

**Affinity Water response to Ofwat’s risk and return discussion paper**

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## 1 Executive summary

We welcome the opportunity to respond to Ofwat's recent discussion papers, *PR24 and beyond: discussion paper on risk and return* and *Financial resilience in the water sector: a discussion paper* at this early stage of the PR24 process. As financial resilience is inextricably linked to the risk-return balance, both our responses consider the two discussion papers in parallel.

In considering Ofwat's proposed approach to setting the cost of capital and assessing the balance of risk and return it is important to bear in the mind the broader context and landscape for the PR24 price control.

In particular, as recognised by Ofwat there is an expected increase in risk due to changes in regulatory and operational environments and a need for substantial new capital investment to maintain asset resilience, enable service improvement, meet environmental challenges and manage risks associated with climate change.

For example, Ofwat has noted that “water companies are expected to face substantial investment needs over PR24 and beyond”<sup>1</sup> and that “the combined effects of a more uncertain future (for example, driven by less predictable weather and the effects of climate change) and revenue at risk from service performance (including reviewing whether the PR19 gearing reduction was sufficient for this) may indicate a greater role for equity in order to provide a buffer against supply-side or demand-side shocks”.<sup>2</sup>

In the *Long-term Delivery Strategies and Common Reference Scenarios* paper<sup>3</sup>, Ofwat further recognises the increasing uncertainty and broad range of scenarios that may manifest themselves due to factors outside companies' control such as climate change policies.

At the same time, there is limited market evidence to support further reductions in interest rates or returns – in fact, the market consensus is that the rates will *increase* in the period leading up to PR24. In this context, it is key to calibrate the PR24 price control package such that risk and return are in balance and the sector's ability to attract new equity capital is not constrained.

We note that there need to be clear links and consistency between the approach to risk and return and the move to the long-term approach to planning that Ofwat is rightly encouraging companies to implement. This means that decisions should not be taken in the vacuum of single price control and the impact on, for example, long-term financial resilience and the ability of the sector to attract equity capital to finance significant enhancement capex expected need to be considered.

In this context of increased risk, uncertainty, and investment, we are concerned that a number of Ofwat's proposals – if adopted unchanged as part of the PR24 framework – risk undermining the financial resilience of the sector and the

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<sup>1</sup> Ofwat (2021), *PR24 and beyond: discussion paper on risk and return*, p. 43

<sup>2</sup> Ibid.

<sup>3</sup> Ofwat (2021), *PR24 and beyond: Long-term delivery strategies and common reference scenarios*

attractiveness of the sector as an investment proposition, with adverse consequences for customers. Ofwat's heightened emphasis on the importance of financial resilience in the water sector to protect customers' interests over the long term does not appear to have translated into its proposed methodologies on risk and return. Further reductions in allowed returns, departure from CMA outcomes, changes in the notional capital structure, and a diminishing role for financeability as a key cross check on price control design are some examples of factors that could serve to undermine rather than support financial resilience.

We note that Ofwat has recognised that further work is required to understand the difference between the risk exposures of WoCs and WaSCs<sup>4</sup>. In our view there is a key gap in terms of understanding risk differentials between water and wastewater businesses and their implications for required returns. An analysis of ODI performance illustrates that the exposure to incentive performance is greater for water and reinforces the need for more systematic analysis.

We recognise that new challenges – related to Net Zero and the environment – mean that regulation will need to evolve to respond to changing circumstances to be relevant and effective over time. However, stable, transparent, and predictable regulation is fundamental to enabling the major investment needed in the next decades for the benefit of present and future consumers. This view is shared by BEIS, who, in its recent Economic Regulation Policy Paper, notes that “*transparent and predictable regulatory frameworks are vital to facilitating investment, protecting consumers, and delivering sustainable growth*”.<sup>5</sup> The paper highlights the key role that regulation has to play in facilitating the delivery of UK's infrastructure ambitions and highlights the “*need to balance immediate costs to consumers against long-term benefits and ensure that consumers are adequately protected from unfair practice*”.<sup>6</sup> We are concerned that Ofwat's proposals on risk and return undermine regulatory predictability and imply a detrimental trade-off between short-term bill reductions and long-term resilience and wider investability of the sector.

