Final Response to CMA WACC Consultations

Paper 4: Asymmetry of risk

27 January 2021

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1. Executive summary

1.1 Overview

1.1.1 As YWS has emphasised throughout the redetermination, it is essential that the overall determination is properly calibrated (i.e. the expected equity return is equal to the allowed return) so that the financing duty is met by the CMA. This means that:

(a) each component of the price control must have parameters or targets set equal to the "most likely" (P50)[1] performance of an efficient firm; and

(b) specifically in relation to ODIs, this must be where marginal cost and marginal benefit intersect.

1.1.2 In its PFs and January Working Papers,[2] the CMA's position is that:

(a) there is a small structural downside risk skew in ODIs, but it considers performance risk to be symmetrical; i.e., Ofwat's targets, the performance commitment levels (**PCLs**), are considered to be appropriate; and

(b) the rest of the price control package is broadly symmetrical.

1.1.3 However, the CMA has failed to apply these principles, or test them with evidence, in a way that allows these conclusions to be supported.

1.1.4 Further to the above, in relation to ODIs, the CMA has not:

(a) explicitly acknowledged the principle that PCLs should be set where marginal cost is equal to marginal benefit;

(b) explained why, despite Ofwat's PCLs not being set on this basis, it has come to the conclusion that its targets are appropriate (i.e., that they represent a P50 for an efficient firm);

(c) explained why it attaches no weight to this, despite company evidence and proposed PCLs being better aligned to the above principle; nor

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1 Strictly, the "most likely" (mean) is the correct test, but for pragmatic reasons this is often approximated by the P50 (median).

2 CMA, Water Redeterminations 2020 – Cost of Capital – Working Papers Executive Summary, Water Redeterminations 2020 – Choosing a point estimate for the Cost of Capital – Working Paper (the **Point Estimate Working Paper**), and Water Redeterminations 2020 – Cost of Debt – Working Paper (the **Cost of Debt Working Paper**) (all 8 January 2021); CMA, Water Redeterminations 2020 – 2019/20 data for base cost models – Working Paper (13 January 2021); CMA, CMA, Water Redeterminations 2020 – Leakage Enhancement Totex Allowances – Working Paper (15 January 2021) (together, the **January Working Papers**).

(d) set out any evidence or views of its own as to what the P50 for ODIs would be, nor therefore whether Ofwat's proposed PCLs, or company PCLs, represent a better estimate.

1.1.5 These issues represent fundamental omissions in the CMA's analysis that risk setting a damaging precedent for future outcomes regulation if left uncorrected. The CMA's provisional position means a regulator could set ODI targets at any level and assert they are appropriate.

1.1.6 In relation to price control parameters more broadly than ODIs, the CMA has not explained why it considers its proposed values represent the most likely outcome. For example, and as expanded on subsequently in relation to frontier shift, whilst the CMA's proposed value of 1.0% lies within the range of evidence it considers, the CMA has not set out its reasoning or analysis to suggest that this is the "most likely" value.

1.1.7 The consequence of these omissions is that the CMA currently lacks the necessary evidence to show that its Final Determination will be consistent with the financing duty (and therefore, relatedly, the consumer duty, given the importance of investability to long-term customer interests). For reasons set out below and elsewhere in this submission, YWS considers that a Final Determination based on the CMA's latest thinking as set out in its January Working Papers would not be consistent with these duties given the compelling evidence that the notionally efficient firm would be highly unlikely to be financeable.

1.1.8 Whilst YWS acknowledges that it is not straightforward to assess the likelihood of outcomes across the price control (including circa 40 individual ODIs), the CMA has given it no consideration at all. This is deeply troubling, particularly so late in the process (not least since the impacts will extend well beyond AMP7). In contrast, YWS has previously submitted its own analysis to the CMA that shows:

(a) under **Ofwat's FD**, YWS was not financeable on a notional basis;[3] but

(b) under the **CMA's PFs**, YWS was likely financeable, but with limited headroom.[4]

1.1.9 Given the material change in the CMA's position on the WACC and leakage funding in its January Working Papers (relative to its PFs), YWS has updated its above-referenced risk analysis for the purpose of this submission. This updated

3 Annex 01 (YWS's SoC), Economic Insight, 'Financeability of the notionally efficient firm, a bottom-up analysis' (1 April 2020).

