BT’s Efficiency

Clarifications in respect of the “simple counter-factual” analysis regarding BT’s Regulatory Profitability

June 2017

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1. Introduction and purpose of this report

Introduction

1.1 Ofcom is currently conducting its Wholesale Local Access ("WLA")[1] market review, in which it will set regulated charges for Local Loop Unbundling ("LLU") and Virtual Unbundled Local Access ("VULA") products applicable from 1 April 2018. These wholesale products are used by Openreach's Communication Provider ("CP") customers to provide standard and superfast broadband services to end users (by using LLU and VULA respectively).

1.2 Ofcom published its consultation entitled *'Wholesale Local Access Market Review – Volume 1, Consultation on the proposed market, market power determinations and remedies'* (the "Consultation") on 31 March 2017. In the annexes accompanying the Consultation (the "Consultation Annexes"), Ofcom makes reference to an EY report entitled *'BT's Regulatory Profitability'* (the "Profitability Report") when discussing the efficiency targets it has set for BT in recent charge controls.

1.3 The Profitability Report was submitted to Ofcom in October 2016 in support of BT's response to Ofcom's Digital Communications Review ("DCR"). EY was engaged by BT to produce the Profitability Report in response to a report by Frontier Economics entitled *'Assessment of BT's regulated profitability between FY 2006 and 2015'* (the "Frontier Report"), published in October 2015, which stated that BT was making returns significantly in excess of its cost of capital.[2]

Purpose of this report

1.4 This reference by Ofcom to the Profitability Report was related to our "simple counterfactual" analysis. This was a hypothetical analysis included in the report to demonstrate that, under an alternative regulatory regime to the one that BT had actually faced, regulated prices may have been higher than the current levels, despite BT making lower returns.

1.5 Specifically, Ofcom refers to the Profitability Report where it states that *"Over the past 10 years, BT has made operating expense ("OPEX") savings of around 5% per annum. The level of efficiency which BT had achieved includes both the efficiency targets set by Ofcom, which BT would have to meet in order to ensure costs are in line with prices, and additional efficiency which BT has realised which has meant it "outperformed" charge controls."*[3]

1.6 Ofcom concludes that *"EY are therefore of the view that BT has outperformed the targets we set and that it has historically achieved efficiency savings of around 5% per annum. This therefore provides us with some comfort that the targets that we have set in the past have not been unreasonable."*[4]

1.7 We consider that clarification of the analysis set out in the Profitability Report is required in order to set out the appropriate context of our reference to BT's historic efficiency.

1.8 We consider that this clarification is needed as the analysis within the Profitability Report considers the returns across *all* regulated markets within the RFS where BT

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

[2] The cost of capital refers to the level of returns expected by those who provide capital to a business (through either debt or equity). Where a mix of debt and equity is used to fund a business, the cost of capital is expressed as the "Weighted Average Cost of Capital" ("WACC")

[3] Profitability Report, §4.12, referenced by Ofcom in the Consultation Annexes at §A15.106

[4] *ibid*. §A15.107

has been designated as having Significant Market Power (“SMP”)[4], i.e., Ofcom is supporting its analysis of a specific SMP Market with our analysis which considers all SMP Markets in aggregate. Over the 10 year period of the analysis, these SMP Markets have not faced the same competitive, and therefore regulatory, conditions. As detailed in the Profitability Report, the returns are not consistent between charge controlled and non-charge controlled markets, with 77% of returns in excess of the cost of capital coming from non-charge controlled services. Over the 10 year period in aggregate, 82% of total SMP Markets operating costs were in markets that contain services that were predominantly price regulated.[5] There is, therefore, a material quantum of cost included in our analysis which does not relate to charge controlled services.

1.9 In this report, we clarify the context of the efficiency assumption used in our simple counter-factual analysis contained within the Profitability Report.

1.10 The remainder of this report is structured as follows:

- Section 2 sets out the background to the Profitability Report and summarises the outputs and conclusions of the report; and
- Section 3 sets out the context of the simple counter-factual analysis contained within the Profitability report and details the methodology used in developing this analysis. We also set out the appropriateness of referencing this analysis in the context in which it is referenced by Ofcom in the Consultation.

