years of about £600m[53]. These have been resulted from excess charges on other operators such as CPW particularly for products such as co-location, BES and MPF connection charges. Ofcom should consider whether and how these excesses should either be returned or used to offset any future rises. These excess returns are also notable in the sense that they show that Openreach is able to make excess returns in spite of regulation.

Burden to date of Openreach's poor performance

Openreach's performance over the last two years has been, in many areas, very poor though it has improved recently – for example, DOA rates on provisions and

[53] It has achieved these returns in spite of massive inefficiency e.g. high fault rate

fault levels and repair times. ✂ [54]. ✂ . We still incur additional cost due to poor Openreach performance and the lack of a level playing field (e.g. on accommodation/space products). This historic and ongoing costs cannot, we believe, be ignored when considering future prices.

Consideration of interconnection charges

For customers that migrate to using our NGN in addition to MPF rental and other charges we spend about £60 per year with BT on interconnection. They make both a reasonable return from this traffic and since some of this traffic comes from customers who might have otherwise used cable some of this revenue is incremental to BT.

BT's NGA plans

BT's recent announcement on its proposed NGA deployment may be linked in with the consideration of Openreach prices. We have a number of points to make in relation to this.

Ofcom has previously made clear that it does not think that BT's NGA deployments should be subsidised or funded by excess profits on other services[55]. However, BT has hinted that its NGA investment is contingent in getting a rise in LLU prices. BT must not be permitted to fund NGA through inflating LLU prices – this would in effect mean consumers and other operators that use existing LLU products will subsidise the roll-out of their new networks. Any linking of LLU prices to NGA prices is logically, economically and socially wrong. Ofcom must stick to its commitment not to allow LLU prices to subsidise NGA roll-out.

We are concerned that BT might use this NGA announcement to justify changes in assumptions that have the effect of increasing LLU prices. We do not believe that NGA should *per se* result in higher LLU prices.

- Given BT's back-ended NGA investment projections with little investment until 2010/11 the number of lines on NGA is likely to be small. ✂
- It is likely that a fair proportion of NGA lines will come from cable rather than non-NGA Openreach lines.
- Though any migration might reduce volume of non-NGA lines the impact on LLU prices should be small provided that NGA bears a reasonable share of common costs.
- The risk of NGA investment must not be reflected in the cost of capital used to calculate MPF/WLR prices. To do so would in effect cross-subsidise NGA from MPF/WLR

Move to geographic de-averaging of prices

At the moment Openreach's access products (MPF, WLR, SMPF) are charged at a single (averaged) price across the UK (excluding Hull). De-averaging prices will

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[54] ✂

[55] This is implicit in Ofcom's principles for NGA of contestability and equivalence and its position that it sees no case for direct intervention http://www.ofcom.org.uk/consult/condocs/nga/future_broadband_nga.pdf paras 1.10 and 7.2

improve allocative efficiency by ensuring that prices are close/closer to cost. This ensures that all consumers who value a product at more than its cost are able to purchase it.

Ofcom considered the issue of geographic-de-averaging of access products in the LLU Review[56] in 2005 but decided against on the basis of affordability and practicality issues. Given the wide breadth of this review of Openreach's prices and that Openreach as had over 2½ years to 'bed down' following its creation we believe that Ofcom should now seriously reconsider whether it would be in consumers interests to move to de-averaged prices. ✂ [57].

Volume forecasts

BT has used a set of volume forecasts for number of lines (included in Annex 8 of the consultation). At an aggregate limit which is for a small reduction (0.5%) over the period the forecasts are reasonable. However, we think BT's forecast is rather aggressive in terms of the proportion of MPF and WLR – in particular we think that the rate of migration from WLR to MPF will be slower than they suggest.

It is unlikely that external LLUOs will migrate to MPF at the rate forecast[58] due to the time involved to roll-out an NGN and the need to sell a bundled retail product. Similarly, for internal sales (to BTOperate) we question whether the ✂ 21CN will be rolled out in time, whether xMPF will be available for WVC and whether retail sales will be bundled (to allow use of WBCC which consumes MPF). Furthermore, we have very serious doubts as to the consistency between the volume projection for MPF and the prices as suggested by BT.

3.4 A more plausible set of cost forecasts

To demonstrate the impact of adjusting BT's assumptions to more reasonable ones we have created our own model of Openreach's costs – we will happily share this model with Ofcom. It uses BT's forecasts as provided in the consultation document and then makes a few adjustments to reverse out some of BT's more unreasonable cost/profit projections. The adjustments we made are described below.

- We have included the already announced and already active increase in MPF rental price from £80 to £81.69.
- Increased efficiency gain to 4% pa (from 1%) in line with historic and international benchmarks and BT's own projections to its shareholders. This is the middle of reasonable estimates based on previous efficiency improvements, BT's current significant inefficiencies, international best practice benchmarks and BT's own statements to its shareholders of its future efficiency improvement. BT estimated a wholly unreasonable and unjustifiable 1% annual efficiency gain in their model. Ofcom estimate 1% to 4% though other levels suggest potential efficiency gains of up to 7% pa (e.g. 15% catch-up over three

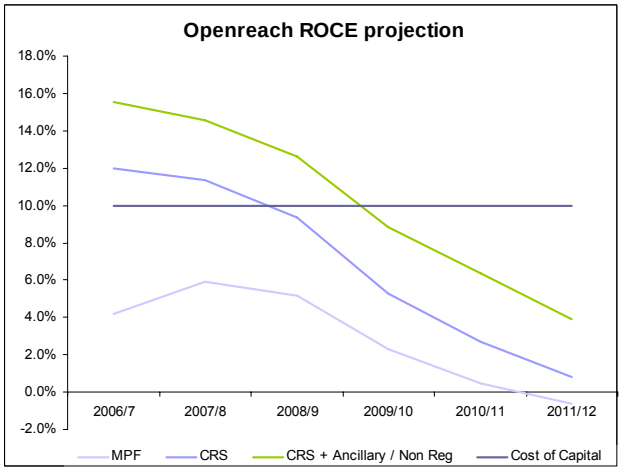
[56] para 3.7 http://www.ofcom.org.uk/consult/condocs/llu/statement/llu_statement.pdf
[57] ✂
[58] ✂

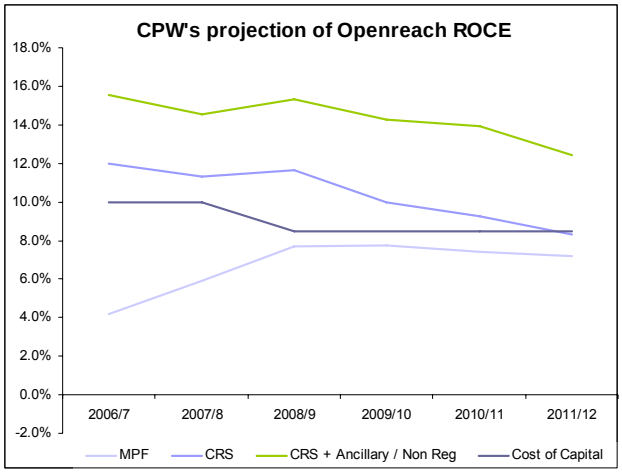
years = 5% plus 2% frontier movement per year). Our 4% estimate is fair, conservative and credible.

- Excluded irrelevant costs of about £280million in 2011/12. This is predominantly the downward cost adjustments that had previously been agreed with Ofcom for regulatory adjustments (£100m to £150m in 2011/12), a reduction in the allocation of BT Group costs (£80m) and a reduction in the unsubstantiated increase in depreciation (£60m).
- Reduced the annual pay inflation forecast to 3.5% (rather than BT's 4% estimate) which is more in line with BT's previous annual pay increase (2.8%) and our own experience / forecasts. Inflation for 'other costs' has been reduced from 3% to 2.5%.
- Adjusted Openreach cost of capital to 8.5% which draws on a more robust bottom-up method deriving Openreach's WACC from other utility companies (range 7.7% to 8.8%) as well as Ofcom's based on disaggregating BT Group's WACC (range 9% to 10%).
- The above adjustments were made on core rental services. We conservatively applied a half of the adjustments for irrelevant costs, efficiency gain and inflation to other Openreach costs.
- There are a number of other adjustments that we feel are appropriate but at this stage did not believe there was enough data to make a sensible adjustment and therefore have not included at this stage. These include adjustments for USO and operational separation costs, double counting, mix of MPF and WLR lines, leased line services and excessive levels of depreciation growth. We would hope that enough information is made transparent for this to be done.

