Telewest

Telewest's response to Ofcom's consultation on equity beta

July 20th 2005

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1. Introduction

In its previous submission to Ofcom on BT's cost of capital, Telewest made clear its view that there were significant problems with the the approach proposed by Ofcom to disaggregating BT's equity beta. Specifically, Telewest pointed out the practical difficulties in attempting to disaggregate the BT equity beta from the readily identifiable corporate beta and the issues around the proposed split into non access network and access network betas. The fact that Ofcom both recognised the points made by Telewest and decided to hold an unscheduled second consultation on the proposed equity beta is welcomed.

We continue to have concerns with Ofcom's approach to the proposed level of equity beta for the BT access network. Our supporting economists, Oxera, have provided substantive analysis which demonstrates that Ofcom's approach has significant weaknesses and also appears to diverge widely from the previous decisions of other regulators. With regard to the aggregate equity beta of BT, this submission argues that Ofcom has failed to provide sufficient justification for its proposed reduction: in particular, it has failed to provide a compelling economic explanation to support its (limited) statistical evidence. In this regard, of particular relevance is the Ofwat approach to the beta of listed water and sewage companies. In this particular instance, the regulator veered away from reducing the relevant beta, despite statistical evidence suggesting this may be appropriate, due to a lack of a compelling economic argument to explain the downward movement.. We are therefore, concerned that Ofcom appears determined to take an opposite step (e.g reduce the equity beta) for BT Group, in an environment that is subject to considerably more risky investment and competition and where the general trend for the BT's equity beta appears to be upwards (rather than the downwards move proposed by Ofcom).

This paper provides a detailed analysis and a presentation of the above point plus an analysis of why the Ofcom proposed split of BT access network and "other" has obvious deficiencies when attempting to ascertain appropriate equity betas. We would ask that; (1) Ofcom take into account our detailed comments /analysis, and (2) if there is no rational or credible answer to the issues we raise, then Ofcom should revise its view on the appropriateness of the proposed equity beta for BT access network.

2. Group Equity Beta

Do respondents agree that Ofcom should revise its central estimate of BT's equity beta downwards from 1.3 to 1.0, 1.1 or 1.2? Which of these figures is most appropriate?

Telewest has significant concerns regarding the evidence that Ofcom has presented in order to justify the shift from its estimate of the appropriate equity beta of BT Group from 1.3 to 1.1. In light of these concerns, discussed below, Telewest considers that the appropriate forward-looking beta for BT Group is likely to remain close to 1.3 and that, as such, this remains an appropriate estimate for Ofcom to take, especially in a context in which Ofcom continues to claim that the risks associated with setting the weighted average cost of capital (WACC) too low are greater than the costs associated with setting it too high.

The general argument that Telewest would make with regard to Ofcom's proposal is that for a persuasive case to be made that BT Group's equity beta should be adjusted downwards, particularly in an sector where there has been an explicit acknowledgement that discretionary investment should be incentivised, the current statistical evidence provided by Ofcom is insufficient and needs to be combined with a compelling economic explanation for the decline in BT's equity beta. In this regard, Telewest first notes that there is no such explanation provided anywhere in Ofcom's discussion on the appropriate equity beta. However, while Ofcom does not discuss this issue, it is noteworthy that the two supplementary consultants' reports do examine this issue. First, The Brattle Group stated that there is 'no compelling evidence of a fundamental change in either the risk of BT Group's operations, or the ability of investors to diversify this risk.'[1]

In itself, this would suggest that Ofcom should interpret its latest evidence on BT Group's beta with care. This is further strengthened by the analysis provided by PWC, which, in its report, characterised the period in BT's history from October 2003 to the present day as the 'Growing new wave and ICT period.'[2] According to PWC's 'first principles' analysis, in this period, it would be expected that the measure of beta would be increasing. However, PWC reported a 'contradictory' finding, as both the daily and weekly (asset) beta estimates have fallen over this period. The fact that the beta has actually moved in the opposite direction to that which Ofcom's consultants claim it 'should' have moved over this period, suggests strongly to Telewest that Ofcom should interpret with care the statistical evidence it provides in its consultation paper in determining regulatory policy.

In this context, Telewest would bring to Ofcom's attention the recent approach taken by Ofwat in setting price limits in the water sector. As with BT, there had been a general downward trend in the betas of the listed water and sewerage companies (WASCs) and water-only companies (WOCs) since the last time that prices had been set. However, there are two aspects regarding this fall in the betas that are particularly significant. First, the fall was much more substantial than the recent fall in BT Group's equity beta. While Ofcom argues that the evidence on BT Group's equity beta suggests a revision from 1.3 to 1.1, a strict interpretation of the evidence on the WASCs suggested a fall from 0.7–0.8, as used by Ofwat in the 1999 review, to between 0.3–0.4. Second, this fall had taken

[1] The Brattle Group (2005), 'Beta Analysis of British Telecommunications: Update', June.
[2] PWC (2005), 'Disaggregating BT's Beta', report prepared for Ofcom, June.

place over a sustained period of time, and indeed had been falling throughout the last price control period. By contrast, as seen above, there is already evidence that BT's equity beta is rising once again. Nonetheless, Ofwat's response to this situation is extremely instructive, in which it stated that:

> Taken at face value this would imply that the equity market regards investment in water stocks since the 1999 review as considerably less risky relative to the market than prior to it. Although we have taken steps to reduce regulatory uncertainty, the low beta factors are unlikely to reflect a real decrease in the riskiness of the water sector… We have used a value of 1 for the geared equity beta.[3]

In other words, Ofwat appears to have considered that, absent a compelling economic explanation for the fall in the water companies' beta, there was no justification for reducing their equity beta. Telewest considers that Ofcom should adopt a similar approach.

