



Cost Assessment for PR19
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Portsmouth Water's Review and Response to the Ofwat Consultation on Econometric Modelling for PR19.

1. Summary

We welcome the approach that Ofwat have taken for PR19, by consulting with the industry on the cost models which can help determine a credible cost assessment underpinning Company Determinations.

While we understand that the modelling will undergo further refinements with the 2017/18 APR data and accompanying data/model refinements, we have highlighted our current observations on a subset of models in the accompanying spreadsheet.

We acknowledge the helpful elements of some of the models submitted by other water companies, but have limited our assessment to and observations on Ofwat's models

In particular, we consider that more work and information is needed in relation to the:

- new weighted density measure on wholesale, and
- use of combined bills in retail cost assessment.

Moreover, while there are positive point to undertaking analysis at a more disaggregated level, we highlight the importance of ensuring *consistency* with conclusions from more aggregated models.

We have worked with Oxera to review and comment on each of the proposed Ofwat models. Our joint observations are included in the response sheet attached with this response.

2. General Comments

Portsmouth Water welcomes Ofwat's collaborative approach to determining comparative efficiency for the forthcoming Price Review, PR19.

We have actively engaged in the working groups facilitated by Ofwat. This has given both the company and other stakeholders the opportunity to review and provide constructive comments on the proposed approach. We think this should contribute to a realistic set of expectations being determined for the industry for PR19.

This consultation is therefore timely and most welcomed as we prepare our Business Plan for later in the year.

Historically, Portsmouth Water has been deemed an industry-leading company in terms of Ofwat's assessment of comparative efficiency. This has been the case for many years when Ofwat assessed operating and capital cost separately, as well as modelling on a TOTEX basis at PR14.¹ Our review has focussed on whether the models can credibly determine the baseline costs for the industry *rather than* specific outcomes for Portsmouth Water.

We note the importance of this consultation in the PR19 process, and the information it provides us in preparing our Business Plan. As such, we have worked with Oxera to carefully assess models being consulted on for the wholesale and residential retail controls.

We have provided comments on each of the 62 models proposed by Ofwat in the accompanying pro forma. We have not reviewed in detail the models proposed by water companies included in the consultation, although we acknowledge helpful elements of some of the company suggestions.

Generally, we find that there are some models with limited issues with respect to operational/economic interpretation and statistical performance. However, we find that there are some with more significant concerns and would caution the use of these models to solely inform the efficient cost allowance for PR19.

Notwithstanding these observations, we do appreciate that Ofwat needs to undertake cost assessment, and that whilst econometric models may help this quantification, it is not the only tool that Ofwat has available.

Moreover, companies will publish their 2017/18 performance in July and this could allow an update of the current data set. Models will then need to be re-estimated and re-evaluated in an objective manner. Similarly ex post revisions to data may have occurred since the publication of the consultation document and these will also need to be taken into account.

Finally, it is unclear if, and how, Ofwat will use the data companies provide in their Business Plans for 2018/19 – 2024/25 in any assessment. As a starting position, we

¹ Ofwat had also acknowledged this point in the Bristol Price Appeal Inquiry – para 23, Appendix A3.1 of Bristol Water plc: A reference under section 12(3)(a) of the Water Industry Act 1991.

would suggest placing a lower weight to ex ante projections when compared to ex post actual valuations.

We turn to some high level comments on the consultation itself.

3. Wholesale Water

a) High Level of Aggregation.

There is clearly a balance Ofwat needs to take when determining the level of aggregation to estimate the benchmark. At the highest level, wholesale water, it is unlikely that the econometric model will recognise the subtle differences in the assets and operations which in turn explain any variances in cost performance between companies. However, aggregated modelling can eliminate some of the data allocation/boundary issues that may distort disaggregated models.

We note that the proposed Ofwat models OWW1–OWW3 and OWW7–OWW12 do not include treatment complexity as an explanatory factor. When such a factor is included, for example, in OWW4–OWW6, the coefficients are generally statistically insignificant.

Further, we find the introduction of the constructed variable “weighted average density” a less intuitive measure of density than measures such as “properties divided by length of mains”. We caution the use of such “manufactured” variables, especially if their construction is not fully transparent and their interpretability is convoluted.