The impact of these sensible changes is a dramatic change in Openreach's profitability. Rather than Openreach's highly implausible scenario this far more reasonable set of forecasts show a much slower decline in Openreach's profitability. Openreach with them continuing to make above cost of capital returns across Openreach until 2011/2012 (as shown by the line for core rental services (CRS) and ancillary/non-regulated which represents all Openreach revenue excluding leased lines). In fact they will generate over £1.5 billion of excess profits over this period. For them to claim they need to increase prices is unjustified and misleading.

Openreach ROCE based on no price changes





Source/note: Ofcom, CPW, MPF return based on MPF costs based on BT estimate for common cost allocation

In addition to achieving an above cost of capital overall return, Openreach will also recover sufficient cost on MPF at the current £81.69 MPF rental price. Our initial assessment on the use of Ramsey prices to set prices suggest that the appropriate amount of common cost that needs to be recovered from MPF is far less than the amount BT has allocated and so the appropriate MPF price is no more than the current £81.69 to provide a adequate return. This approach will result in a more economically efficient pricing structure and will better achieve consumers interests.[59]

[59] Openreach can maintain the £81.69 price up to 2011/12 by recovering less about 15%[59] of the common costs it has loaded onto MPF rental from other Openreach products where it is making excess profits – this equates to a 2% to 3% increase in the cost of other products. This % is based on a lower number of MPF lines than Openreach have assumed and related to adding cost to all Openreach products including leased lines

4 Allowing any rise prices (particularly MPF rental prices) would be very harmful to consumers interests

If the price rises by BT are allowed it will hurt UK consumers in many ways;

- Reduce the extent and intensity of competition putting at threat a market structure that has delivered better services, more choice and lower prices to UK customers
- Increase retail prices for consumers to provide BT with excessive returns
- Not allow early deregulation of the wholesale voice market
- Will unfairly expropriate investments
- Reduce the attractiveness of the UK telecoms sector as a place to invest due to higher risk

Each of these is discussed below. We also discuss why we believe that price rises will (if anything) disincentivise NGA roll-out and the impact of price changes on other forms of access competition.

4.1 Reduction in extent and intensity of competition

In Ofcom's Strategic Telecoms Review (the 'TSR') it rightly identified a need to increase competition and more particularly deep network based competition in order to deliver maximum benefits to consumers. Competition is generally far better than monopoly/regulation in delivering a choice of what customers want at reasonable prices. Deep network based competition in particular allows consumers to enjoy the fullest benefits of choice, innovation and lower prices from competition. In particular, deep network based competition results in;

- More service innovation since competitors have more control over the features of the services than if they bought a white label product.
- More price innovation since the reduced cost base that depends on BT allow more flexibility to introduce new pricing structures.
- More pressure on costs (and consequently lower retail prices) since more of the value chain is exposed to the discipline of competition.
- Higher levels of timely and efficient network investment as competitors are driven to invest in order to compete.
- Reduction in the potential for anti-competitive behaviour downstream since resellers may have the potential for competitive supply of white label wholesale products.
- Reduction in the scope and/or intensity of bottlenecks.

These points are expanded on in generic terms in Annex 1.

Following the TSR and an improvement in the attractiveness of LLU (particularly SMPF) there has been a significant shift in the UK from service-based competition based on reselling BT's IPStream service to deep network based competition based on LLU. UK consumers have enjoyed a swathe of benefits on the back of this;

- More and better choice of services including speeds up to 24Mbps and a range of speed/usage packages.
- Massive reductions in price with broadband being offered for free when taken in conjunction with voice or PayTV or around £10 per month when taken standalone. This compares to about £30 for a 1Mbps service in 2004.
- More real choice with between one and five major competitors to BT in over 75% of the country.

This has led to a huge increase in penetration with the UK improving from the bottom of the OECD league table in 2004 to second place ahead of the USA, France and Germany with a broadband penetration rate of over 65% of UK homes.

Another significant manifestation of this substantial change in competition is that BT has been deregulated in the wholesale broadband (WBA) market in 70% of the UK reflecting the fact that competition is effective[60].

However, the future of this competition cannot be taken for granted. Consumers, technology and markets are all moving on – competition and necessarily competition regulation needs to evolve with this else they will become less relevant.

The most significant change is the move from broadband only networks to NGNs. Today about 90% of broadband services (excl cable) are delivered on broadband only technology (using DSLAMs) – this means that they use SMPF as the main input and if a service provider offers voice this is done separately using WLR and CPS. LLUOs are all looking to migrate to a NGN model based on using MPF as an input.

NGNs offer a more attractive business model. Also since NGNs are a deeper form of competition there are a superior platform for competition compared to broadband only networks (or broadband only plus WLR/CPS) delivering more consumer benefits. For example:

- They allow increased ability to innovate services on the voice service since the competitor controls the line card and service layer.
- There is more potential for price innovation since the marginal cost of the services is much lower (£6.81 per month versus about £11 per month for SMPF/WLR/CPS). Perhaps the most telling example of this is TalkTalk who was only able to launch free broadband by using an NGN and MPF.
- There is greater potential for own network cost reductions and consequently retail price reductions due to cost pressure over more of the value chain and the lower cost of running a converged network compared to separate networks.
- It is likely that as volumes of NGN equipment increases that unconverged technology will become less supported by vendors leading to further increased costs and further reduced relative capability. This may have some impact beyond voice in, for example, broadband where new broadband developments may only be available on NGN equipment and not broadband-only equipment (or later on broadband-only equipment).

[60] http://www.ofcom.org.uk/media/news/2008/05/nr_20080521

The attractiveness of NGNs (using MPF) as a competitive business model is evidenced by the fact that all of the major LLU operators (including BT) looking to move to MPF: we are already part-NGN (TalkTalk) and are looking to migrate AOL customers to NGNs; Sky have announced that they plan to migrate across to an NGN; BT's 21CN is effectively a move to an NGN; and, Tiscali have recently moved to running a dual model.

Competition based on competing NGNs using MPF should be the future bedrock for competition in the UK. If regulation does not support NGN based competition in particular through fair MPF prices then competition will be weaker and less widespread reducing consumer benefits. The key affects will be:

- Operators who have yet to roll-out NGNs (such as Sky ✂) are likely to stop or delay their roll-out resulting in less innovation and choice and higher prices for consumers. ✂
- Operators (such as TalkTalk) who already have an NGN will stop[61] or possibly even contract their NGN footprint resulting in less choice for consumers in those affected exchanges.
- This will in effect exacerbate the 'digital divide' with a larger group of 'rural' customers lacking the improved speeds, choice and lower prices that LLU-based competition brings.
- ✂ [62].
- A less level playing field. A higher MPF price will reduce the incentive for BT to move across to using MPF and so the full incentive properties of equivalence of input (EOI) will not work. The full incentives of EOI only work properly when BT uses a particular EOI product in similar volumes for a similar purpose and at a similar time as other operators. Without this Openreach may not deliver a high quality product. This phenomenon has been very apparent where the performance of SMPF has been high (and BT used the product itself for a similar purpose to other operators) and the performance of MPF has been low (BT only used it for a few thousand business SDSL lines).

In summary, for competition to continue to flourish and go on delivering consumers the substantial fruits of competition operators need to transition to NGNs based on MPF. This will not happen if Ofcom allows rises in MPF rental prices.

4.2 Increases in retail prices

If Ofcom allows rises in wholesale MPF prices they will lead to increases in retail prices – retail price increases that will be wholly unnecessary and in effect fund BT's excess profits from consumers pockets.

There are three reasons why wholesale price rises are likely to trigger retail price rises. Each is described below.

[61] TalkTalk have already halted network expansion due to the uncertainty over MPF prices
[62] ✂

- The first one is simple 'pass through' of wholesale prices. The residential retail market for telephony and broadband services is increasingly competitive with several large scale players. In this environment any excess retail prices/margins tend to be competed away quickly – Ofcom's no SMP finding in the WBA market 3 in effect supports this conclusion. Therefore, any rises in wholesale input prices is likely to quickly feed through to retail level – the exact level and speed of pass through will depend on prices rises between different products e.g. MPF versus SMPF/WLR/CPS.
- The reduction in competitive extent and intensity described above will tend to reduce price pressure between operators.
- The slower migration to NGNs will mean operators are unable to enjoy the lower cost level that NGNs allow and thus tend to raise the overall own network cost base that operators experience. Some or all of this relative cost increase is likely to feed through to retail prices.

4.3 Later deregulation of wholesale voice markets

One of the objectives and principles Ofcom set for regulation was to aim for merit-based deregulation – for example, the following principles were in the TSR "*as soon as competitive conditions allow, withdraw from regulation at other levels*" and "*create scope for market entry that could, over time, remove economic bottlenecks*". Ensuring that MPF is a viable competitive platform will allow more competition in the market for wholesale voice services (both line rental and call origination) and so ultimately pave the way for deregulation, as happened with WBA.