We consider that a constructive and detailed engagement with Ofwat is required to address these issues and to facilitate the calibration of a PR24 price control where risk and return are in balance. We set out below key messages in turn on:

- Cost of equity
- Cost of debt
- Financeability and the notional capital structure
- Risk and return calibration, including risk analysis, RORE ranges and risk differentials between water and wastewater

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<sup>4</sup> Ibid, p. 16

<sup>5</sup> Department for Business, Energy & Industrial Strategy (2022), Economic Regulation Policy Paper, p. 11

<sup>6</sup> Ibid, p. 7

## 1.1 Cost of Equity

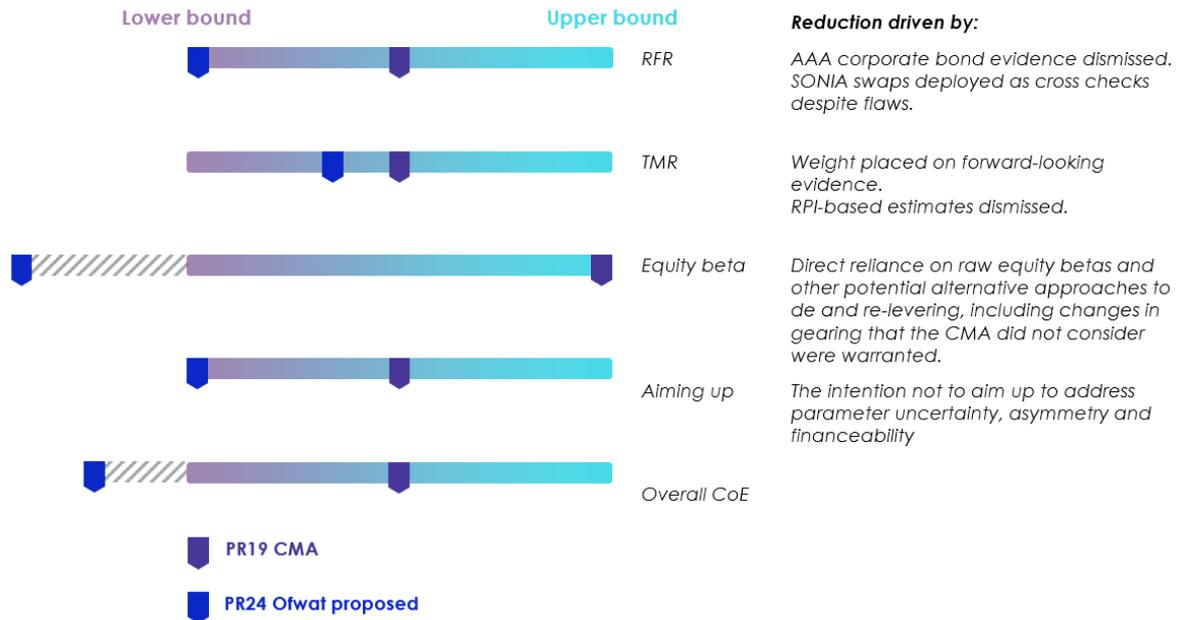
Ofwat's proposals as set out in the discussion paper imply significant reductions to the cost of equity due to the reliance on a downwards-skewed subset of possible approaches and relevant evidence. These implied reductions to the cost of equity are not supported by the available market evidence. There is a disconnect between Ofwat's concerns about water company financial resilience and its choice of estimation approaches which, all else being equal, will reduce projected cashflows and the projected equity buffer available to manage risk.

Ofwat's proposed approach to estimating the cost of equity for PR24 significantly departs from the methodologies adopted by the CMA its PR19 redetermination (CMA21) and omits relevant evidence that the CMA relied on. The CMA undertook significant analysis and considered a large body of evidence to inform its CMA21 conclusions. We consider that these findings and evidence represent a natural starting point in coming to a view as to the appropriate equity return for PR24.

The diagram below illustrates that Ofwat's key methodological proposals for each parameter result in estimates at the lower end of the range implied by the CMA's analysis, with Ofwat's approach in some cases indicating a point estimate below the full range of the evidence considered by the CMA and in all instances below the point estimate chosen by the CMA.

In combination these parameter level choices would, if applied, result in a material reduction in the cost of equity.

Figure 1 Comparison of Ofwat's proposed approach and estimates to the CMA's PR19 re-determination



Notes: Upper end of the range for aiming up is based on the 50bps uplift included by the CMA in the CMA21 provisional findings and the point estimate is the 25bps included in the FD.