In summary, Ofcom suggests that BT's equity beta has fallen from 1.3, when the Partial Private Circuits price control was concluded in September 2004, to 1.1 by June 2005, in a period of little over nine months. Moreover, while Ofcom offers no economic explanation as to why this fall has occurred, one of its consultants has acknowledged that there is no compelling explanation for the fall; the second set of consultants actually argued that there **should** have been an increase in BT's equity beta over this period. Telewest judges that this is an extremely weak evidence base on which to determine such an important regulatory parameter.

In a context in which there is no compelling economic explanation for the decline in betas, Telewest consider that the burden of proof placed on any statistical evidence becomes even more significant. In this regard, Telewest would make three points:

- The most recent evidence on BT Group's equity beta suggests that the equity beta of the company has risen, and that this is part of a more general trend;
- That the standard errors around the central estimate of the beta value need to be taken into consideration
- That other approaches to assessing the cost of equity do not support a downward revision of BT Group's equity beta.

First, Telewest would point out the data provided by Ofcom in Figure 4 of the second consultation paper only relates to the period up until April 2005. There is now almost four months' more data available. For estimates of beta calculated over a one-year time horizon, this is a significant amount of new data and it is appropriate to re-estimate BT's equity beta to take this new data into account. This is provided in Table 1 for three of the four estimates provided in Ofcom's initial document.[4]

[3] Ofwat (2004), 'Future Water and Sewerage Charges 2005–10: Final Determinations'.
[4] As regards the fourth entry in the original table, it is noted that Ofcom's consultants, The Brattle Group, found that this adjustment was not significant in all except the last two months of its sample.

Table 1 Updated estimates of BT Group's equity beta

Type of beta estimate	Original Ofcom estimate as of April 2005	Updated estimate as of July 2005
Daily beta, one-year horizon, FTSE All share	1.0	1.07
Monthly beta as published by LBS RMS	1.4	1.43
Daily beta, one-year horizon, world index	c.0.5	0.9

Source: Oxera.

It can be seen from this table that for each of these three estimates provided by Ofcom, taking into account the most recently available evidence suggests that BT Group's equity beta has risen. Moreover, it is noted that this latest data corroborates the trend that can be seen in the evidence supplied by The Brattle Group, as reproduced in Figure 2 of Ofcom's document. This shows BT Group's equity beta, measured on a daily basis, increasing steadily from approximately mid-2004. Telewest considers that, given that the most recent evidence suggests a higher beta, and, particularly, given that this rise appears to be part of a general trend—particularly important in a context in which Ofcom is required to estimate a forward-looking beta for BT Group—it would be appropriate for Ofcom to revise upwards from 1.1 its appropriate estimate of BT Group's equity beta.

Second, Telewest maintains that Ofcom should look at the standard error of the beta estimates. In a context in which there is no economic explanation for the observed falls in beta, it is extremely interesting to consider the range of values for which it is not, statistically speaking, possible to discount as representing the true value of BT Group's equity beta. In terms of the data provided by The Brattle Group, as shown in Figure 2 of its report, its evidence suggests that it is not possible to reject the hypothesis that BT Group's equity beta is 1.23 (using one year of data) employing conventional 95% confidence intervals. Updating this approach to look at the most recent available evidence, the upper end of the 95% confidence intervals for the daily beta estimate has increased further, to 1.29.

Finally, given this uncertainty regarding what the appropriate capital asset pricing model (CAPM) beta should be, Ofcom should also give attention to alternative measures for estimating the cost of equity for BT Group. One such possible approach would be to use the dividend growth model (DGM), which states that the cost of equity of a particular company is given by the sum of the current dividend yield and the expected future growth in dividends. The current dividend yield for BT Group is approximately 5.29%.[5] Calculating the expected dividend growth rate is more complicated, so four different approaches have been taken.[6] The average of these is 5.86%. The sum of these provides

[5] Calculated as forecast dividend for year ending March 2006 and average share price over last three months.