4.4 Price rises will in effect unfairly expropriate investments

✂ [63] ✂ [64] ✂

4.5 Reduction in attractiveness of UK for telecoms investment

The level of investment in telecoms markets by all operators depends to a large part in the level of certainty that regulation provides. Ofcom recognised this when it set as one of its key principles in the TSR as "*to … promote a favourable climate for efficient and timely investment and stimulate innovation, in particular by ensuring a consistent and transparent regulatory approach*"[65]. This reflects the fact that telecoms network investments often have pay-backs over several years and some certainty around the regime is necessary to avoid unnecessary risk and deter investment.

If Ofcom allows wholesale price rises that are not fully, independently and comprehensively justified it will send out a message that it is unwilling or unable to

[63] ✂ .
[64] ✂
[65] http://www.ofcom.org.uk/consult/condocs/telecoms_p2/tsrphase2/maincondoc.pdf para 1.25

provide regulatory certainty and is willing to 'change the rules' post-investment. This will increase risk and thus reduce telecoms investments in the UK.

4.6 Holding current prices will not hinder NGA or other access competition

As well as considering the impact on downstream competition it is important to consider the impact of any price change (or not) on access competition from cable as well as NGA. We think there will be very little impact on other forms of access from price rises (and similarly very little impact if prices are held at current levels). If anything a price rise is likely to disincentivise NGA investment.

Lower MPF prices would not reduce potential access competition from cable or alternative forms of access such as wireless;

- Cable network expansion is highly unlikely[66] as was implicit in the TSR.
- Cable is unlikely to contract its network in response to a lower or higher MPF price given the high level of sunk costs.
- There are no viable wireless platforms that appear to be likely to deploy.

Lower MPF prices will not reduce incentives for BT/Openreach to invest in NGA. If anything we see that allowing increases in MPF prices will actually disincentivise NGA investment since the larger the returns that BT makes on MPF the less the incentive to and relative upside from investing in NGA.

[66] 4.6 … we concluded that there are enduring economic bottlenecks in fixed telecoms networks: that is, there are parts of the network where there is little prospect for effective and sustainable competition in the medium term. http://www.ofcom.org.uk/consult/condocs/statement_tsr/statement.pdf

5 Price control mechanism

In this section we describe our initial thoughts on the appropriate mechanisms for price controls going forward. We are unable to be definitive and precise since the right structure will depend on the nature of changes that Ofcom proposes. Furthermore, the different elements will interact – for instance, narrower baskets and interim reviews may become more desirable the longer the price control.

Our comments are described below under four areas:

- The overall RPI-X approach
- Application and structure of baskets
- Other aspects of charge control
- Monitoring regime

5.1 Overall RPI-X approach

We agree that an RPI-X approach is the most suitable overall mechanism. It provides a good balance between the need for certainty (for BT and wholesale customers), incentive for cost minimisation and also mitigates from the risk of unpredictable inflation levels.

Given that the costs of these services are reasonably predictable and the investments that are made using these services are long term we believe that a reasonably long period before review (four or five years) is appropriate with a provision for a mid-term review. The triggers for a mid-term review should be explicit and could include exogenous changes that affect profitability such as copper costs or volume changes/mixes that affect overall Openreach profitability[67]. As well as identifying clearly the allowable reasons for a review the trigger amount needs to be set (e.g. a change in total cost per line of more than +/- 2%).

5.2 Basket structure

It is important to consider whether several charges can be included in a single basket (a 'broad' basket) or whether a particular charge should have its own separate charge control (a narrow basket). Including more than one product in a basket can have benefits in terms of:

- reduced administrative burden (in terms of for instance having to complete less analysis, forecasts and modelling to set the charge initially).
- neutralising the impact of certain risks (where for instance there is uncertainty about the demand of products including alternate products within a single

[67] If a significantly different attribution of common cost per line for WLR and MPF is used then deviations in actual numbers of lines from forecast could product an over-recovery or under-recovery of common cost. This means that both the initial forecast is important and there also needs to be a review mechanisms if the outturn volumes deviate significantly from forecast

basket can in effect reduce the variability of return to demand and so some risk).

- more flexibility in the way Openreach can recover common costs across products.

However, broad baskets increase the risk of anti-competitive abuse where BT can use the flexibility to inflate the price of products sold to external CPs (possibly by allocating greater common cost to the products). We do not believe that ex ante remedies such as prices floors and ceiling and the functional separation of Openreach, or ex post remedies such as the application of competition law, provide sufficient protection against such potential abuse.

BT appear to have shown a willingness and ability to use broad basket structures historically against consumers interests. For example:

- they have used the flexibility of the AISBO pricing basket to price BES circuits at over two times cost (2.5 times FAC and 2.2 times ceiling) whilst maintaining prices for WES circuits close to cost (1.04 times FAC and 0.95 times ceiling). This is works against the interests of effective competition since BT does not purchase BES circuits. The impact of this is that for external sales for BES and WES circuits prices were 2.1 times cost but for internal sales 1.0 times costs. Summary data for this is provided in Annex 4.
- whilst the LLU market has been in a growth phase BT have tended to price connection charges at a high level.
- the excessive cost allocation of Group costs to regulated services is another example of the misuse of flexibility.

For the simple reason that broad baskets are open to potential abuse we believe that baskets should be narrow in definition and for core rental services be a single charge control for each product (e.g. MPF rental).

Broader baskets should be considered where products are relatively insignificant and/or where individual products have similar cost drivers and rates of change in cost. Where broader baskets are used then these could be combined with the use of 'sub-caps' so for instance the average prices within a basket may be set at RPI-5% but any individual product within a basket may not change by more than RPI-2% (say).

We also believe that a mechanism should be put in place to capture new products. This prevents BT 'gaming' the system to create products that fall outside an existing basket as they did with cease charges (to circumvent the connection charge).

5.3 Other aspects of charge control

There are a number of factors that we believe should be considered in setting up the charge control mechanism. These are briefly discussed below

Initial one-off adjustments

According to BT's estimates of costs, the costs of some services are projected by BT to increase significantly. We have indicated that such cost increases are unjustified

and unnecessary. Were Ofcom to consider that some price increase were justified, any one-off upwards price adjustment risks a very significant disruption of the downstream market. Retail market behaviour and contract terms mean that an unpredicted upward wholesale price movement cannot quickly be fed through. Such a price increase would lead to downstream rivals being put at a disadvantage, both because of their reduced ability to recover such higher costs, and relative to BT. CPW therefore considers that even if some price increases were to be introduced, such increases would have to follow a glide path, which should be as smooth as possible. The overall significant current level of profitability of Openreach as a whole, would also imply that a glide path would not be expected to have any impact on the ability of Openreach to recover its overall costs.

Charge controls on new services

We concur with Ofcom's view that any regime should not discourage new service innovation[68] and a lighter form of intervention is appropriate. However, we would suggest several precautions to this principle

- It may be that a new product is in effect an essential service and therefore should not have a light regime. A good example is Access Locate plus which allows LLUOs to locate non-LLU equipment (such as servers and voice interconnects) in the same co-location as they locate LLU equipment – the standard LLU co-location product is inadequate for NGN operators and does not ensure a level playing field. There is no reason why this product should not have the same charge control as standard LLU co-location
- New products should fall within a 'safeguard' cap or other basket so that there are some constraints on pricing

Protection of MPF / WLR margin

Although the absolute MPF rental price level is critical, equally important in some respects is the difference between MPF and WLR price since LLUOs using MPF in effect operate in the margin between the two. In the initial phases of development of LLU when most operators were using SMPF Ofcom recognised the importance of the margin between SMPF and IPStream prices and BT set a voluntary minimum margin level to provide some investment certainty for LLUOs (since *ex ante* controls on LLU prices plus *ex post* regulation was deemed inappropriate/insufficient). We think in this price review Ofcom should consider whether a similar mechanism is appropriate for MPF and WLR pricing (and/or MPF and WBCC pricing).

Approach to common cost recovery

Ofcom must provide guidance on how common cost should be recovered else this could allow BT to abuse the flexibility against consumers interests.

5.4 Monitoring/reporting

Regulatory accounts are Ofcom's and other stakeholders main tool for assessing whether BT is making a fair return or not and so whether prices are reasonable. This

[68] http://www.ofcom.org.uk/consult/condocs/openreach/openreachcondoc.pdf para 8.15

consultation has demonstrated a vast difference between regulatory accounts and Openreach's 'true' or realistic cost due to BT not implementing agreed adjustments and a lack of useful granularity. This is most obviously seen in that the regulatory accounts suggest Openreach's return is 7.7% whilst the cost forecasts suggest the return is 13% or perhaps more. This difference is driven by a number of factors: the regulatory accounts include an excessive amount of BT Group overhead; cost allocations (and the resulting cost floors/ceilings) are unreasonable; the regulatory accounts do not include agreed to regulatory adjustments; and, there is a different treatment of write-offs and holding gains. This makes the regulatory accounts almost useless in assessing whether the return BT is making on a particular product/market is reasonable or not.