4 Annex 1 (YWS's PFs Response), Economic Insight, 'Financeability of the notionally efficient firm, a bottom up analysis: update to reflect CMA provisional findings' (21 October 2020).

analysis now shows that it is highly likely that YWS would not be financeable were the CMA to retain its currently articulated position in its Final Determination. The findings further highlight the importance of the omissions in the CMA's thinking and work. That is to say, even if the CMA does not agree with YWS's analysis, by failing to consider the above points, the CMA will likely set a redetermination that is not financeable on a notional basis.

1.2 **Outline of this paper**

1.2.1 YWS addresses the key outstanding points as follows:

(a) **Section 2**: asymmetry in the ODIs regarding ODI performance risk and evidence to support the position in the CMA's PFs;

(b) **Section 3**: wider asymmetry in the price control, responding to the CMA's position in its Cost of Capital Working Papers;[5] and

(c) **Section 4**: an update to Economic Insight's (**EI**) bottom up Monte Carlo analysis, which reflects the CMA's proposed lower WACC and level of leakage funding in the Cost of Capital Working Papers.

2. Asymmetry in relation to ODIs

2.1.1 In relation to ODIs, the CMA has continued to take the view that they are asymmetrically skewed to the downside for structural reasons (e.g. penalty only ODIs). It considers this asymmetry to be in the range of 0.1%-0.2% RoRE, based on a broad and in-the-round assessment. However, the CMA presumes that ODI performance risk is symmetrical, on the basis that it judges Ofwat's targets (PCLs) to represent a P50 (likely) outcome for an efficient firm. The CMA has provided no explanation as to why it has not engaged with the evidence from companies that clearly shows likely expected underperformance.

2.1.2 In relation to companies' arguments that there is expected underperformance, the CMA has said the following:

"We recognise that the companies' plans suggest that they need to outperform to achieve the ODIs across the group. Again, it is normal regulatory practice to set stretching targets on costs and outputs."[6]

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[5] CMA, Water Redeterminations 2020 – Cost of Capital – Working Papers Executive Summary, Water Redeterminations 2020 – Choosing a point estimate for the Cost of Capital – Working Paper (the **Point Estimate Working Paper**), and Water Redeterminations 2020 – Cost of Debt – Working Paper (the **Cost of Debt Working Paper**) (all 8 January 2021) (together, the **Cost of Capital Working Papers**).

[6] CMA, Water Redeterminations 2020 – Choosing a point estimate for the Cost of Capital – Working Paper (8 January 2021) (**Point Estimate Working Paper**), paragraph 81, point d.

2.1.3 YWS is extremely concerned about this statement and conclusion for the following reasons:

(a) the term *"normal regulatory practice"* has no meaning in the context of the key factual matter before the CMA, which is to determine, as a whole, whether the ODI targets have been calibrated to the most likely (P50)[7] outcome for an efficient firm. The CMA has failed to provide evidence to address this question.

(b) the P50 should represent the intersection of where marginal cost (**MC**) is equal to marginal benefit (**MB**). In practice, the CMA continues to ignore this key principle, because it has failed to consider or test the likelihood of Ofwat's targets being more / less aligned to this than company proposed targets. This is despite the fact that the CMA, in its previous Bristol Water redetermination at PR14, found that Ofwat's approach (using comparative data based on an upper quartile) could be the efficient point only by coincidence and was therefore unlikely.[8]

(c) YWS's Business Plan included targets that were consistent with the above principle.[9] Therefore, whilst clearly any attempt to measure MC or MB cannot be entirely perfect, YWS's submitted risk analysis, which used the best available evidence, was centred around a "best endeavours" assessment of what the P50 would be for an efficient firm.

(d) It is worth noting that this is quite different from Ofwat's approach, which is circular because in each instance Ofwat sets the P50 equal to its target, irrespective of the fact that said targets were not based on the principle of MC equal to MB in the first place.

(e) The CMA is right to question the extent to which company business plans reflected efficient target levels in practice (because, as noted above, MC and MB cannot be identified perfectly). However, the analytical question before the CMA remains: what is its best view of the efficient target levels, and thus, how do company and Ofwat proposed target levels

[7] The P50 may not always be the same as the "most likely" (mean) outcome, but is used interchangeably here for brevity.