[6] The first approach is to take the Compound Annual Growth Rate implicit in analyst's expectations of future dividend growth for the next 3-4 years and assume that this persists in perpetuity. This provides a growth rate of 7.14% The second approach is similar but assumes that after the period for which there are explicit forecasts, BT's nominal dividend growth reverts to a plausible estimate of nominal GDP growth, taken at 4%, and the implied Compound Annual Growth Rate over a 25 year period is then estimated, providing a growth rate of 4.37%. The third approach makes use of alternative valuation forecasts. In particular, it assumes that the return on equity is given by the ratio of earnings per share to net book value per share, and the retention rate is given by 1 minus the ratio of dividends per share (DPS) to earnings per share (EPS), Forecasts of these variables can be used to calculate the product of the return on equity and the retention rate. Intuitively, this product demonstrates the return forecast by analysts to be earned on the proportion of EPS not being paid out by the company. This approach leads to a growth rate of 9.55%. The fourth

an estimate of the nominal post-tax cost of equity of BT Group of 11.15%. Given Ofcom's stated assumptions of a nominal risk-free rate of 4.7% and an equity risk premium (ERP) of 4.5%, the beta value consistent with the DGM estimate can be calculated as 1.43. In short, this evidence, notably using a framework that is explicitly forward-looking, does nothing to support a downward revision to BT Group's equity beta.

Telewest considers that it is important that Ofcom understand precisely what it is proposing with regard to the DGM. Telewest agrees that the primary method for assessing BT's cost of equity should remain the CAPM. However, in a context in which there is considerable dispute about what the appropriate parameter estimates for the inputs for the CAPM should be, there is merit in using alternative approaches as a 'sense-check' against these alternatives. In this regard, Telewest notes the following two points.

- A similar method of deduction from DGM estimates to infer the appropriate value of CAPM parameters was used by Ofcom as part of the evidence it collected on the appropriate ERP.

- Ofwat, which as explained above faced a similar problem of not being able to explain the observed decline in beta values, also took note of the evidence available from a wider range of estimates including the DGM.

In this context, this sense-check suggests that there should be little or no change to the equity beta assumption that Ofcom uses for BT Group.

To conclude, Telewest considers that:

- following regulatory precedent, to justify a downward revision to its estimate of BT Group's equity beta, statistical evidence needs to be combined with an economic justification, which appears to be lacking in any of Ofcom's analysis to date. Indeed, one of the consultant reports published by Ofcom suggested that the economic arguments indicate that BT's equity beta should have been rising over this most recent period;

- Ofcom needs to take into account the most recently available estimates of BT Group's equity beta, which calculated in various ways, appears to suggest that BT's equity beta has risen since Ofcom concluded its analysis in April. Moreover, this rise appears to be part of a longer-term trend, which is particularly significant as it is the forward-looking beta of BT Group that needs to be estimated by Ofcom;

- in a context where there is considerable uncertainty regarding the appropriate equity beta for BT, Ofcom should also take account of a wider range of evidence in assessing BT Group's cost of equity, and hence equity beta. One such piece of evidence—estimates derived from the DGM—suggests that there should be no change to Ofcom's current equity beta estimate for BT Group.

approach calculates the internal rate of return of a shareholding strategy where stocks of the company are bought at the average of the past 3 months share price, held until 2008, and then sold, with the price in 2008 being calculated as the product of the forecast price earnings ratio and the forecast earnings per share This suggests a growth rate of 2.6%.

3. Disaggregating BT's equity beta

What is the view of respondents of the standard of evidence used by Ofcom in this second consultation[7], when added to that outlined in the first consultation?[8]

In general, Telewest still has serious reservations concerning the robustness of the evidence that Ofcom has presented to justify its current proposals. While the evidence presented by Ofcom does support some directional difference in the systematic risk of BT Group's differing activities—as acknowledged by Telewest in its previous response—little of the evidence that Ofcom has supplied has been able to quantify these differences in a robust manner. In this context, Telewest would make two suggestions to Ofcom:

- that Ofcom considers an alternative disaggregation of BT's equity beta, splitting the activities of BT Group in a manner for which, as Ofcom's own consultants acknowledged, there is much stronger evidence;

- that should Ofcom continue to proceed with a proposal to disaggregate the equity beta of BT along the lines of its current proposals, it does so cautiously, acknowledging the lack of robust quantitative evidence that it has to support its position.

The response to this section is split into two. As the more substantive point relates to the appropriate approach to disaggregation, this is discussed first. Telewest's remaining concerns regarding Ofcom's evidence for its current split are then considered.

Potential alternative split

The primary policy question that Ofcom has raised in this consultation is: assuming that there are differences in the systematic risk characteristics across different parts of BT's activities, what is the most robust approach in which different betas for different parts of BT can be assessed—recognising that only a limited form of disaggregation is likely to be practical and/or robust?

Significantly, this question is conceptually separate from that concerning what Ofcom's policy should be towards the regulation of infrastructure that it considers represents an enduring economic bottleneck. In other words, the policy motivation is not, or should not be, one of trying to encourage a particular form of competition over the copper access network. Instead, it is one of trying to improve allocative efficiency by setting prices that more closely reflect the systematic risks of particular products or services. As Ofcom itself makes clear:

> the limited prospect of infrastructure based competition in current generation access networks, is unlikely to be a key determinant of the level of systematic risk that a project faces.

In a context, in which, Ofcom (along with most consultees, including Telewest) recognise that only a limited degree of disaggregation is sensible or plausible, Telewest judges that

[7] Ofcom (2005), 'Ofcom's Approach to Risk in the Assessment of the Cost of Capital—Second Consultation in Relation to BT's Equity Beta', June 23rd.
[8] Ofcom (2005), 'Ofcom's Approach to Risk in the Assessment of the Cost of Capital', January 26th.

there is a much more robust case—both in terms of underlying principles and the evidence base available to make that judgement—that can be made for splitting out BT's ICT activities from its other activities, rather than for any other type of split. There are at least three reasons why Telewest considers that this would be a more appropriate form of disaggregation to be carried out, set out below.