Therefore, and particularly if mid term charge control reviews are envisaged, either the existing regulatory accounts should be prepared on the same basis as the costs are calculated in setting the charges or an additional set of costs/cost estimates should be prepared by BT. So for example:

- The same regulatory adjustments for drop wire, RAV and line length should be made in the regulatory accounts
- The same allocation/attribution methods should be used (for allocating costs from Group and then allocating common costs within Openreach)
- The same capitalisation approach should be used[69]

The cost attribution assumptions should also be clearly articulated.

Without this, external stakeholders will be unable to check whether BT is complying with its charge controls. Indeed we would also contend that unless these changes are made BT will not be compliant with its regulatory obligations and particularly its SMP Condition FA3.1 which requires that BT "*… shall secure, and shall be able to demonstrate to the satisfaction of Ofcom, that each and every charge offered, payable or proposed for Network Access covered by Condition FA1 and/or Condition FA9 is reasonably derived from the costs of provision*".

[69] For example in the 06/07 regulatory accounts the initial set-up costs are capitalised and depreciation/RoCE is shown as the cost. Yet the charge is set on the basis that an LLUO pay the set-up cost through the connection charge

6 Response to Ofcom questions

At the end we then provide answers to the specific questions that Ofcom has posed in its consultation (section 6) that have not been answered in the rest of our response.

Question 6.3: In Annex 7 we discuss the options with respect to the scope of services to be included within this review. Please provide your views on the appropriate scope for consideration within this review and the appropriate treatment of non core services.

Question 6.4: Should we consider greater or lesser use of price controls for SMP non-core services? How should price controls deal with this in terms of charge controls and recovery of common costs?

Question 6.5: To what extent should we incorporate the revenues and contributions to costs from non-SMP services in the review?

We believe that all Openreach services should have some form of price regulation on them though with varying levels of prescription so that less important services have less tight controls. The current situation where prices for services which are essential to operating an LLU business (such as time related charges) are not regulated is unacceptable.

Question 7.1: Do you agree that it is appropriate to include an allowance for compensation payments in Openreach's cost base for the purposes of determining Openreach's service costs? If so, what level would you consider consistent with the level likely to be incurred by an efficient operator?

Yes we do agree that an allowance should be included but based on a high performance level. For example a fault rate of 0.06 per year.

Annex 1: Benefits of deep level infrastructure competition

Ofcom in its Strategic Telecoms Review ('TSR') rightly identified that regulation should support the deepest level of competition that is effective and sustainable. This annex describes CPW's view in generic terms of the benefits of deep infrastructure competition

Deeper level competition will deliver consumer benefits in a number of areas:

- Increases competition in innovation at the network layer where there is significant potential for new developments. Innovation can come in two forms
  - innovation in technology and product features that enable new/better services for customers and more choice/diversity
  - innovation in cost / pricing approaches[70]
- Creates competitive forces across more of the value chain/cost stack and so increases pressure for cost efficiency (as players strive for cost advantage) and reduce the risk of excessive pricing of the electronics layer
- Encourages earlier and higher levels of efficient network investment driven by:
  - the threat of lost investment returns for BT if they invest slowly
  - the ability of non-BT players to move more quickly[71]
- Reduces potential for anti-competitive behaviour in downstream markets as a non-BT investor is less likely to act against the interests of downstream competition (e.g. in anti-competitive Ramsey pricing)
- Increases product control for LLUOs since, for instance, they are able to manage the network more effectively with their own equipment
- Reduces the extent and degree of enduring economic bottlenecks
- Stimulates investment and innovation by BT in areas without competitive pressure through benchmarking of performance from competitive areas

[70] For instance, a single investor with little competitive pressure is more likely to adopt and sustain a high premium starting price (as BT did with IPStream in the early days) rather than a low price / high volume pricing approach. This high pricing would limit price flexibility in retail market and thus uptake and consumer benefits . This innovation driver is critical in NGA given the huge scale economies

[71] History shows that non-BT players have historically been first to market with new innovations (even though they are often disadvantaged by lack of access by BT)

Annex 2: Openreach's 08/09 Operational Plan

The attachment is a summary of Openreach's operational plan for 08/09 which is an extract of a presentation at the OTA Executive on 28 May 2008. The presentation is confidential to BT.

Annex 3: Frontier Economics reports on recovery of fixed and common costs and WACC

Attached in separate document

Recovery of fixed and common costs

WHOLESALE LINE RENTAL & LOCAL-LOOP UNBUNDLING

SUMMARY

In this note we consider how Openreach's fixed and common costs should be recovered across the main wholesale services that they offer, so that regulated prices can be set at an efficient level.

In summary, Ramsey pricing is expected to result in an efficient recovery of fixed and common costs, by recovering a relatively higher proportion of such costs from services with relatively inelastic demand and less from those with relatively elastic demand. Available evidence suggests that demand for narrowband access is less price elastic than that for broadband access. Using this data, the unit cost estimates presented in Ofcom's consultation, and certain simplifying assumptions, we calculate a potential range for Ramsey prices for the main Openreach wholesale services (WLR, MPF and SMPF rentals) at the beginning and end of the review period. Relative to the FAC unit costs, these estimated Ramsey prices result in relatively more of Openreach's fixed and common costs being recovered from WLR and less from MPF and SMPF.

While the estimation of Ramsey prices is subject to a high degree of uncertainty, the relatively high demand elasticity estimates for broadband services suggest that an efficient allocation of costs would recover a relatively low proportion of fixed and common costs from the wholesale services underlying broadband services, that is MPF and SMPF.

RECOVERY OF FIXED AND COMMON COSTS

Costs which are fixed and common to the provision of wholesale access services and to other services/activities, cannot be directly attributed to individual services. However, as these fixed and common costs need to be recovered, an allocation method must be selected to ensure that regulated prices for Openreach's services make a contribution to their recovery.

In this case, the allocation of fixed and common costs needs to be considered from two perspectives. First, the allocation of costs common between Openreach and the rest of BT must be considered. That is, ensuring that the appropriate proportion of those costs which are common to Openreach and other parts of BT's underlying business are allocated to Openreach and hence to the regulated services. These common costs will include both fixed corporate "overheads" and costs common between BT's core and access networks.

Secondly, it is also important to consider the allocation of those of Openreach's costs which are common to the services that Openreach provides, to ensure these are attributed appropriately across its main services (e.g. wholesale line rental (WLR), full access unbundled loop (MPF), and shared access unbundled loop (SMPF)).

There are a variety of methodologies which can be used to allocate fixed and common costs. These include:

- Fully allocated costs (FAC) – this is where a cost driver (for example, the number of employees) is selected which can be used to allocate fixed and common costs.
- Incremental cost plus an equal proportionate mark-up (LRIC plus EPMU) – this involves calculating the long-run incremental cost for each service (which by definition excludes fixed and common costs) and then adding a proportionate mark-up which enables the common costs to be recovered across services in proportion to the incremental cost.
- Ramsey pricing – this involves applying a mark-up on marginal (or incremental) cost, related to the relative "super-elasticity" of demand for each product or service.

An alternative approach could be to allow an operator some freedom to set prices under an overall basket of services that share the fixed and common costs. While this allows the regulated operator the freedom to set prices to recover its fixed and common costs, this is unlikely to lead to an efficient outcome for prices of wholesale services when the operator is a vertically integrated operator offering services to rivals that compete with its downstream operations as there is a material risk that prices will be set with anti-competitive intent. We therefore do not consider this approach further here.

EXISTING COST ALLOCATION APPROACH

BT's regulatory cost accounting system is notionally a LRIC based system. Due to the difficulty of calculating incremental costs and common costs at a service level, the cost accounting system can be best characterised as a LRAIC system which allocates costs in two stages:

- Costs for high level components and activities are calculated on a LRIC + EPMU basis;
- These costs are allocated to individual services on an FAC basis.

Thus the cost accounting system produces estimates of common costs between high level components and activities, for example between the access network and the core network or between network activities and "retail and other" activities. However the system does not produce estimates of common costs at the service level.

Our understanding is that the cost data submitted to Ofcom by Openreach are consistent with the regulatory accounts. There is little visibility of either the proportion of costs which are common to Openreach and BT's other activities or common across Openreach's services, or how these costs have been allocated to services in the cost estimates presented by BT. Ofcom have estimated that the fixed and common costs of Openreach represent approximately 30% of its total costs. We understand that this estimate refers to both costs which are common

to Openreach's services and common to Openreach and the other businesses of BT.