[8] CMA, 'Bristol Water plc: A reference under section 12(3)(a) of the Water Industry Act 1991: Report' (6 October 2015), paragraph 9.16(b): **"The theoretical basis on which ODIs were designed appears to assume that the target is set at the economic level for the metric**. The framework included some consideration for if the target is below this level, but **for Ofwat to consider that upper quartile performance (historical or otherwise) would match economic levels appeared unlikely to us in general."** (emphasis added)

[9] This is implicit in YWS's overall approach to PR19: YWS's Business Plan was based on its extensive customer research, which was designed to identify marginal benefit.

compare to that? At present, the CMA continues to: (i) without supporting evidence or analysis, suppose that Ofwat has set the targets at the efficient level; and (ii) attach no weight to company assessments of efficient target levels and resultant risk skew.

2.1.4 In relation to Ofwat's argument that, in fact, there is systematic outperformance baked into the ODI targets (**PC**s), the CMA rejected this, saying:

"The approach to PCs in PR19 is very different to previous periods… we are not persuaded it is consistent for Ofwat to both set new and increasingly stretching targets for PCs and also to assume that companies will outperform against those targets."[10]

2.1.5 YWS agrees with the CMA's statement, but the CMA has failed to follow-through on the implication of this. That is to say, not only does Ofwat's very different approach at PR19 mean that the CMA cannot assume there is outperformance baked in, nor can it assume (as it currently does) that Ofwat's PC levels are set at the P50. As YWS notes above, the evidential question before the CMA is clear, and must be addressed in its Final Determination, to avoid setting a precedent that it is detrimental for customers.

3. Asymmetry in the wider package

3.1.1 Beyond ODIs, the CMA appears to continue to take the view that the rest of the price control package is broadly symmetric, but in doing so, recognises that this is a balanced judgement.[11] YWS, on the other hand, does not consider that this position has been established evidentially within the PFs.

3.1.2 It is important to recall that Ofwat imposed a step-change for the PR19 price control.[12] As YWS has shown by its evidence, the extent of challenge has been significantly increased relative to the past across all elements of the price control including ODIs. Nothing of substance has changed in this respect (and with respect to ODIs specifically, not only are the targets much more challenging, but Ofwat's method provided zero corresponding funding). Moreover, this step-change has been imposed despite there being no evidence of systematic outperformance by companies when prior price controls are considered in totality. Viewed holistically, therefore, it is entirely counterintuitive for the CMA to assume that no wider asymmetrical downside risk skew exists in the rest of the price control.

[10] CMA, Point Estimate Working Paper (8 January 2021), paragraph 81, point b.

[11] CMA, Point Estimate Working Paper (8 January 2021), paragraph 78.

[12] See Exhibit 017 (SoC), 'Ofwat PR19 Final Methodology', pages 5, 14, 135; SoC paragraph 133.

3.1.3 In addition to this broader point, an examination of specific elements of the PFs further illustrates the tension between the CMA's assumption that its targets represent a symmetrical balance of risk on the one hand and its failure to undertake the risk analysis on the other. For example, in relation to frontier shift, the empirical evidence the CMA relies upon is explained as follows:

(a) Based on EU KLEMS data, the CMA's own analysis showed that total factor productivity (**TFP**) for comparator industries has been 0.7% pa (gross output basis) between 1990 and 2007.[13]

(b) The CMA noted that the value added measure of productivity growth is significantly higher than the gross output measure above.[14] For example, the CMA references Ofwat's own analysis for PR19, which indicated TFP of 0.6% pa on a gross output basis, and 1.3% pa on a value added basis.[15] The CMA further stated in its PFs that: *"our assessment was therefore that we should focus on the gross output measure but place some weight on the higher value added measure."*[16]

(c) The CMA found that the above TFP estimate (gross output) would not capture embodied technological change, meaning that the appropriate frontier shift value may be higher than 0.7%.[17]

(d) The CMA also referred to companies' business plans, where frontier shift estimates ranged from 0.75% (YWS) to 1.5% pa (Northumbrian).[18]

3.1.4 A provisionally determined level of frontier shift of 1.0% shows that the CMA has placed considerable weight on the values assumed in company business plans, and relatively less weight to the TFP estimates implied by the CMA's comparator analysis in the EU KLEMS data. Whilst a figure of 1.0% is within the range of available evidence, YWS does not consider it credible for the CMA to assume this is a P50 / most likely level of achievable productivity in the water industry at this time.