Ofwat has relied on Ofgem decisions which were found to be 'not wrong' as part of the recent RII02 CMA appeals. In doing so, Ofwat is effectively assuming that under the de novo nature of the appeals regime in water, the CMA would land at the same conclusions as it did for energy and would apply the same error threshold as part of its redetermination. However, there are different legal frameworks applicable to appeals in these sectors which have materially affected the CMA's approach and conclusions at RII02. For example, the CMA noted that "it is entirely consistent with the regulatory framework and applicable standard of review **in this sector** for us to refrain from interfering if GEMA comes to a different view on a matter where there is an element of regulatory judgement involved."<sup>7</sup>

We do not consider MAR to be a reliable cross check on allowed returns given (1) that assumptions of outperformance are not consistent with the notional construct and the cross check blurs the distinction between notional and actual whilst disregarding the risk exposure of the actual company, and (2) the sensitivity of the decomposed MAR to a number of assumptions and judgements, as recognised by the CMA at CMA21.

We do not agree with the proposed use of MAR to re-open CAPM based estimation as this would further exacerbate the risk of distortions in the cost of equity. We view (1) the financeability assessment (2) analysis of risk exposure implied by the regulatory determination (3) alternative asset pricing models such as multi-factor models as the primary cross checks available to Ofwat to derive the allowed return.

<sup>7</sup> CMA (2021), GD&T2 FD, Volume 2A: Joined Grounds: Cost of equity, para. 5.5

## 1.2 Cost of Debt

We welcome the broad consistency of the proposed approach with the CMA21 outcome based on the projected costs for the sector. However, we are concerned by the proposed departures from the CMA on the treatment of swaps and the outperformance wedge relating to the cost of new debt. These departures from the CMA methodology are not well justified.

Ofwat has not commented on how the cost of debt will be calculated under the balance sheet approach (apart from the exclusion of swaps). This lack of clear ex-ante principles gives rise to uncertainty as to how this approach will be applied. Further work is required to develop a clear and transparent ex ante policy based on robust principles – it is crucial that this occurs on a collaborative basis between Ofwat and the sector at an early stage of PR24.

Clear ex ante principles for the calibration of cross checks are required to avoid potential circularity of the cross check (where the cross check is designed ex post to 'match' the sector average).

We agree that where swaps have been restructured solely to reprofile cashflows over time these should be excluded from the analysis ('outliers'). However, a vast majority of swaps in the sector are designed to achieve economic hedges and should be included in the calculation of the actual cost of debt. We consider that approaches can be deployed to identify swaps for exclusion which will not result in material regulatory burden.

We also consider that Ofwat's calculations under the balance sheet approach, the cross checks, and the analysis of AMP7 issuances should be made available to companies for transparency and to allow scrutiny.

We disagree with the proposed application of the outperformance wedge on new debt. The CMA removed the wedge on new debt on the basis that previous drivers (high rating, EIB debt, floating debt) would be unlikely to drive systematic outperformance going forwards.

It is important to recognise the observed outperformance wedge may be driven by factors for which it would not be appropriate to adjust PR24 allowances, including rating, flight to safety in COVID which may have impacted on AMP7 issuances, and tenor. We understand that Ofwat's initial analysis is likely not to control for rating and tenor – we would expect that there would be no wedge where these factors are controlled for.

### *Company-specific adjustments on the cost of debt*

We welcome Ofwat's recognition that company specific adjustments to the cost of debt may be justified based on size – consistent with the outcomes of the last three appeals in the water sector. We also recognise and welcome Ofwat's proposed removal of the customer benefits test applied at PR19.

For example, small companies access debt capital markets on infrequent basis, which implies (1) greater (relative to more frequent issuers) mismatch with the new

debt allowance which assumes daily issuance and (2) greater risk that the issue dates could coincide with high points in the evolution of interest rates and/or credit spreads which will affect the cost of debt relative to the sector on a long-term basis. Relatedly, smaller companies face additional costs of carry and higher transaction costs relative to larger issuers. These factors suggest that impacts across all components of the cost of debt warrant consideration in the allowance in order to capture the all-in costs of raising finance that a smaller notional company would face.