In 2005, Ofcom considered whether BT's prevailing approach to the recovery of the common costs of shared duct (routes containing both access and core cables) was appropriate. The approach taken at the time was to recover these costs in proportion to the cross-sectional area of the duct taken by each type of cable (i.e. access and core network cables). Ofcom (and others) acknowledged that the method of allocating shared duct based on the diameter of cables potentially allocated too much cost to access[1]. Ofcom noted that *"BT's current proposals to establish an Access Services Division (ASD) will require it to re-examine the treatment of the costs of shared duct and should this indicate a more appropriate method can be implemented as part of this process Ofcom will consider at that time what alternatives are available"*[2]. Given that Openreach is now a separate entity from the rest of BT, it would seem appropriate for Ofcom to readdress this issue as part of the current review.

In the rest of this note we focus on assessing the process of allocating the fixed and common costs of Openreach across its services.

RAMSEY PRICING

Ramsey pricing proposes a method for allocating common and fixed costs between products or services in an efficient manner. It is therefore potentially relevant to the issue of how to allocate such costs between Openreach's wholesale services and we therefore examine it in more depth here.

Standard economic theory states that static efficiency is maximised when price is set to marginal cost. However, in the longer term companies will need to recover the fixed and common costs that they incur in addition to marginal costs. Ramsey pricing requires that a mark-up be applied to the marginal cost of each good or service to ensure that those costs which are common to this group of goods or services will be recovered. The mark-up on marginal cost should be inversely proportional to the elasticity of demand for that product or service. If there are cross-price effects between this group of products or services, then these should be taken into account along with the own-price elasticities to create a "super elasticity".

In principle, Ramsey pricing is expected to provide an efficient way of recovering the fixed and common costs associated with a set of products or services – that is, it ensures that overall consumer surplus is maximised. The reason for this is

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1 "*BT attributes duct cost on the basis of cross-sectional area where those cables which are largest and require most space are allocated more costs. In this case access takes a larger share of the overall cost of duct, as access cables are usually large than core cable." "As discussed in Part 1 it is arguable that there is some causal relationship between the opportunity cost of the duct and the size of the cable, where an access cable has an opportunity cost in that the duct space it occupies cannot be used for a core cable and this cost is greater the more duct it uses. The document also suggested however, that the incremental cost of laying additional bores was relatively small compared to the initial cost involved in laying duct when the additional bores are laid at the same time. Thus, in practice there may not be such a clear relationship between the crosssectional area of the cable and the cost of the duct."* – see Valuing copper access Part 2 - Proposals, Ofcom (16th March 2005), Annex 4.

2 Valuing copper access – final statement, Ofcom (18th August 2005), section 4, paragraph 4.56

that under Ramsey pricing a greater proportion of these costs will be recovered from products or services with relatively more inelastic demand and a smaller proportion from products or services with relatively more elastic demand. This ensures that the demand reaction, as a result of increasing prices above marginal cost and hence the magnitude of the resulting deadweight loss, is minimised.

Ofcom (and the Competition Commission) have considered and rejected the application of Ramsey pricing in the past, principally due to the practical difficulties of implementing this methodology. For example, Ofcom have referred to the benefits of implementing Ramsey pricing in principle:

- *"Ramsey prices are "efficient" because they account for the impact that increasing prices above marginal costs has on demand. This matters because the demand for some services may be more responsive to changes in prices (i.e. more "elastic") than the demand for other services. When demand is elastic, increasing the price causes a larger reduction of the quantity consumed and therefore a larger deadweight loss. Therefore, in order to recover the common costs efficiently, it is optimal to increase the prices of those services with a relatively elastic demand less than the prices of those services that are not very sensitive to price changes."* Ofcom statement on mobile call termination (2006), Annex 17.
- *"The Ramsey principle, although in theory the most efficient way of recovering these costs, in practice is rarely used due to the difficulties in determining the elasticities needed."* Ofcom consultation (part 2) on revaluing copper access (2005), Annex 4.

One of the main practical difficulties of implementing Ramsey pricing is that it is often hard to accurately estimate all of the necessary demand elasticities. In some instances, multiple own-price and cross-price elasticities are required to implement a set of Ramsey prices. In the analysis below we have made a simplifying assumption and consider only own price elasticities.

Ramsey pricing is expected to generate positive efficiency benefits relative to any other approach to cost allocation. For example, the EPMU technique will generate an equivalent outcome to Ramsey pricing only if the "super elasticities" of each product or service are equal. If we have evidence to suggest that the demand for one product is more or less elastic than the others then the EPMU technique will tend to overstate or understate the efficient mark-up on incremental cost for some of the products or services.

We turn next to an examination of the available evidence on elasticities.

DEMAND ELASTICITIES

In this section we provide a simplified framework for assessing the significance of the elasticities of demand for Openreach's wholesale services.

Demand for Openreach's wholesale services is derived from the demand for the final retail services that operators provide (i.e. voice telephony and broadband services). If changes in the wholesale costs incurred by operators are passed through to retail prices then the wholesale demand elasticities should be related to the elasticity of demand for the final retail service. The relationship between the elasticity of demand for a wholesale service and the retail service for which it

is an input depends on the relationship between the price of the wholesale service and the retail service – see below[3]:

WHOLESALE DEMAND ELASTICITY

$$PED_w = PED_R \times P_w / P_R$$

where:

PED_w = own-price elasticity of demand for the wholesale input

PED_R = own-price elasticity of demand for the retail output

P_w = price of wholesale input

P_R = price of retail output

The elasticity of demand for fixed line rental should be proportionate to the elasticity of demand for wholesale line rental and the elasticity of demand for a bundle of fixed line rental and broadband services should be proportionate to the elasticity of demand for MPF and a bundle of SMPF and WLR (i.e. full access to the local loop and shared-access used in combination with WLR). Note that although MPF will be used by operators offering both voice telephony services and broadband services, we assume that it is the demand for broadband which is driving demand for this wholesale service. Below we set out the current regulated annual wholesale price of each of Openreach's services, the average associated retail price as quoted by Ofcom for 2006, and the ratio between these prices (or the mark-up over the underlying wholesale product).

Service	Wholesale (regulated) price[4] (£)	Average retail price (£)[5]	Wholesale price / retail price ratio
WLR (residential)	130.01	140.16	92.8%
MPF	137.81	457.08	30.2%
SMPF + WLR	157.23	457.08	34.4%

Table 1: Wholesale (regulated) price / retail price ratio

Source: Ofcom consultation - "A new pricing framework for Openreach", 30 May 2008 - Annex 6; The Communications Market 2007, Ofcom - Section 4

3 See "Demand estimation and market definition for broadband internet services", Cardona, Schwarz, Yurtoglu & Zulehner (2007). The relationship assumes that (1) one unit of the wholesale input is used to generate one unit of the retail output; (2) there is no alternative input at the wholesale level; and (3) wholesale and retail supply is competitive.

4 Note that we have combined the connection charge with the annual rental charges by assuming that on average a contract lasts for 3 years and therefore the connection charge can be amortised over this period.

5 The retail price associated with WLR is for residential fixed line rental and that associated with MPF and SMFP is for residential broadband access and fixed line rental.

Recovery of fixed and common costs

Below we set out ranges for the own-price demand elasticities for fixed line and broadband markets based on evidence collected from the literature. These studies were based on information from a number of developed countries (see Annexe 1 for more details on broadband demand elasticities).

Service	Own-price elasticity of demand		Source
	Minimum	Maximum	
Fixed line access (residential)	-0.02	-0.17	*Review of price elasticities of demand for fixed line and mobile telecommunications services, Vodafone (2003)* – range based on a summary of other studies
Fixed line access (business)	0.00	-0.15	
Broadband access	-0.14	-2.62	*The residential and commercial benefits of rural broadband, Burton & Hicks (2005)* – a summary of other studies *Broadband migration and lock-in effects: Mixed logit model analysis of Japan's high-speed internet access service, Ida & Sakahira (2007)* *Demand estimation and market definition for broadband internet services, Cardona, Schwarz, Yurtoglu & Zulehner (2007)*

Table 2: Retail demand elasticities

Whilst there is significant variation in the elasticity estimates for both types of service, the available evidence suggests that the own-price elasticity of demand for broadband is relatively elastic, while the own-price elasticity of demand for fixed line access is relatively inelastic. Below we set out the wholesale demand elasticity estimates based on the above retail demand elasticities and the wholesale – retail price relationships shown in Table 1 above.

Recovery of fixed and common costs

Service	Own-price elasticity of demand	
	Minimum	Maximum
WLR without SMPF	-0.02	-0.16
MPF	-0.04	-0.79
SMPF + WLR	-0.05	-0.90

Table 3: Wholesale demand elasticity estimates

Source: Frontier analysis

These results indicate that it is likely to be most efficient for relatively more of Openreach's fixed and common costs to be recovered from WLR compared to MPF or SMPF.