Robust quantitative evidence

Focusing on an ICT/other disaggregation would be particularly advantageous, as it would allow Ofcom to make use of reliable, quantitative estimates, using a well established methodology, in undertaking its regulatory policy. This is because, as PWC acknowledged, there are reasonably close pure-play comparators to BT's ICT activities. Telewest finds it peculiar that Ofcom has appeared to overlook this evidence despite the fact that it involves a standard, 'direct' approach, based on comparators that 'are significantly more reliable than those for other parts of BT's business' and particularly in a context where many consultees have questioned the validity of much of the other evidence that Ofcom has presented. Moreover, no explanation has been provided as to why this approach has been rejected.

Consequently, Telewest has undertaken research to provide further evidence to support the fact that this well established methodology is easy to implement and provides direct quantitative evidence that Ofcom can take into account. PWC has provided some indications as to the likely asset betas for comparable companies. However, Telewest is concerned that this only makes use of a few companies (not all of which are listed in the UK), only presents the simple average of these results, and appears to result in very high asset betas that it has found difficult to replicate. Therefore, to complement this initial analysis, Telewest has undertaken some further analysis of the likely asset beta of pure-play ICT comparators

Initially, data relating to all firms classified under 'computer services' in the FTSE actuaries classification were collected. Within this sample, attention then focused on those firms that were traded frequently, more often than once every day, to ensure that any comparisons drawn were robust. Estimates of beta using both daily data over the previous year, and the LBS five-year monthly beta were collected,[9] the appropriate asset betas calculated,[10] and the equity beta that would result from using a 35% gearing assumption assessed. The results are presented in the table below.

[9] Using the April–June 2005 Risk Measurement Services.
[10] With gearing calculated as the most recent ratio of net debt to enterprise value as provided by Thomson Datastream.

Table 2 Updated estimates of BT Group's equity beta

	Daily equity beta estimate	LBS equity beta estimate	Daily asset beta	Monthly asset beta	Daily beta relevered at 35%	Monthly beta relevered at 35%
Axon Group	0.57	1.66	0.57	1.66	0.87	2.55
Computacenter	0.89	1.29	0.89	1.29	1.38	1.98
Computerland UK	0.28	0.66	0.28	0.66	0.43	1.02
CRC Group	0.50	0.96	0.48	0.93	0.74	1.43
Dimension Data Holdings	1.11	1.66	1.11	1.66	1.70	2.55
Financial Objects	0.29	1.11	0.29	1.11	0.45	1.71
GB Group	0.43	1.32	0.43	1.32	0.66	2.03
Indigovision Group	0.81	1.36	0.81	1.36	1.24	2.09
Logica CMG	1.98	1.45	1.81	1.36	2.78	2.04
Matrix Communications Group	1.03	1.07	1.03	1.07	1.58	1.65
Microgen	0.33	1.29	0.33	1.29	0.52	1.98
Morse	0.40	1.40	0.40	1.40	0.61	2.15
Northgate	0.69	1.00	0.34	0.49	0.52	0.75
Parity Group	0.73	1.35	0.45	0.97	0.70	1.30
PAT Systems	1.04	1.00	1.04	1.00	1.60	1.54
Retail Decisions	1.23	1.16	0.94	0.92	1.44	1.36
World Television Group	–0.34	1.05	-0.34	1.05	-0.53	1.62
Xansa	0.88	1.70	0.88	1.70	1.36	2.62
Simple average	0.71	1.25	0.65	1.18	1.00	1.80
Weighted average by enterprise value	1.31	1.36	1.16	1.23	1.79	1.86

Sources: Datastream, LBS and Oxera calculations.

It can be seen that the various averaging techniques suggest that an appropriate equity beta for these companies using a 35% gearing assumption, is 1.8.

Furthermore, the asset beta for ICT activities implied by this analysis is approximately 1.2, while the asset beta estimate consistent with the 1.3 group equity beta at 35% gearing is 0.84. Assuming that ICT activities account for approximately 15% of the value of BT's businesses, consistent with the range identified by PWC on page 15 of its document, this implies that the asset beta for the remaining parts of the company would be around 0.77. This is very similar to PWC's estimate of the daily and weekly asset beta of BT for most of 2003—the second half of a phase which PWC characterise as 'back to UK fixed telecommunications'—ie, a time in which BT was undertaking little ICT activity. It should be noted that this historical comparison supports not only a current ICT equity beta of 1.8, but also a current BT Group equity beta of 1.3.

In conclusion, Telewest considers that a more robust, well established approach to the disaggregation of BT's equity beta for which there is considerably more evidence easily available, would be to separate along lines so that there exist pure-play comparators. Telewest has undertaken some analysis to demonstrate that this approach is relatively easy to implement, and illustrated that certain elements of BT Group's activities could be (reliably) thought to differ from the Group average in terms of their systematic risk differences. Consequently, if such an approach were implemented, it could be more reliably expected to increase allocative efficiency than Ofcom's current proposals.