The range of estimated residuals on models appears too wide to be credible for an industry that has been regulated for decades. Some models predict the least efficient company to be more than 30% less efficient than the average company. Equivalently, some models predict companies to be more than 30% more efficient than the average company.

It is important to ensure that the resulting ranking of companies are broadly similar across competing models, benchmark is not skewed by outliers, and where there are deviations, such differences are well-understood and can be explained – such information can help inform how model outcomes are triangulated.

b) Medium Level of Aggregation

Whilst modelling at a lower level of aggregation may overcome some of our comments above and help capture operational trade-offs across activities, we believe it can introduce data allocation/boundary issues into the efficiency assessment. While granular models can provide useful cross-checks to aggregate models, greater confidence is needed in the underlying cost and cost driver data for the results from disaggregated modelling to be meaningful.

We note for example that the water resources plus models presented in OWRP1–OWPR8 result in a wider range of residuals than the wholesale

models discussed earlier (specifically, OWRP4 has a range of 41% worse than the average efficiency to 59% better).

While we understand that Water Resources Plus models can capture possible trade-offs between Water Resources and Water Treatment parts of the value chain, care should be taken in how efficiency on Resources is imputed from the extended model (especially in the current case, where results on the extended models appear less reliable than aggregate wholesale models).

The Network Plus models should include treatment complexity. We do not consider pumping head for treatment to be a key driver of treatment costs and cannot be an appropriate driver of treatment complexity.

Further, we question the use of the weighted average density measure, as this is less intuitive than the traditional measure of density. It also performs less well on the statistical diagnostic tests considered, but this is of secondary importance compared to operational/economic rationale.

c) Low Level of Aggregation

Finally, we note less confidence in the individual business unit models of Water Resources, Water Treatment, and Treated Water Distribution. The range of estimated efficiency scores in Water Treatment and Water Resources models are particularly wide, with Treated Water Distribution models being more comparable to Network Plus and Wholesale Water models.

Given wide range in the estimated residuals, it cannot be the case that the variance is entirely attributable to managerial inefficiency. The quality of the models considered in the final suite of models should inform the appropriate level of efficiency challenge for the industry.

4. Retail

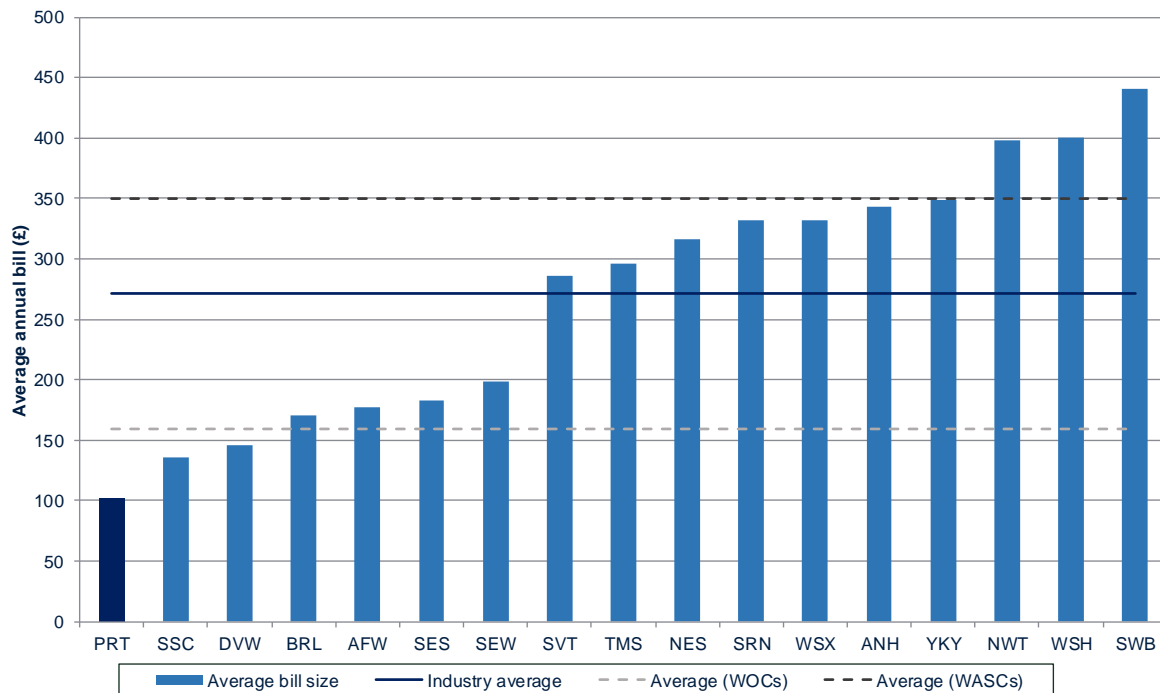
We note that Ofwat has moved away from the average cost to serve (ACTS) approach used at PR14, to the development of econometric models to set efficient cost baselines for residential retail services at PR19.