RAMSEY PRICE ESTIMATES

In this section we provide some illustrative calculations of Ramsey prices for Openreach's services based on data from the consultation and the demand elasticity estimates shown in the previous section. We have had to make a range of simplifying assumptions in generating these estimates. For example, we have used only own-price elasticities of demand. We have also used estimates of the level of incremental costs for each service and fixed and common costs across the services, based on the limited information available. The results shown in this section should therefore be interpreted as indicative. These results are useful however in understanding the likely form/structure of a more efficient pricing approach than that generated under FAC. Below we set out the definition of a Ramsey price[6] (using own-price elasticities):

6 Note that we are using incremental costs rather than marginal costs and the application of the formula assumes the super-elasticities are proportional to the own price elasticities.

RAMSEY PRICES

$$P_i (1 - X_i\%) = IC_i$$

$$X_i\% = k \times 1/PED_i$$

$$FCC = \Sigma_i (P_i \times Q_i \times X_i\%)$$

where:

P = Ramsey price

IC = Incremental cost

FCC = Fixed & common costs

k = scalar

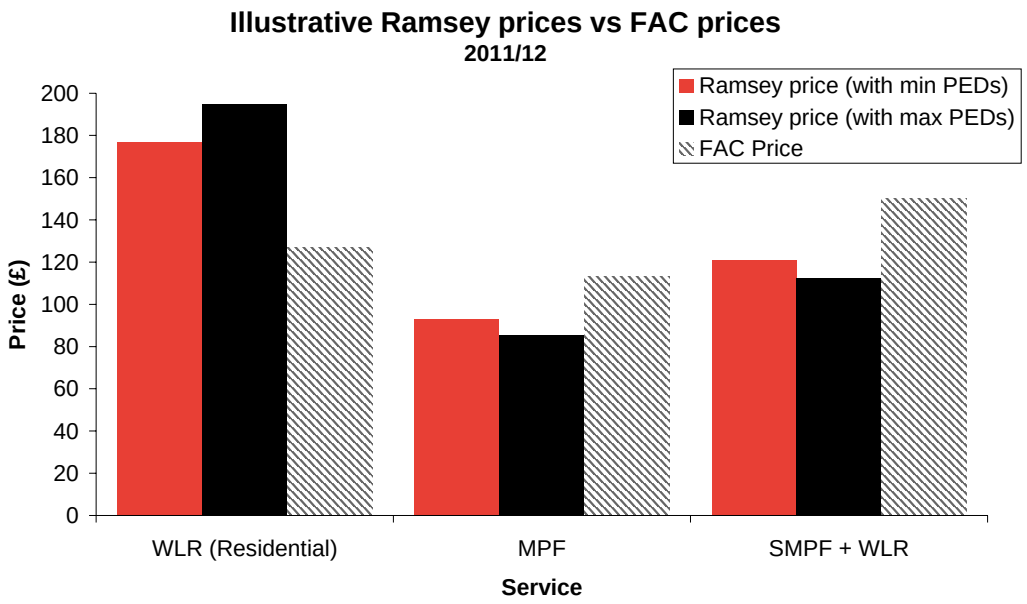
PED = Own-price elasticity of demand

X% = Mark-up on IC to cover FCC

i = Product i

These equations ensure that the mark-up on each service is proportional to the inverse elasticity of demand for that service and that the combined mark-ups on each service are sufficient to cover the total fixed and common costs incurred.

Below we set out the illustrative Ramsey prices we have calculated relative to the fully-allocated cost estimates submitted to Ofcom by Openreach.



Recovery of fixed and common costs

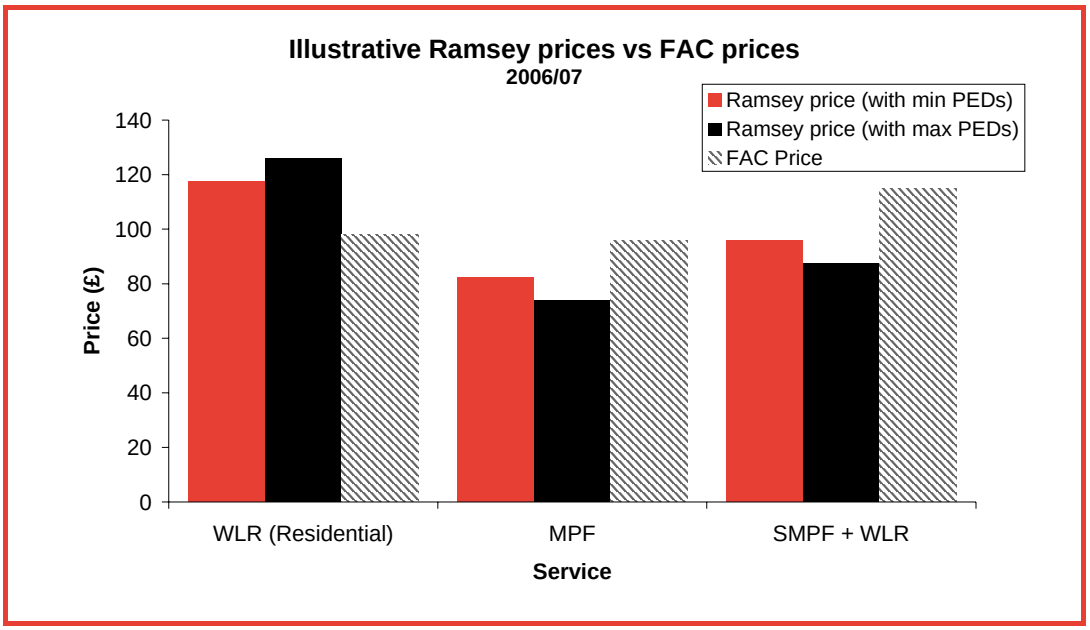


Figure 1: Illustrative Ramsey prices vs. FAC prices – 2006/07 & 2011/12

Source: Ofcom / Frontier analysis

As Figure 1 shows, this change in allocation methodology results in relatively more of the fixed & common costs being allocated to WLR and less to MPF and SMPF. This is true in both 2006/07 and 2011/12.

CONCLUSION

Ramsey pricing is, in principle, the most appropriate way of pricing Openreach's services such that fixed and common costs are recovered in an efficient manner. In practice it can be difficult to apply this approach in a robust and reliable manner due to problems in computing the necessary inputs. However, our calculations suggest that implementing Ramsey pricing could have a significant impact on the resulting regulated prices for Openreach's services. In deriving desirable regulated price levels for these services, Ofcom should therefore consider the implications for efficiency of applying an EPMU approach, given the evidence available.

ANNEXE 1

The table below sets out the results of a range of studies of the elasticity of demand for broadband. All of these, except those published in 2007, were taken from another study which summarised previous work in this area[7]

Study	Price elasticity of demand
Kridel, Singer and Rappaport (2000)	-1.079 to -1.79
Faulhaber and Hagendorn (2000)	-1.53
Duffy-Deno (2000)	-1.35
Duffy-Deno (2001)	-0.81
Goolsbee (2001)	-2.15 to -3.72
Varian (2002)	-2.0 to -3.1
Crandall, Sidak and Singer (2002)	-1.184
Gilmour (2002)	-2.06
Ipsos Insight (2003)	-2.8
Crandall, Jackson and Singer (2003)	-0.09 to -0.14
Rappaport, Kridel, Talyor and Alleman (2004)	-1.491
Burton & Hicks (2005)	-0.003 to -0.005
Chaudhuri & Flynn (2005)	-0.04
Cardona, Schwarz, Yurtoglu & Zulehner (2007)	-2.617 to -2.751
Ida & Sakahira (2007)	-0.4

Table 4: Demand elasticities for broadband

Source: Various

These studies indicate a wide range of elasticities for broadband – as shown in the chart below. In determining a reasonable range for the broadband elasticities, we have therefore eliminated the four minimum estimated demand elasticities and the four maximum estimated demand elasticities to leave a range between -0.14 and -2.62.