[4] These are referred to as “SMP Markets” within BT’s Regulatory Financial Statements (“RFS”). SMP Markets include both those provided by Openreach and BT Wholesale & Ventures

[5] We did not undertake our analysis at a detailed RFS service level. We categorised the SMP Markets within the RFS based on the regulatory regime applied to the main services within each market

2. Overview of the Profitability Report

Background

2.1 The analysis within the Frontier Report is based on financial data published in BT's RFS, which Frontier Economics has adjusted to take into account certain accounting adjustments which Ofcom has reflected in its charge control modelling since 2005.[6]

2.2 The Frontier Report considers BT's returns on its regulated services, measured in terms of revenue minus operating costs.[7] The main conclusion in the Frontier Report is that, for the 10 year period to 2014/15 *"BT made c. £18.9bn profit from regulated services, of this £6.5bn was over and above the determined cost of capital."*[9]

2.3 BT considered that the Frontier Report did not properly contextualise the returns which BT made over the 10 year period to 2014/15, as it included returns across all SMP Markets in aggregate, rather than just those markets which were subject to charge controls. The returns in some SMP Markets were higher than those in charge controlled markets as a direct result of policy decisions made by Ofcom. As a result, BT commissioned EY to consider the main conclusion within the Frontier Report, and to set out the facts with respect to returns for services where BT had been subject to regulation. In particular, we were asked to:

(i) carry out a quantitative assessment of Frontier's analysis;

(ii) consider the consequences of the type of regulation faced by BT over the 10 year period to 2014/15; and

(iii) assess the competitive conditions in the telecoms market and how Ofcom's regulation has evolved in this context.

Report outputs

2.4 We set out in the Profitability Report that we considered the main conclusion of the Frontier Report to be overly simplistic and potentially misleading as it considered both services which were price regulated as well as those that, for policy reasons, were deliberately not. EY undertook its own analysis which showed that, on a like-for-like basis, the returns in excess of the benchmark cost of capital was £4.7bn.

2.5 We disaggregated our analysis into markets which contain services which are directly charge controlled and those which had other forms of regulation. In the context of the efficiency assumption being applicable to opex, as shown in the table below, for the 10 year period in aggregate, 82% of the total operating costs (of which opex is the main component) are within markets that contain services which are predominantly charge controlled.

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[6] This refers to the Regulatory Asset Value ("RAV") adjustment which is applied to copper and duct assets which were in place before 1 August 1997. The adjustment reduces the value of the asset base that BT uses to provide regulated services. This adjustment therefore has the effect of boosting the calculated return on capital employed since it shows returns produced with lower capital employed. The RAV adjustment was only reflected in the RFS for the first time in 2014/15. Frontier Economics adjusted the historic RFS data to account for the RAV adjustment. When EY undertook its replication of the analysis in the Frontier Report on a like-for-like basis, we calculated the RAV adjustment on the RFS data using an approach which was consistent with that taken by BT in the preparation of the 2014/15 RFS. This is a key reason for the difference between the two estimates of the returns in excess of the cost of capital

[7] Operating costs within the RFS are on a Current Cost Accounting ("CCA") basis. It includes operating expenses ("opex"), depreciation and CCA adjustments (which include holding gains or losses as a result of changes in asset value, supplementary depreciation to account for changes in asset prices and "other" CCA adjustments which include methodological changes) [9] Frontier Report, Page 3

Table 1: Summary of adjusted RFS data for 2005/06 to 2014/15

All figures in £bn.	Revenue	CCA operating costs	Return	Return in excess of cost of capital
All SMP Markets	61.9	43.9	17.9	4.7
Charge controlled SMP Markets	48.6	36.1	12.5	1.1
Charge controlled as a % of total SMP Markets	79%	82%	70%	23%

2.6 As shown in Table 1 above, our analysis shows that, by excluding markets with services that were not charge controlled, the total amount of return above the benchmark cost of capital falls to £1.1bn. This represents 23% of the total return in excess of the cost of capital.