3.1.5 Furthermore, and noting (i) that the empirical evidence available to the CMA includes its own gross output TFP measure, but (ii) that the CMA[19] also explains

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[13] CMA, PFs (29 September 2020), paragraph 4.343.

[14] CMA, PFs (29 September 2020), paragraph 4.377.

[15] Ofwat, 'PR19 final determinations: Securing cost efficiency technical appendix' (December 2019), section 11.6.1.

[16] CMA, PFs (29 September 2020), paragraph 4.334.

[17] CMA, PFs (29 September 2020), Table 4-13.

[18] CMA, PFs (29 September 2020), Table 4-14.

[19] CMA, PFs (29 September 2020), paragraph 4.333.

that "*some weight*" should be placed on the value-added measure, YWS has calculated a "weighted average" frontier shift, drawing on the relevant sources for each. The results are shown in Table 1, below.

Table 1: frontier shift implied by different evidence weightings

Evidence	Frontier shift estimate	Weighting			
TFP (CMA gross output)	0.70%	90%	80%	70%	60%
TFP (Ofwat value added)	1.30%	10%	20%	30%	40%
Weighted frontier shift		**0.76%**	**0.82%**	**0.88%**	**0.94%**

3.1.6 Attaching weights of between 10% and 40% for the value-added measure results in weighted average frontier shift estimates range from 0.76% to 0.94% (compared to the CMA's provisional position of 1.0%). YWS also notes the CMA's comment on value added (i.e., that it merits "*some weight*") indicates that, for well understood reasons, the gross output measure is most appropriate (i.e., should carry the majority of the weight). Hence, "lower weights" for value added are likely most suitable, indicating that figures towards the lower end of the above range for frontier shift (i.e., nearer 0.76%) are more suitable than those towards the higher end.

3.1.7 YWS recognises that the CMA has taken other factors into consideration in a qualitative sense (e.g., embodied technological change). Nonetheless, it is difficult to reconcile a reasonable perspective on the weighting of the gross output and value-added measures with a view that the CMA's proposed 1.0% pa frontier shift represents the "most likely" achievable outcome for an efficient firm.

4. Updated Monte Carlo risk analysis

4.1.1 As noted above, YWS submitted with its SoC a Monte Carlo risk analysis by EI, which showed that, under Ofwat's FD, the company was not financeable on a notional basis. For example, the analysis showed that the weighted average RoRE for YWS was below Ofwat's allowed base equity return in 83% of model iterations.[20]

[20] YWS, PFs Response (27 October 2020), paragraph 2.4.5.

4.1.2 EI's updated analysis to reflect the CMA's PFs shows that YWS would be financeable on a notional basis, with the expected equity return being markedly higher than under Ofwat's FD. However, the expected return would lie towards the low end of the range for the cost of equity. Thus, YWS was notionally financeable, but with limited headroom,[21] consistent with the company's assessment that the CMA's PFs were "*finely balanced*" as a package in the round.

4.1.3 Given the substantial change in the CMA's position with respect to both the WACC and leakage funding implied by its January Working Papers, EI has again updated this analysis, the results of which are attached to this paper. In summary, the revised modelling indicates that, were the CMA to retain its position in the January Working Papers, it is highly likely that YWS would not be financeable on a notional basis. The CMA has not undertaken suitable risk analyses (in particular, of the type required to more robustly and transparently identify the "likely" or P50 outcomes for an efficient firm) in circumstances in which such risk analyses are imperative to recognise and address unfunded policy changes, such as that relating to leakage.

Implications for the FD

4.1.4 In order to reach sound conclusions on asymmetry of risk and financeability, the CMA must use the remainder of the time available to it in the redetermination to address the failure to explain on what possible basis it finds Ofwat's PCLs to coincide with the economically efficient level.

4.1.5 To the extent that the CMA finds a downwards asymmetric risk skew, an upwards adjustment to the WACC is both a theory-consistent and practical solution that will help to secure investment and protect customers over the long-term.

4.1.6 Should this position be maintained in the Final Determination, it could set a precedent whereby in future the regulator is free to choose targets unencumbered by any linkage between MC and MB with no need to consider the likelihood of deliverability of individual targets and the overall package by the efficient firm. Therefore, if these errors are not rectified, it could cause harm to investor confidence in the regulatory regime more broadly. YWS therefore urges the CMA to rectify this issue.

[21] YWS, PFs Response (27 October 2020), paragraph 2.4.7.