Specific decisions AFW has taken in relation to timing of issuance have resulted in a lower cost of debt than current allowances. As a result, AFW does not consider that an uplift on embedded debt is required at PR24 – assuming its embedded debt costs are recoverable relative to the unadjusted allowance. Absent our company-specific financing decisions, the features and characteristics of AFW would likely have required additional compensation on the cost of debt relative to the sector-wide allowance.

However, our performance on the cost of new debt does not benefit from the mitigation provided by the timing of issuance of our existing portfolio, leaving us exposed to a greater risk of mismatch with the allowance and greater risk of issuing debt at points which coincide with higher rates.

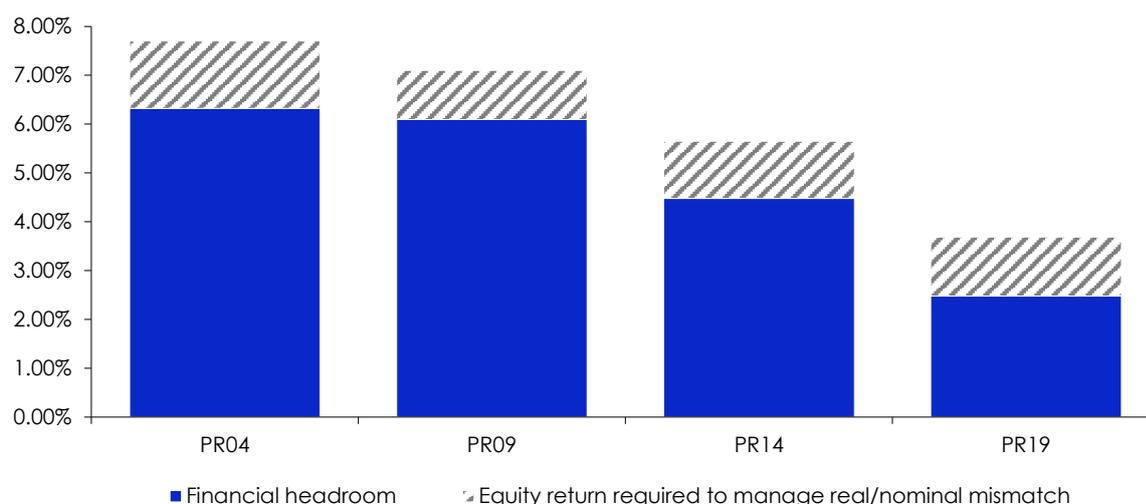
Even after allowing for our prudent approach to debt maturity profile and ensuring we are compliant with the constraints contained in our Whole Business Securitisation we still face significant risk on cost of debt. As a result, an uplift on the cost of new debt to reflect our size and infrequency of issuance would be appropriate.

### 1.3 Financeability and the notional capital structure

Ofwat's PR24 proposals on risk, return and financeability imply a challenging and unfavourable environment for financial resilience and equity investment in the sector during a period where there is material uncertainty around the timing and scale of investment over the long term.

The chart below illustrates the reduction in financial headroom available to the notional company for management of risk over time. Ofwat's PR24 proposals, all else being equal, would reduce this financial headroom further against a backdrop of increasing risk and uncertainty.

Figure 2 Evolution of financial headroom available for downside scenario management



Notes: Financial headroom is calculated by deducting the equity return required to manage real/ nominal mismatch from the allowed cost of equity for each price control. Equity return required to manage real/nominal mismatch is calculated as the product of assumed notional gearing, proportion of fixed rate debt (these two together represent the proportion of total capital exposed to the mismatch) and the inflation assumption (which quantifies the impact of the mismatch as the difference between nominal and real cost of debt).

A robust financeability test is an essential cross check on the cost of equity as it is the only check explicitly linked to Ofwat's finance duty and the only check capable of directly reflecting the overall financial position of the regulated company under the proposed regulatory package.

Ofwat's PR19 approach to risk, return and financeability resulted in a weakening of credit quality within the sector, as illustrated by the downgrade by Moody's in the assessment of predictability and stability of the regime, tightening of credit ratio thresholds, prevalence of downgrades in credit rating and negative watches. As noted by Moody's<sup>8</sup>, the sector continues to be exposed to risks of political and regulatory intervention which may ultimately result in further downgrades and more challenging ratio guidance.