2.7 Our analysis also highlights that there are a number of reasons why returns can reasonably be in excess of the cost of capital, and hence it is not straightforward to isolate the effects which are as a result of efficiency without detailed analysis involving, for example, adjusting for potential cost attribution and service volume changes. By way of example, a large contributor of the £1.1bn of excess return on charge controlled services was from ISDN30 services, the price of which was deliberately maintained at a non-cost reflective level by Ofcom. This was to reflect the highly depreciated assets which would have resulted in inefficiently low prices if prices had been set with reference to actual cost. These excess returns were therefore an outcome which resulted from policy decisions rather than efficiency.

2.8 Our conclusions in the Profitability Report were, therefore, that BT has not earned profits which were materially in excess its cost of capital for services which are directly price regulated (a margin of 2.2% above sales), and that the majority (77%) of BT's profits in excess of the cost of capital had been generated by services not under a charge control. EY is not therefore of the view that BT has necessarily outperformed its historic efficiency targets and we have not undertaken detailed analysis to confirm this.

3. The "simple counter-factual" analysis

Purpose of the analysis

3.1 The Profitability Report demonstrated that the returns which have been realised by BT in the RFS over the 10 year period to 2014/15 are a result of a number of different approaches to regulation which have been employed by Ofcom across SMP Markets. These different forms of regulation were set in the context of the market and competitive conditions at the time that the regulation was put in place and were designed to further the interests of competition, increase consumer choice and incentivise investment and innovation.

3.2 The purpose of our simple counter-factual analysis was to consider the implications for returns and prices, on a backwards looking basis, if the current regulatory regime was not in place and instead, a rate of return regulatory regime was applied.

Methodology

3.3 As noted in the Profitability Report, it is difficult to speculate exactly how BT would have evolved under an alternative form of regulation following its privatisation in 1984. As such, the analysis in our simple counter-factual is hypothetical in nature as it considers the hypothetical evolution of BT's profitability under rate of return regulation only from 2005/06 onwards.

3.4 Consistent with the analysis in the Frontier Report and carrying out our analysis on a like-for-like basis, we considered the situation had the rate of return regulatory regime applied to all SMP Markets *in aggregate*. The starting point for our analysis was therefore the historic RFS data, to which we had applied the historic RAV adjustment.

3.5 Our counter-factual analysis applies three adjustments to the RFS data for SMP Markets in aggregate:

(i) Capex was assumed to be at a level whereby BT would have maintained its levelof Mean Capital Employed ("MCE")[8] for all SMP Markets (rather than the overall decline which has been seen in the RFS over the 10 year period). This is to represent BT having an incentive under rate of return regulation to maintain as high a capital base as reasonably possible. We modelled the revised MCE by maintaining the 2005/06 level of MCE but adjusting it to reflect the markets and services where BT has been found to have SMP over time;[9]

(ii) Depreciation was adjusted upwards to reflect the higher level of MCE in ourscenario compared to the RFS. We modelled the increased amount of depreciation by maintaining the ratio of depreciation to MCE in the RAV adjusted RFS data for SMP Markets; and

(iii) Opex was adjusted upwards to reflect lower opex efficiencies compared to thatwhich was assumed realised across all SMP Markets over the 10 year period. We assumed that, under a rate of return regime, BT would have had dampened incentives to reduce its costs beyond the efficiency targets set by the regulator, and it would have been subject to lower efficiency targets than those under the current regulatory regime. We assumed that, under a rate of return regime, Ofcom would have used an efficiency target of 2% per annum, which is broadly consistent

with economy wide efficiency measures such as "Total Factor Productivity"[10]which was not higher than 2% over the 10 year period of our analysis. We assumed that, over the 10 year period, BT made efficiency improvements of around 5% *across SMP Markets in aggregate*. As we explain below, this assumption was not informed by a detailed review of BT's historic costs in order to inform a future looking trend. We adjusted the opex in our analysis through the creation of an index to reflect the compound effect of this reduced level of efficiency over the 10 year period.