Support from PWC report

As well as the more appropriate and robust evidence base to justify this form of disaggregation, a second point in favour of making a split between BT's ICT activities and the rest of its business is that the most recent evidence commissioned by Ofcom found more evidence to support disaggregation along these lines. This is stated by PWC in its introduction when it noted that:

> We conclude that … the strongest evidence suggesting that a distinction could be made [is] between BT's information and communications technology activities and the rest of BT's businesses.

Both the cross-sectional and the time series data provided by PWC support this claim.

In terms of the cross-sectional data, the first point to make is that PWC's analysis has to combine both core network and access network products in order for the analysis to be carried out. As a consequence, it is therefore of little support in Ofcom's claim that the access network has qualitatively different risk characteristics to that of the rest of BT Group and certainly does not help to justify why in its proposed disaggregation, Ofcom has grouped together BT's core network activities with its unregulated, including ICT, activities. Furthermore, once these two activities have been combined in this way, PWC is only able to conclude that:

> only the higher ICT asset beta is **consistently** [emphasis added] significantly different from the other activities. The lower fixed network business asset beta is only statistically significantly different from other activities in some of the equations.

The time series analysis is potentially even more damaging to Ofcom's claim that the access network is qualitatively lower risk than the rest of the company. As PWC noted, if this was correct then, when the time series regression is estimated, it would be expected that the beta for the rest of the business would be higher when only the access regulatory asset value (RAV) is used within the equation estimated, compared with a situation in which the core RAV is used, or where the core and access RAV is combined. However, precisely the opposite result is found. In other words, PWC's analysis indicated that the core network is lower risk than the access business. It does not support Ofcom's current disaggregation approach—that the systematic risk characteristics of BT's core network business are more similar to that of BT's unregulated business (including its ICT activities) than its access business.

Telewest would like to understand why Ofcom, in its proposals to disaggregate BT's equity beta, appears to have not taken into account these fundamental issues that appear to undermine its current proposed disaggregation approach, and provide much greater support to the proposals outlined by Telewest above.

Regulatory precedent/ease of regulation

The final reason why Telewest considers an alternative disaggregation to be preferable is that it is an approach that is well understood since it is commonly adopted by a range of other regulators. As is also made clear in the PWC report, an approach that seeks to assess whether (some of) the unregulated activities of a particular company have significantly different risk characteristics, and, if so, considers how that adjustment might be estimated (with an emphasis almost exclusively on the use of comparator analysis) is relatively common in UK and international regulatory precedent. For instance, as PWC indicate, Ofgem followed this approach in relation to the disaggregation of the beta of Energis from NGC while it was also considered by the CAA in relation to BAA's unregulated activities.

Related to this, one further aspect that Ofcom may wish to consider relates to the potential for its current proposals to increase the perception of regulatory risk in the sector. As the proposals are currently designed, when Ofcom sets regulated prices for BT's non-copper access products, it would appear that an upward adjustment will be need to be made to the Group beta estimate when determining the appropriate WACC. In itself, this is likely to raise concerns regarding regulatory risk, since investors may not be convinced that Ofcom will allow for such an upward revision in these contexts even though it may be necessary for consistency with the beta applied to the copper access business—noting, in particular, that there is no way in which the future discretion of Ofcom can be fettered.[11] These concerns will only amplify if BT Group's aggregate equity beta changes (increases) in the future, and an attempt is possibly made to analyse the drivers of this change, necessarily in a qualitatively and potentially ad hoc manner.

By contrast, due to the relative ease with which Telewest's proposed approach can be implemented, fewer problems of this sort would be likely to arise.

Telewest's remaining concerns with Ofcom's data

This section looks at the three pieces of evidence that Ofcom provided in its first consultation document, and Ofcom's response to Telewest's arguments. It then briefly considers the evidence provided by PWC, although this was discussed primarily in the previous section.

Regulated companies

In terms of the equity beta of other regulated companies, Telewest's initial response highlighted the fact that Ofcom appeared to be attaching more weight to the evidence on the betas of other regulated companies than the relevant sectoral regulators. This seemed surprising given the greater knowledge of those companies that the regulators would be expected to have. *One* reason that was hypothesised for why these regulators may have given less attention to these figures was due to the impact of the TMT bubble and subsequent bust. In response to this, Ofcom has presented additional data provided by Smithers and Co to Ofgem as part of the last distribution price control review, which as it

[11] The Competition Commission rejected a proposal by the Civil Aviation Authority (CAA) of a 'Price Path Commitment' in the regulation of BAA partly because, to work effectively, it required a commitment from the CAA that it would increase airport charges in the future, and given that no such assurance could be given, it would increase the perception of regulatory risk.

was estimated over only one year, would not be influenced by the effect of the TMT bubble. However, Ofcom did not comment on the more general point regarding the policy stance taken by other regulators.