There is a real risk that the changes to the notional capital structure could mean that the financeability test is not meaningful and, in turn, implies a risk that price control calibration undermines credit quality, disincentivises new equity investment at a critical point for the sector and weakens financial resilience.

Ofwat's proposals on notional gearing levels (1) are not supported by robust justification that the current gearing is sub-optimal and hence should be reduced – intervention could lead to market distortions and additional costs, (2) lack support from market evidence – average gearing in the sector is 70% whereas Ofwat is planning to rely on enterprise value gearing of 2 companies out of 17, (3) contradict CMA precedent – the CMA did not consider that there was evidence to justify an alternative level of gearing<sup>9</sup> or that another level of notional gearing would better

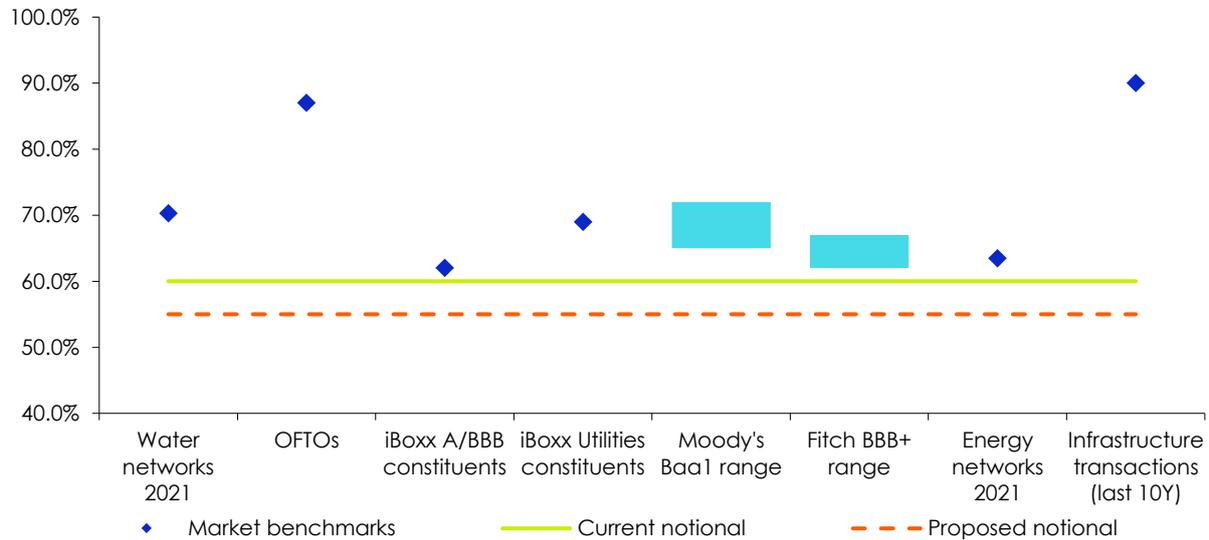
<sup>8</sup> Moody's (2022), Regulated Water Utilities – UK, 2022 outlook stable as regulatory certainty balances environmental and social risks

<sup>9</sup> CMA (2021), PR19 FD, para. 9.530

serve customers<sup>10</sup> despite arguments made by Ofwat's during the redetermination to amend the notional structure.

The chart below illustrates that the proposed reduction in notional gearing is not supported by market evidence from either the water sector, rating agency methodologies, or a wider set of infrastructure benchmarks.

Figure 3 Market benchmarks for gearing



Notes: OFTO assets across all rounds. Book value gearing of index constituents. Energy gearing across the four energy sectors. Energy, renewable, water, waste, social and transport transactions. All values apart from rating ranges are medians.

Sources: Ofwat (2021), Monitoring financial resilience report 2020-21; InfraNews; IJ Global; Ofgem; Refinitiv Eikon; Moody's (2018), Regulated electric and gas networks – UK, Risks are rising, but regulatory fundamentals still intact; Fitch (2021), Fitch Affirms United Utilities at 'BBB+' Stable Outlook; Energy Network 2021 RFRs

A reduction in notional gearing could introduce economic inefficiencies through (1) incentivising companies to adopt sub-optimal capital structures, (2) impacts on the ratio of new to embedded debt, which could increase costs for customers where it is assumed that there is restructuring of embedded debt or a lower proportion of new debt, (3) additional costs of equity issuance.