Context of our efficiency assumption

3.6 In the Profitability Report, we state that:

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[8] Mean Capital Employed is a measure of the size of the asset base, taking a straight average of the opening and closing balance. Applying the benchmark cost of capital to MCE gives the benchmark level of return

[9] Markets which were deemed by Ofcom to no longer have SMP include local tandem conveyance and Wholesale Broadband Access Market 3 and these were therefore removed from the capital base to reflect their move to non-SMP or "residual markets". In the 2014/15 RFS, NGA services were moved from being reported in residual markets to being reported in SMP Markets in the RFS

[10] Use of Total Factor Productivity ("TFP") growth rates to measure changes in efficiency in the context of price cap regulation is a widely accepted practice. For example, the US communications regulator, the Federal Communications Commission ("FCC"), uses a TFP indexation approach to measure annual productivity changes for US local exchange carriers and to inform the efficiency factor in its charge controls

"Over the past 10 years, BT has made operating expense ("OPEX") savings of around 5% per annum. The level of efficiency which BT has achieved includes both the efficiency targets set by Ofcom, which BT would have to meet in order to ensure costs are in line with prices, and additional efficiency which BT has realised which has meant it "outperformed" charge controls. The benefits of these efficiencies affect all of BT's costs, not just charge control costs, due to shared platforms and activities."[11]

3.7 In the context of our simple counter-factual analysis, the efficiency assumption used was designed to apply to SMP Markets in aggregate and, as noted in the highlighted portion of the quote above (which was absent from the reference in the Consultation), this is designed to apply to all of BT's costs – across both Openreach and BT Wholesale & Ventures – and not solely costs related to charge controlled services.

3.8 The efficiency assumption used in our analysis was not informed by a detailed efficiency review of BT's costs, i.e., we did not undertake an analysis of BT's costs to quantify the levels of efficiency that it has realised over the period. Such studies are complex and undertaking such a study to inform an assumption in our hypothetical counter-factual analysis was outside of the scope of the Profitability Report. We understand that a study considering the efficiency across SMP Markets in aggregate, i.e., across Openreach and BT Wholesale & Ventures, does not exist.

3.9 In the absence of a detailed efficiency study to inform our efficiency inputs over the 10 year period, we used a figure of 5% in our analysis as a simplified assumption. For example, we applied the same efficiency assumption to each year of the analysis which will not reflect the operational reality across SMP Markets. This assumption must be considered along with the other simplifying assumptions made in the context of a hypothetical analysis which was presented as a "plausible scenario".[12]

Conclusions

3.10 As noted above, Ofcom considers that *"EY are […] of the view that BT has outperformed the targets we set and that it has historically achieved efficiency savings of around 5% per annum. This therefore provides us with some comfort that the targets that we have set in the past have not been unreasonable."* It is not EY's view that BT has outperformed the targets which have historically been set by Ofcom in the context of its charge controls. EY has not undertaken such an efficiency analysis in the context of Ofcom charge controls.

3.11 Our analysis of BT's profitability suggest that the returns which BT has made in markets which are subject to price regulation have not been materially in excess of its benchmark cost of capital. As shown in Table 1 above, only 23% of the returns above the benchmark cost of capital results from markets which were comprised of charge controlled services and this represents a margin of 2.2% above sales.

3.12 As "glide path" regulation seeks to align prices with cost at the end of a charge control period, there will, in theory, always be an element of return above a benchmark cost of capital throughout the glide path period if prices start above cost. It is therefore not straightforward to quantify the extent to which these returns above the benchmark cost of capital were as a result of BT outperforming its efficiency targets on charge controlled services.

[11] Profitability Report, §4.12 (emphasis added)
[12] Profitability Report, §4.19

3.13 We consider that the backward-looking nature of our analysis, and the fact that our analysis considers all SMP Markets in aggregate means that it is not possible to draw conclusions from our analysis in the context of a forward looking charge control for regulated services.

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