7 See "The residential and commercial benefits of rural broadband: evidence from Central Appalachia", Appendix B, Burton & Hicks (2005)

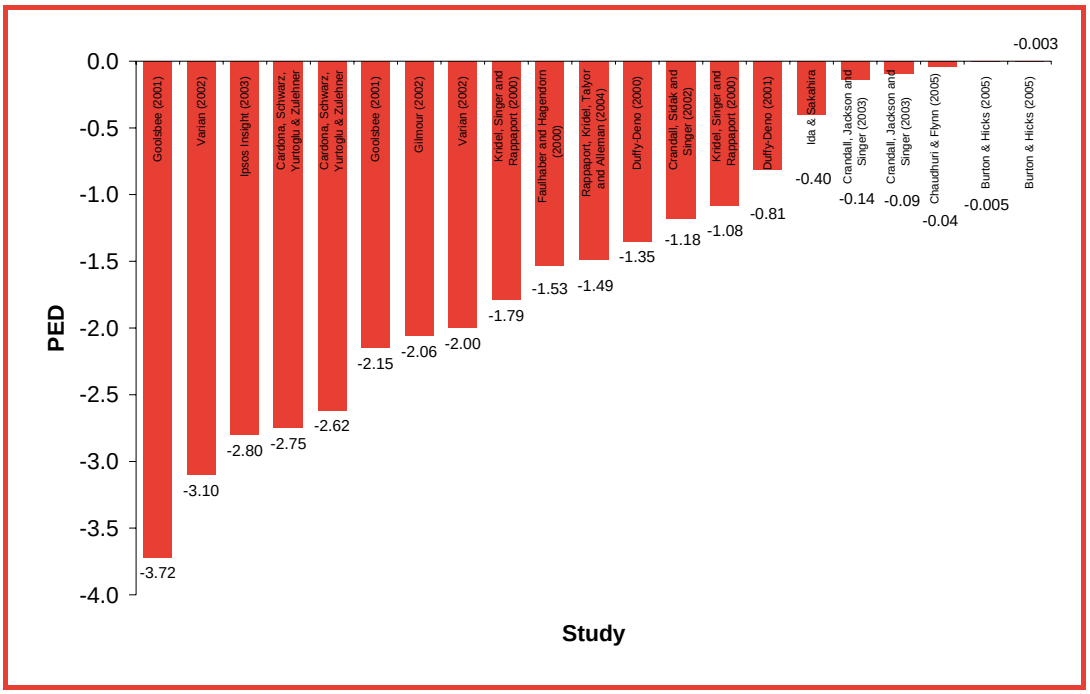


Figure 2: Broadband demand elasticity results

Source: Various

Recovery of fixed and common costs

A Cost of Capital for Openreach

A PAPER PREPARED FOR CARPHONE WAREHOUSE/TISCALI IN RESPONSE TO OFCOM'S CONSULTATION, "A NEW PRICING FRAMEWORK FOR OPENREACH"

This paper responds to Question 6.8 of Ofcom's consultation: "Is it appropriate to update our assessment of Openreach's cost of capital? If so, what are your views on the key parameters that should inform that review and what account should be taken on the current uncertainties in corporate and global financial markets? To what extent should we take account of the implications of (and for) new infrastructure investment?"

Frontier has been retained by Carphone Warehouse / Tiscali to consider the issues raised by Ofcom in question 6.8 of its consultation, "A new pricing framework for Openreach".[8] This paper responds in turn to each of the issues raised by Ofcom in this question.

IS IT APPROPRIATE TO UPDATE OUR ASSESSMENT OF OPENREACH'S COST OF CAPITAL?

In order to set a forward looking price control it is sensible to draw on the latest available information. Any assessment should take into account the latest information from the markets on the cost of capital, albeit taking account of the current market turbulence. The assessment should also take full account of the impact of the creation of Openreach and Ofcom's proposed approach to price regulation on the forward looking risk profile and hence cost of capital of Openreach.

WHAT ARE YOUR VIEWS ON THE KEY PARAMETERS THAT SHOULD INFORM THAT REVIEW AND WHAT ACCOUNT SHOULD BE TAKEN ON THE CURRENT UNCERTAINTIES IN CORPORATE AND GLOBAL FINANCIAL MARKETS?

Ofcom's proposed approach

Ofcom's overall approach of calculating a WACC with the cost of equity calculated by populating the CAPM is accepted regulatory practice.

Ofcom propose a 'top down' approach to estimating the cost of capital for Openreach as a division of BT, based on estimating key parameters for BT as a group and then making a small ad hoc adjustment to one parameter, the equity beta, to take account of assumed relative differences in risk between the future cash flows generated by Openreach and by BT's other assets.

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8 Ofcom, "*A new pricing framework for Openreach: developing new charge controls for wholesale line rental, unbundled local loops and related services*", May 2008

We believe that this approach does not take full account of the significant and growing difference in risks between Openreach and BT's other businesses as set out in Table 5.

Driver of future cash flow	Risks for Openreach	Risks for BT's other businesses
Overall demand volume	Overall demand for lines is predictable and impact of business cycles is limited. Overall market share (internal + external) expected to be stable	Demand for new services is uncertain. Demand for calls and corporate services are highly cyclical. Uncertain future retail market share due to competition
Prices (forward looking)	Regulated on a forward looking basis with prices set such that outturn departures from the assumed cost of capital will be small	Prices covering an increasing proportion of traditional service are unregulated. Likely wide variation in the potential returns for innovative services
Forward looking operational expenditure	Mature business with little volatility in operational expenditure	Mix of new innovative services and mature businesses undergoing significant transitions to the cost base (NGN) with unpredictable OPEX reductions
Forward looking capital expenditure	Mainly replacement of existing assets with investments automatically included in the regulatory asset base	Significant investments in cutting edge technologies with uncertainty over future demand and profitability

Table 5: Comparison of risks for Openreach and BT's other businesses

Source: Frontier

It can be seen that Openreach's risk profile is very different from that of BT's other activities. In fact, Openreach is more analogous to the traditional regulated utilities such as energy transmission, energy distribution or water. This calls into question Ofcom's top down approach of estimating Openreach's cost of capital based upon assumptions about BT's overall cost of capital with a small adjustment to assumed differences in relative risk.

Openreach assets currently make up approximately half of BT's Enterprise Value. Thus one could expect the cost of capital for BT as a whole to be broadly a simple average of the cost of capital for Openreach and for the other activities of BT. In previous consultations, Ofcom set out why a priori one could expect the cost of capital of "access" assets (which form the majority of Openreach's asset base) to be materially lower than BT's other businesses. However given the lack of directly observable information on the relative risks between Openreach

and BT's other activities, it would appear impossible to carry out a process of 'de-averaging' the cost of capital for BT overall with any precision.

A direct approach to estimating Openreach's cost of capital

We believe that a more robust approach would be to directly estimate Openreach's cost of capital by benchmarking against other companies with similar dynamics (e.g. stable demand, stable market share, predictable expenditures) whose activities are regulated in a similar fashion – typically utilities. Ofcom implicitly endorse such an approach when comparing the Openreach equity beta resulting from its ad hoc adjustment to BT's overall beta, to benchmarks of utility equity betas.

Below we set out our views on the appropriate values of the parameters for estimating Openreach's cost of capital.

Our views on the key parameters

Equity Risk Premium

At this stage we have no comments on the Ofcom's proposed estimates of the ERP and have used these estimates in our calculations.

Risk Free Rate

At this stage we have no comments on the Ofcom's proposed estimates of the risk free rate and have used these estimates in our calculations.

Leverage

Ofcom's WACC estimates assume a gearing of 35% for both BT Group as a whole and for Openreach. However the optimal level of gearing will be higher for those projects/businesses which are likely to have less volatile cash flows, as the risk of default will be correspondingly lower and hence the trade off between the tax shield effect of debt and the expectation of bankruptcy costs will shift. This assessment should take into account of both systematic risks, also captured in the beta, and unique (diversifiable) risks, e.g. risks associated with competition or substitution.

As noted above the overall risk profile for Openreach is similar to other regulated utilities and other utilities, which have significantly higher levels of debt financing than assumed for BT as a whole, reflecting less volatile cash flows. Table 6 provides a summary of gearing decisions in recent price reviews by utility regulators.

	Gearing assumption
(Electricity) Distribution Price Control Review 2004 (Ofgem)	57.50%
Gas Distribution Price Control Review 2008 (Ofgem)	62.50%
Transmission Price Control Review 2007 (Ofgem)	60.00%
Periodic Review 2004 (Ofwat)	55.00%

Table 6: Recent regulatory decisions on gearing

Source: Ofgem and Ofwat price reviews

The gearing ranges from 55% in water distribution to 62.5% in gas distribution. We consider a range of gearing from 50% to 60% as appropriate to reflect the significantly lower risk of Openreach in comparison to the other activities of BT Group.

Equity beta

Table 7 shows recent regulatory decisions on the equity beta by UK utilities regulators with the above gearing assumptions.