Ofwat's proposals result in the selective adoption of sector average positions which introduces a new wedge between the notional company and the average water company and result in the following inconsistencies:

- Ofwat is proposing to increase the proportion of ILD to align more closely with sector average levels whereas its notional gearing assumption would be aligned with the enterprise value gearing of listed companies. At the same time cost of embedded debt is based on the sector average and is considered to approximate a competitive outcome.

<sup>10</sup> Ibid, para. 9.44

- A high proportion of ILD is typically associated with securitised structures with higher gearing – adopting a higher ILD proportion does not appear to be consistent with the proposed reduction in notional gearing.
- The sector average proportion of ILD relies on swaps (sector average ILD position is c.38% *excluding* swaps, with the majority of ILD linked to RPI) as well as more highly geared, securitised companies.

We are also concerned by the potential for further downward pressure on dividends. As noted by Ofwat, our shareholders have agreed to forego dividends from the appointed business over the period 2020-25, to enable all returns to be reinvested into the company to reduce gearing levels. As a result, further deviations from the market benchmarks for dividend payout ratios in AMP8 would be significantly detrimental to the attractiveness of Affinity Water as an equity investment proposition.

#### 1.4 Risk analysis

While we welcome the emphasis on risk analysis in the discussion paper, we are concerned that the approach set out in the discussion paper would not provide a holistic and robust basis for evaluation of risk exposure in the sector. This could result in a disconnect between risk analysis and return calibration which is liable to result in a price control where risk and return are out of balance. Such an outcome could undermine financial resilience of the sector.

In order to be effective, risk analysis must be capable of capturing the business risk that will affect AMP8 performance for each company. This can only be achieved where the following key issues are addressed.

#### *Relevant principles for an effective risk analysis are reflected in the approach*

- Analysis of downside risk exposure should inform the overall calibration of the price control, including the cost of equity in line with Ofwat's finance duty – rather than a narrow focus on ODI calibration.
- Risk analysis must be capable of reflecting the characteristics of each company and captures a notional company like Affinity Water.
- Risk analysis should capture risk exposure on a forward-looking basis.
- Risk analysis should consider key relevant dimensions. For example, it will be critical to capture inter-dependencies between risks (e.g., the cost-service relationship) as combination scenarios could highlight key operational challenges the plan is designed to mitigate as well as specification of severe but plausible scenarios for stress testing the plan on a notional and actual basis
- Risk analysis should not be constrained to just PR24 but also consider long-term impacts in line with the long-term delivery scenarios and the investment horizon for the sector.

### *Due weight is assigned to company specific analysis*

This is required as the sector wide analysis Ofwat is proposing to develop may not capture company specific factors and characteristics. Companies have first-hand experience of running the water business and managing the associated risks. Input (or indeed leadership) from companies will therefore be crucial to developing a complete and accurate view of the risks facing the sector.

Clarity and guidance are needed on how notional and company-specific (but still notional) risk analysis would interact with each other quantitatively to help inform the final RoRE risk ranges in Ofwat's PR24 determinations.

There is also currently a key gap in terms of understanding the difference in the risks faced by water and wastewater businesses and what this difference implies for required returns. Analysis of the differences in risk exposure on ODI performance illustrates the material difference in companies' performance on water and wastewater ODIs. For WaSCs the exposure to the higher risk water business is diluted as they benefit from the portfolio effect of dual service operations, but this is not the case for WoCs.

It is clear that a holistic analysis of the differences in risk exposure for water and wastewater business is required to inform PR24 calibration.

### *The approach to risk analysis is tailored to capture forward-looking risk exposure*

Forward-looking operational risks and evolving correlations between the drivers – arising from changes in the operational environment or changes in the regulatory framework – are difficult to capture using historical data. This is particularly important as forward-looking risks and uncertainty implied by the determination might be increasing as recognised by Ofwat.

Quantifying these step-changes and new risks would require holistic engagement across companies, customers and Ofwat, in the form of well-evidenced forecasts and case studies, to allow for a comprehensive assessment and detailed understanding of the potential impact of these changes on risk exposure at PR24 and beyond.

## **2 Key evidence and arguments – risk and return discussion paper**

### **2.1 Cost of Equity**

Ofwat's PR24 proposals for the cost of equity rely on the selective choice of estimation methodologies for each CAPM parameter that will result in downward-biased estimates. There is a clear juxtaposition between Ofwat's concerns about water company financial resilience and the proposed methodological changes to cost of equity which, all else being equal, will reduce returns and projected equity buffer available to manage risk.