As a result, Telewest is concerned that Ofcom is still making the same mistake—in particular, that Ofcom provides only a partial reporting of the Smithers and Co paper, restricting itself to the numerical estimates provided. In particular, Ofcom does not mention that Smithers and Co also stated that:

> A crucial statistical caveat, however, is that the relatively small standard errors of the beta estimates are predicated on the assumption that the true value of beta has been constant. For a number of companies there is strong evidence of parameter instability shown by rolling regression. This last issue, of parameter instability, is potentially a crucial one … Their validity is seriously undermined if there is evidence (as there appears to be for several companies) that beta has drifted over time. [12]

Ultimately, Smithers and Co left it to the judgement of Ofgem as to how to interpret this data, observing instead that 'we trust that Ofgem's superior knowledge of the companies will help in this assessment.'

In this light, the response by Ofgem was informative, stating in its final proposals that:

> Smithers & Co found strong evidence of parameter instability for several of the companies. This was problematic given that a fundamental assumption underlying the traditional CAPM approach is that beta remains stable over time … Given this background, Ofgem decided also to have regard to other methods in determining the appropriate cost of equity, most notably an aggregate return on equity approach as proposed by Smithers & Co

It is surprising that, although Ofgem decided to give relatively little weight to these estimates, Ofcom is content to use the same evidence in its own decision-making. Indeed, no mention is made of the statistical problems surrounding the data.

Telewest continues to maintain that, if regulated utilities are to be used in Ofcom's decision-making process, the actual determinations made by regulators in these sectors should form the starting point for any assessment of the appropriate equity beta of BT's copper access business.

US comparators

Telewest, and as Ofcom's document makes clear some other respondents seriously questioned the comparison drawn between BT's copper access business and the US local exchange carriers (LECs) because of rate of return regulation rather than price cap regulation. Many respondents argued that the available academic evidence suggested that the systematic risk characteristics of a firm regulated under rate of return regulation would be lower than that of a firm regulated under price cap regulation, and this needed to be accounted for when making any comparisons.

In responding to this point, Ofcom appears to devote as much, if not more, time to discussing the question as to whether regulation, of any sort, affects the beta of a company compared with either an unrestrained monopolist or a firm operating in a

[12] Smithers and Co (2004), 'Beta Estimates for Scottish Power, Scottish and Southern Energy, Viridian Group, Centrica, International Power, National Grid Transco, United Utilities, Kelda Group, Severn Trent.', March.

competitive market. This is somewhat different to the question as to whether, given that a firm is regulated, how will the nature of that regulation affect the equity beta of that company?[13] On this specific question, Telewest is not convinced that Ofcom has explained why it does not accept the prevailing academic consensus on this question—or indeed pointed to any academic evidence that counters the Alexander, Mayer and Weeds paper cited by Telewest.

Additionally, Telewest is confused by the quotation that Ofcom provided in para 4.67 of its paper:

> …UK utilities tend to be large relative to the market as a whole, whereas US utilities are regionally based and may be quite small. For this reason, estimated beta values could be expected to overstate the degree of market risk borne by UK utilities while the risk incurred by US utilities is understated. The much quoted difference between US and UK utility betas, usually attributed to differences in regulatory risk, may simply reflect the systematic interval effect biases that are present in these estimates.

In response to this, the first point that should be made is that the authors try to adjust for this effect by including a wider range of companies from a wider variety of countries; Ofcom does not mention this. The second point, however, is that, by citing this, Ofcom appears to be supporting the fact that straightforward comparisons between BT's copper access business and the US LECs are invalid. Instead of (or, probably, as well as) there being a difference in the appropriate beta estimates as a result of the different regulatory regimes, there could also be a difference as a consequence of interval effect biases. As Telewest is unaware of any regulatory precedent that aims to correct these interval effect biases, or indeed how this might be done, it seems reasonable that if BT's copper access business was separately listed then the associated beta would be used in setting its prices, and that this would be higher than the beta of the US LECs.

Second lines

The essence of Telewest's original argument was that Ofcom's consultation regarding the lack of income sensitivity for access needed to be tempered somewhat by the evidence on the greater income sensitivity of demand for second lines. Telewest did not claim, as Ofcom appears to imply, that this meant that the demand characteristics for access were identical to that of calls. Instead, it was an additional factor of which Ofcom should take account in its analysis, which somewhat complicated the comparison, and which suggested that Ofcom should therefore proceed cautiously.

Ofcom does not appear to have adjusted its estimates, despite recognising the issue. On the one hand, Ofcom acknowledged that 'this factor may have some, albeit limited, implications for its analysis.' However, by keeping its central estimate of the copper access beta at 0.9, this supposedly 'limited implication' appears in fact to have been a negligible implication, despite the analysis suggesting that approximately one-sixth of the total demand for access products had fundamentally different characteristics to that which Ofcom had used to initially justify the 0.9 equity beta.

[13] Indeed, *if* it were accepted that there was no consensus on the impact of regulation (in general) on the systematic risk faced by a firm, then one potential explanation for this could be the different properties of different regulatory regimes.

This concern regarding the extent to which Ofcom has really taken account of the evidence on second lines demonstrates more generally the problems associated with the approach that Ofcom has adopted: relying on qualitative evidence to reach conclusions which are, necessarily, quantitative.