Whilst we acknowledge that Ofwat's choice of disaggregated models was motivated by elements such as common costs drivers, data quality and interaction between activities, we do note that the disaggregation of retail costs into bad debt and other costs does widen the resultant efficiency range. Our comments earlier on wholesale are relevant here also.

We agree that developing a measure of deprivation is appropriate to in part explain bad debt. We note that such deprivation measures must represent official statistics that can be verified and its interpretation understood. However, we believe that the introduction of the average bill into the analysis may distort the assessment (we question more its impact in the models rather than its consideration entirely). Using the average bill variable as cost driver to explain debt related costs is likely to underestimate the costs faced by WoCs in collecting lower bills, as they incur similar costs but collect less debt (i.e. scale effects). Moreover, larger bills tend to be linked

to more debt recovery tools and court enforcement options to chase debt, thus obtaining greater return on debt management expenditure.

Figure below compares the average household bill (i.e., ‘combined bill’ for water and sewerage services in the case of WASCs) for each company in the industry using 2016-17 information from the retail dataset Ofwat has shared in the consultation.



The figure illustrates that, our average household bill, at circa £10 pa is both significantly below the industry average (c. £271) and significantly below ever the second lowest charge, South Staffs / Cambridge circa £135; as such, the economics of our debt collection operation are much different to those of others. Put simply, economically, a business will be more willing to spend additional money chasing a bill of £271 than chasing £102. This is certainly true when we discuss recovering debt via a third party.

As a result, the use of the average bill size variable in all bad debt models submitted by Ofwat tend to unfairly penalise a WoC with our specific characteristics. The same consideration holds also for retail totex models as all the models proposed by Ofwat except one control for average bill size (in other words, the impact of bill size appears inflated and skewed by the large WASCs).

Further, we do not agree that the total cost of retail operators are proportionate to the total bill size (the models indicate a coefficient significant greater than 1 on bills). This could be the case for the retail element of the bill which would, for example, reflect the meter penetration which are known to cause a higher cost to serve.

If the combined bill variable is to be used in the models, we suggest a cost adjustment to be considered in our case. We are in the process of determining the monetary impact for bias created through use of combined bills in the retail cost models. This will be presented in our September Business Plan.

5. Enhancements

Portsmouth Water notes and concurs with the discussions on Enhancement expenditure. It is the case that the company will propose significant expenditure in its forthcoming Business Plan which will be both enhancement and atypical. This will include the construction of Havant Thicket Winter Storage Reservoir and an extensive catchment management project supported by the Environment Agency (EA), Natural England and our customers.

6. Conclusion

We understand the need for disaggregated modelling to play some role in setting the efficient cost allowance for the PR19 price control. However, we would like to re-iterate the need for aggregate models to provide a cross-check to results from disaggregated modelling, and that appropriate benchmarks should be considered wherever estimated efficiency ranges appear infeasibly large.

In terms of cost driver selection, our key concerns with the models submitted by Ofwat are the:

- use of a constructed density variable in wholesale models, and
- the inclusion of combined bills in the retail assessment.

We would happily discuss any of these points, or the detail provided in the attached assessment by Oxera, at your convenience.

Yours sincerely,



Helen Orton
Finance & Regulation Director