	Equity beta
(Electricity) Distribution Price Control Review 2004 (Ofgem)	1.00
Gas Distribution Price Control Review 2008 (Ofgem)	1.00
Transmission Price Control Review 2007 (Ofgem)	0.95
Periodic Review 2004 (Ofwat)	1.00

Table 7: Recent regulatory decisions on equity beta

Source: Ofgem and Ofwat price reviews

Estimates of equity betas are by their nature imprecise, due to the large sampling errors attached to estimates calculated over short periods of time and the likelihood that the underlying beta will have changed over time if a longer sample is used. As such regulators have tended to conservatively estimate that equity betas are one or close to one, as a neutral assumption.

Smithers & Co in a 2006 report for Ofgem[9] estimated betas using a variety of methods for UK regulated utilities. They concluded that a beta close to one, as used by Ofgem in past decisions, is within the confidence interval of their estimates but appears to be generous in comparison to the central points of their estimates.

	FTAS full sample	FTAS latest rolling sample	MSCI full sample	MSCI latest rolling sample	FTAS Kalman Filter	FTAS Rolling Kalman Filter, latest sample	Sector
Scottish Power	0.7	0.7	0.3	0.3	0.5	0.5	Vertically integrated energy company (UK)
Scottish & Southern	0.5	0.5	0.2	0.2	0.9	0.4	Vertically integrated energy company (UK)
Centrica	0.7	0.9	0.3	0.5	0.7	0.7	Vertically integrated energy company (UK)
National Grid	0.6	0.6	0.4	0.3	0.6	0.6	Electricity and gas transmission (UK)
United Utilities	0.6	0.5	0.3	0.3	0.7	0.4	Water and energy company (UK)
Kelda	0.3	0.3	0.2	0.2	0.9	0.4	Water company (UK)
Severn & Trent	0.5	0.4	0.2	0.3	0.7	0.4	Water company (UK)

Figure 3: Beta estimates for utilities with significant UK operations[10]

Source: Smithers & Co, Report on the Cost of Capital, 2006

Figure 3 shows beta estimates drawn from the Smithers & Co reports, with average UK based betas ranging from 0.5 to 0.7 depending on methodology, with average Beta estimated against the MSCI world index of 0.3. It should be noted that a number of these companies include both regulated and non-regulated activities.

Given that there is increasing evidence that a central estimate of equity beta for utilities is below one, we consider a range between 0.7 and 1.0 to be appropriate, recognising that recent evidence suggests that this may be conservative.

Debt Premium

Table 8 shows utility price review assumptions for the debt premium at the level of gearing as shown in Table 6 above.

	Debt margin
(Electricity) Distribution Price Control Review 2004 (Ofgem)	1.35%
Gas Distribution Price Control Review 2008 (Ofgem)	1.05%
Transmission Price Control Review 2007 (Ofgem)	1.25%
Periodic Review 2004 (Ofwat)	0.80%-1.40%

Table 8: Recent regulatory decisions on debt margin

Source: Ofgem and Ofwat price reviews

9 Smithers & Co. Ltd.: Report on the Cost of Capital provided to Ofgem. 1 September 2006

10 The table excludes companies such as Viridian or IPR with limited or no UK operation.

Ofwat noted that the lower end of its assumed range (0.8%) represented a historically low borrowing cost. We would therefore consider a debt premium of 1% to 1.4%, at the above proposed levels of gearing, as appropriate for the calculation of Openreach's WACC.

Resulting estimate of Openreach's cost of capital

The above proposed alternative ranges would result in a WACC range of 7.7% to 8.8%[11]. Figure 4 shows Ofcom's WACC estimate and our proposed alternative estimation of the WACC.

	Ofcom lower boundary	Ofcom higher boundary	Proposed estimate lower boundary	Proposed estimate higher boundary
Risk free rate	4.2%	4.6%	4.2%	4.6%
Equity risk premium	4.50%	4.75%	4.50%	4.75%
Equity beta	0.70	0.80	0.70	1.00
Cost of equity (post tax)	7.5%	8.5%	7.4%	9.4%
Debt premium	2.0%	3.0%	1.0%	1.4%
Cost of debt (pre tax)	6.5%	7.0%	5.2%	6.0%
Corporate tax rate	28.0%	28.0%	28.0%	28.0%
Cost of debt (post tax)	4.5%	5.0%	3.7%	4.3%
Gearing	35.0%	35.0%	50.0%	60.0%
WACC (post tax)	6.5%	7.0%	5.5%	6.3%
WACC (pre tax)	9.0%	10.0%	7.7%	8.8%

Figure 4: Ofcom's proposed WACC and alternative WACC estimate

Source: Ofcom, Frontier calculations

Implications for the cost of capital for BT's other activities

Although the cost of capital for BT's other regulated activities is outside the scope of the consultation, Ofcom is likely to be mindful of any implications of decisions made on the appropriate cost of capital for regulated services delivered outside of Openreach. However in the same way that the appropriate cost of capital for Openreach will differ from that for BT's other activities, it is likely that the cost of capital outside Openreach will differ between regulated activities and non-regulated activities. As such an implied cost of capital for BT's non-Openreach activities is not necessarily the appropriate cost of capital for non-Openreach regulated services.

Ofcom's analysis shows the estimated beta range of BT Group falling since the previous review to a range of 0.8 to 0.9. By reducing the assumption of the difference in beta between BT Group and Openreach from 0.2 to 0.1, Ofcom implicitly assumes that this reduction in beta is disproportionately due to a reduction in beta for BT's other activities, which falls from 1.23 to a range from

[11] Assuming that the lower end of the range for beta and debt premium is consistent with the lower estimate of gearing and vice versa

0.9 to 1.0. No rationale is given for this assumption that the beta for BT's other activities have fallen significantly other than the statement that "a reduction of 0.2 would result in beta levels disproportionately low when compared with similar network utilities" based on the earlier statement on cost of capital. As noted above this statement does not take account of current estimates of beta for network utilities, such as the recent Smithers and Co paper.

Given the increasingly competitive nature of BT's other activities and the challenges facing BT's other activities in the near future, it seems implausible that there has been a sharp reduction in the beta for these activities. There are a range of more plausible explanations for the reduction in BT's estimated beta including:

- a reduction in the risk associated with the access network due to the creation of Openreach and corresponding increased regulatory clarity.
- the increasing weight of the lower risk Openreach assets in BT's overall asset base; and
- sampling variation in the measurement of BT Group beta.

Using the estimates of Openreach's WACC shown above, if we assume BT group's WACC is approximately 10% (the mid point of the implied range presented in the consultation document) the implied cost of capital for BT's other activities is in the range 11.2% to 12.3%, which compares to the estimate of 11.4% in 2005. This is consistent with the hypothesis that the reduction in BT's estimated cost of capital is driven by a lower cost of capital for Openreach, with the cost of capital for BT's other activities remaining stable.

TO WHAT EXTENT SHOULD WE TAKE ACCOUNT OF THE IMPLICATIONS OF (AND FOR) NEW INFRASTRUCTURE INVESTMENT?

The consultation is concerned with setting a forward looking price control for existing services delivered using the current network. The cost of capital used should reflect the risks associated with the current services and network assets.

We would expect new infrastructure investment by BT or any other party to be made on the basis of expected returns from those investments and corresponding risks. Thus we believe that it is not necessary to take account of potential new infrastructure when setting the cost of capital.

Annex 4: BES/WES pricing

Ratios of cost recovery for BES/WES products

	revenue / FAC	revenue / ceiling
BES	2.50	2.18
WES	1.04	0.95
External sales	2.06	
Internal sales	0.98	

Notes:

- *Numbers shown are in effect the price divided by the cost per circuit which is equal to the total revenue divided by the total cost*
- *Based on 06/07 regulatory accounts (page 39) source: http://www.btplc.com/Thegroup/Regulatoryinformation/Financialstatements/2007/CurrentCostFinancialStatements.pdf*
- *Revenues and costs are calculated assuming that connection charges /costs are amortised over 3 years*

Annex 5: Fault rates comparisons

Number of Faults per 100 lines per year
(2006)

Country	Operator	Total lines	Residential	Business
Spain	Telefónica de España	13.63		
France	France Télécom	8.3		
UK	British Telecom		15.48	10.74
Italy [1/]	Telecom Italia	13		
Portugal	Portugal Telecom	11.2		
Ireland	Eircom		18.16	7.52
Switzerland [2/]	Swisscom Fixnet	20		
Austria [3/]	Telekom Austria	5.73		
Belgium [4/]	Belgacom	5.57		
Greece [5/]	OTE	13.5		

[1/] Target defined by AGCOM for 2006 under the Universal Service Obligations
[2/] Target defined by Ofcom since 2003 (Universal Service Quality Targets)
[3/] Target defined by RTR since 2002 (Universal Service Quality Criteria for Telekom Austria)
[4/] Target defined by IBPT for Belgacom since 2003 under the Universal Service Obligations
[5/] Target defined by EETT, valid since 2002

IBPT, EETT