PWC data

The fundamental point regarding the evidence provided by PWC, and as discussed above, is that it provides more robust evidence to support a different disaggregation of BT's equity beta than that which Ofcom is currently proposing. Telewest maintains that Ofcom should base its regulatory approach and decision-making on the strongest evidence base available.

Beyond this, the only point that Telewest would make regarding the evidence provided by PWC relates to the comments made by PWC on the use of judgement. PWC argues that given that Ofcom is required to exercise judgement in assessing the appropriate beta for BT Group, this 'vindicated' further judgement being applied in decomposing this beta between different elements of BT Group. For instance, PWC stated that:

> We also note that <u>any</u> [emphasis in original] calculation of beta involves a degree of judgement (for example, concerning what measure of beta to use, which comparators to consider etc.). There is, for example, no precise, accepted estimate of BT's group beta available to Ofcom, but nevertheless Ofcom need to adopt a figure in order to apply the CAPM framework in setting regulated prices, and therefore uses its judgement of the best figure, given the available, imperfect evidence.

However, rather than using an initial degree of judgement and subjectivity to justify a further degree of judgement and subjectivity, the argument that an initial element of necessary judgement means that extra caution should be applied before further 'discretionary' judgement is applied, is more persuasive.

Based on the available evidence, what do respondents think would be an appropriate level of disaggregation for the equity beta of BT's copper access network? Which of the following levels would be most appropriate?

As was indicated in its response to its previous question, Telewest judges that a different form of disaggregation should be considered; it is on this basis for disaggregation that this question is answered.

However, before addressing this question specifically, it is worth re-iterating the various impacts that could result from Ofcom choosing different values of beta for BT's regulated products.

The risks of choosing (or implying) a beta for regulated activities that is *too low* are:

- increases inefficiency in the access network because it discourages new investment (or investment for displacement);
- distorts competition in the provision of competing infrastructure;
- shareholders get lower returns.

By contrast, the advantage of a regulatory beta that is *too low* is that:

- customers get current technology at lower prices.

By contrast, if the beta for regulated activities is too high:

- this encourages new investment, particularly from competitors;
- shareholders returns are too high;
- prices for existing services are too high (but this is a price-inelastic product—one reason why this activity has a lower beta).

Given the dynamic advantage of competition, and consistent with Ofcom's previous statements, this suggests that erring on the high side when setting the beta for regulated activities better meets consumer welfare goals.

However, when Telewest made a similar set of points in response to the first consultation paper, Ofcom responded by stating that:

> Ofcom's view is that the status of current generation access networks as an enduring bottleneck has key implications for Ofcom's regulatory policy in this area. This means that, when assessing the trade-off between the benefits to consumers brought about by lowering the cost of access to BT's access network against the disadvantages associated with any reduced incentives to invest at the access level, Ofcom is inclined to take the view that the first consideration is of key importance… It is important to stress … that Ofcom's aim is not to encourage investment in next generation access per se, but, rather to obtain the benefits that next generation access networks will bring relative to current generation access priced at a fair level.

Telewest has two responses to this statement, given below.

- First, it assumes that Ofcom knows what a 'fair price level' for the current generation access product is. As Telewest pointed out in its original submission, and as reiterated in this response, Ofcom is not in a position to be able to robustly defend its assessment as to what the beta parameter feeding into this price level should be.

- By contrast, Telewest has proposed an approach to disaggregating beta which it considers is both supported by evidence and much easier to implement. However, this results in the same beta being applied to both BT's core network, as well as its access network. With such a disaggregation, Ofcom would have to re-assess how it wanted to strike the balance between investment incentives and lower consumer prices considering the core and access networks in combination.[14]

In this context, Ofcom is required to reach a judgement regarding two parameters:

- the appropriate aggregate equity beta for BT Group;
- the appropriate equity beta for the ICT activities.

Regarding the first of these, as was made clear in the response to the earlier question, Telewest argues that, absent any compelling economic explanation for why the equity beta has fallen; taking into account the fact that most beta estimates appear to be rising,

[14] As Ofcom has recognised, how it strikes this balance is determined by its assessment of the likely prospects for infrastructure based competition, This is largely indepdendent of the systematic risk characteristics of either network.

and recognising that it is both statistically impossible to reject the null hypothesis that the daily beta remains at approximately 1.3,[15] and that other estimates of the cost of equity imply a Group equity beta of at least 1.3, Telewest contends that there is no need for Ofcom to revise its estimate of BT Group's equity beta.

In terms of the second, in response to the previous question, Telewest undertook a significant amount of analysis as discussed in response to the previous question. Telewest assesses that a fair interpretation of this evidence is provided in the table below.

Table 4 Telewest's proposed disaggregation of BT Group's beta

Split	ICT activities	All other activities	Total company
Weighting	0.15	0.85	1
Equity beta	1.8	1.21	1.3

Source: Datastream, LBS and Oxera calculations.

This approach suggests an equity beta for BT's regulated activities, including its copper access business, of approximately 1.2.

[15] While the five-year monthly estimate is still considerably in excess of this.

