

Ofwat Cost Assessment team
Ofwat

Emailed to: CostAssessment@ofwat.gov.uk

12 May 2023

Dear Ofwat

Econometric base cost models for PR24

We are pleased to enclose our response to the consultation on base cost modelling for PR24. As requested, we have completed the Excel file and included supporting evidence in the supplementary appendix.

Headline feedback on the proposed models

There are a number of areas of the proposals that we are supportive of. This includes controlling for topography in water. We support the inclusion of average pumping head (APH) in both treated water distribution (TWD) and wholesale water models. APH performs better than booster pumping stations per length (BPL) econometrically and has much stronger operational rationale. On this basis, there is a clear engineering rationale, supported by poorer econometric performance that the BPL variable should be dropped.

We also welcome the shift to using “Local Authority District from Medium Super Output Area” measure (MSOA) of population density. The alternative performs well and does not give rise to the large swings in efficiency scores that arise from using the MSOA measure. The PR14 density driver, properties per length of main, is inferior to the new exogenous measures which are based on independent population data.

Whilst we support the inclusion of a variable designed to capture economies for scale at Water Recycling Centres, the proposed ‘load treated by WRCs serving >100k people’ variable does not go far enough. Specifically, it does not capture the scale economies which continue to accrue beyond the 100k p.e. threshold. In our supporting analysis in the appendix to the letter, we demonstrate that models with successively higher thresholds perform successively better. We also demonstrate that by using the weighted average treatment size (WATS) variable removes the adverse consequences of having to select a specific threshold to use, as is the case for the measure of >100k in the modelling consultation. The WATS variable much more successfully accounts for the continuous relationship between unit costs and the size of WRCs and should be used rather than the >100k variable.

Our analysis also shows that the SWT1 model improves significantly when the ‘load treated by WRCs in bands 1-3’ is replaced with the ‘LAD from MSOA’ population density variable. The variable scores better on exogeneity and again avoids the need to select an arbitrary cut-off threshold. This reflects the scale economies of larger works.

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Our analysis of industry data on urban rainfall does not find evidence for any of the claims made for the impact of high urban rainfall and its inclusion in the suite of base models.

We have found no compelling engineering evidence that the companies serving areas with high urban rainfall have more pumping stations or bigger pumping station capacity, are required to spend more on sewerage power or sewerage maintenance and or are experiencing more blockages.

Furthermore, the derivation of the urban rainfall variable as the ‘average rainfall falling in a company area multiplied by the urban company area’ overlooks the fact that the rainfall actually received by the urban areas in those companies may not be dissimilar to the rainfall received in other regions. Rather than rainfall, this variable appears to be a measure of urbanity, which is already captured in the collection models by the density variable and in the wholesale wastewater model by the economies of scale variable.

Setting PR24 growth cost allowances

Previously, at PR19, alongside modelling cost allowances for growth within the botex plus models, Ofwat made a post-modelling adjustment on the basis that it accepted that *‘the integrated models may suffer from missing growth variables and that may lead to the base econometric models only funding the average historical growth rate across the industry.’*¹ Ofwat’s approach was reviewed and retained by the CMA: *‘We use a growth unit rate adjustment to account for the growth costs related to different growth rates that were not captured by the base models.’*²

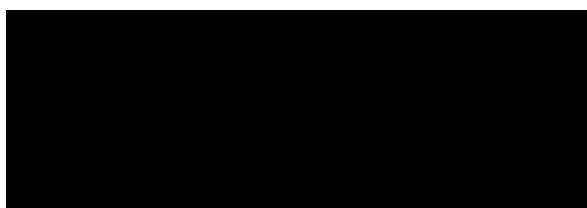
The industry and Ofwat have looked to develop alternative cost modelling approaches for growth costs at PR24, but the consultation suggests that growth expenditure costs (and those relating to sewer flooding and low pressure) will remain within botex plus models. The limitations of the previous botex plus models used to generate growth cost allowances that were present in PR19 will remain at PR24. In addition, Ofwat has outlined its intent that the default position is that there are no risk sharing mechanisms for growth at PR24 beyond cost-sharing.

This increases the importance to retain an additional adjustment post modelling for PR24 should Ofwat retains its current approach to modelling growth network reinforcement, sewer flooding and low pressure within botex plus cost models.

Next steps

We would be happy to discuss any aspect of our response and the accompanying evidence at your convenience.

Yours sincerely



Darren Rice
Regulation Director

¹ Ofwat, PR19 final determinations: Securing cost efficiency technical appendix, page 21

² CMA, Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited price determinations, paragraph 4.878, page 329