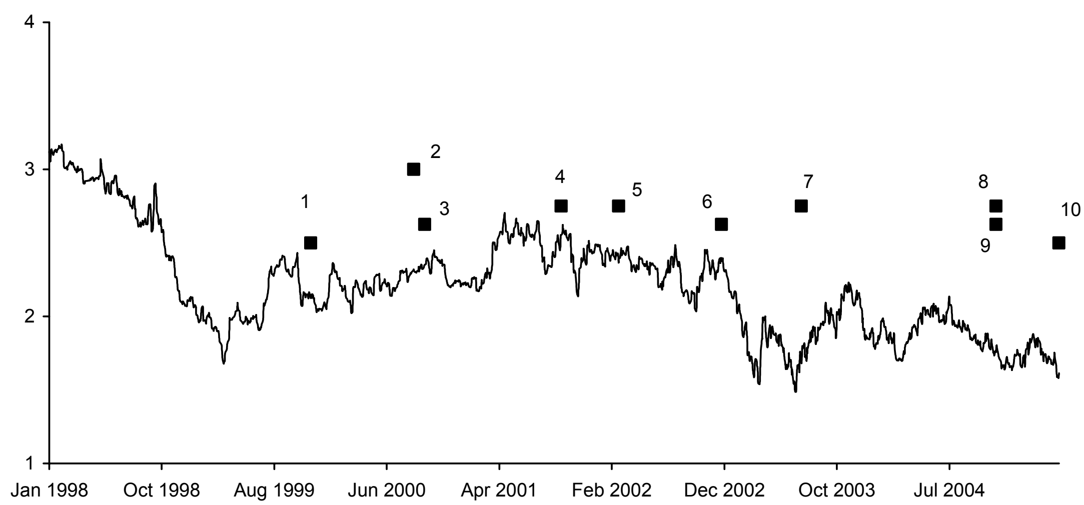
4. Remaining WACC issues

What is the view of respondents on Ofcom's proposed estimates of the WACC for BT's copper access business and the rest of BT?

As regards the other parameters of the WACC calculation, Telewest discussed its view as to the appropriate ERP in its previous response. Furthermore, Telewest agrees with Ofcom that a gearing level of between 30% and 35% for BT and that a pre-tax approach to assessing the WACC remains appropriate. However, on the risk-free rate and debt premium, Telewest would make the following points.

Telewest does not consider that Ofcom has adequately explained why its assessment of the risk free rate does not take into account a range of factors that virtually all other economic regulators in the UK have considered important.. As can be seen in the graph below (expressed in terms of real yields), virtually all other regulators have applied an implicit premium to the spot (or at least short-term average) of the current yield on government bonds. This has been to reflect the fact that there is perceived to be a greater likelihood that (proxies of) the risk-free rate will rise rather than fall over the period for which prices are set. The emerging regulatory consensus, seemingly followed by all apart from Ofcom, appears to be to use a real risk-free rate assumption of 2.5%, which would be closer to a nominal risk-free rate of 5.0% rather than the 4.7% Ofcom currently proposes.

Figure 1: Comparison of yields on government bonds and regulatory assumptions as to the risk-free rate



Note: [1] Margin provided on current rates has been estimated as the difference between the midpoint of the regulators' risk-free rate determination and the simple average across the yields on the different zero-coupon gilts' maturities.

Key: 1, Ofgem, distribution network operators (DNOs), November 1999; 2, Competition Commission, water-only companies cases, August 2000; 3, Ofgem, NGC, September 2000; 4, Ofgem, Transco, September 2001; 5, Ofgem, independent gas transporters, February 2002; 6, Competition Commission, airports, November 2002; 7, Ofgem, gas DNs, June 2003; 8, Ofwat, WASCs, November 2004; 9, Ofgem, electricity DNOs, November 2004; 10, CAA, National Air Traffic Services (NATS) price review, May 2005.
Sources: Bank of England data, several regulatory documents and Oxera calculations.

Second, in a similar way, Telewest would urge Ofcom to also consider amending the debt premia assumption for BT, again in a context in which the risk would appear to be that corporate bond spreads will widen rather than contract over the period for which regulated prices are likely to be set. For instance, the most recent Bank of England Financial Stability Review stated that:

> Given the continuing low level of medium to long-term interest rates on assets without default risk (despite increases in US official short-term rates in the period), many investors have continued to seek out higher returns, accepting higher risks in the process. The systemic risk is two-fold: first, risk may be being underpriced, giving rise to the danger of a sharp movement in asset prices in the event of some trigger such as a major credit default; second, even if risks are being appropriately priced given the current outlook, financial market participants have taken on relatively illiquid assets to enhance yield, possibly giving rise to difficulties in adjusting balance sheets if the outlook changes. In both cases, risk management by firms is unlikely to take fully into account the spillover and contagion risks to other market participants, which are potentially large in the event of a major firm facing liquidity or solvency problems.[16]

Finally, Telewest would also like to understand how Ofcom proposes to undertake its cash-flow modelling to assess the mean expected cash flows to which the WACC will be applied, given possible displacement of existing assets with new assets in both the core and access networks, and hence a non-zero probability of asset stranding, which should be built into any forward-looking price control.

[16] Bank of England (2005), 'Financial Stability Review', June 27th.