Ofwat's proposed approach to estimating the cost of equity for PR24 significantly departs from the methodologies adopted by the CMA its PR19 redetermination (CMA21) and omits relevant evidence that the CMA relied on. The estimation of cost

of equity was subject to extensive debate over the course of the appeal and the CMA considered a large body of evidence in its redetermination. The findings of this appeal are recent and relevant and there should be a high hurdle for departure from the evidence which CMA relied on in coming to a view as to the appropriate equity return for PR24.

The CMA itself expressed concern that there needs to be an appropriate level of caution in making significant changes to the cost of capital<sup>11</sup>, particularly given that changes were primarily methodological as is the case for PR24. The requisite level of caution appears to be absent in Ofwat's proposals.

The table below contrasts (1) the evidence and approaches which the CMA relied on for its CMA21 redetermination; and (2) the subset of evidence and approaches which Ofwat proposes to rely on for PR24.

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<sup>11</sup> CMA (2021), PR19 FD, para 9.1390

Table 1 Comparison of the approach and evidence employed by the CMA to that proposed by Ofwat

The evidence that Ofwat is proposing to dismiss is highlighted purple, whereas the areas where the approach remains unclear at this stage are highlighted grey.

Parameter	CMA21 Approach and Evidence Used	PR24 Proposed Approach and Evidence
RFR <i>Benchmark instrument</i>	<p>Estimate based on the mid-point of a range with yield on ILGs at the lower end and AAA rated corporate bonds at the upper end.</p> <p>No adjustments to the AAA rate deemed necessary given the approach to selecting the point estimate.</p>	<p>Reliance on index-linked Gilts ('ILGs') as the sole proxy for RFR, dismissing the evidence from AAA-rated corporate debt bonds.</p> <p>However, Ofwat acknowledged the CMA's view at RII02 appeals<sup>12</sup> that due to the convenience yield there is potential to improve upon ILGs as a proxy for RFR and intends to do further work on this.</p>
RFR <i>Cross checks</i>	<p>SONIA swap rate not applied as a cross check on the basis that it is inherently a short-term rate and that investors borrowing at SONIA would need to post collateral, making it unsuitable as a benchmark for a long-run RFR.</p>	<p>SONIA rates used as a cross check.</p>
RFR <i>Averaging</i>	<p>A 6-month average adopted to provide a suitable balance of ensuring the use of up-to-date data while avoiding the issues of short-term market volatility.</p>	<p>An averaging period of several months proposed although the exact period is not clear.</p>
RFR	<p>An estimate of the long-term RPI-CPIH wedge used to translate the RPI-linked Gilt yields into CPIH.</p>	<p>The approach and evidence for the RPI-CPIH wedge is unclear at this stage.</p>

<sup>12</sup> CMA (2021), GD&T2 FD, Volume 2A: Joined Grounds: Cost of equity, para. 5.45

<i>Inflation adjustment</i>		
<i>TMR Estimation approach</i>	<p>Evidence from historical ex-post and the historical ex-ante approaches.</p> <p>Limited weight on forward-looking evidence given reservations about the robustness of the forward-looking evidence and preference to maintain the assumption of a constant TMR over time.</p>	A range derived from both the historical approaches (ex-post and ex-ante) used as a starting point, while considering forward-looking evidence to pick a point estimate in that range. This is done so as to reflect recent market conditions.
<i>TMR Treatment of inflation</i>	Weight placed on estimates calculated on the basis of both RPI and CPI inflation series (RPI figures adjusted by 30bps post 2010 owing to the formula effect).	Estimates a CPIH-based TMR directly using CPIH back series currently being developed by ONS.
<i>TMR Averaging</i>	Reliance on arithmetic means, namely both overlapping and non-overlapping estimators of returns over 10 and 20-year holding periods.	Ofwat has not discussed this in the proposals.
<i>Beta Proxy selection</i>	United Utilities (UUW) and Severn Trent (SVT) utilised as proxies for beta.	Primarily SVT and UUW data.
<i>Beta Estimation windows and sampling frequencies</i>	An expansive approach estimating beta using a range of different time windows (2-, 5-, 10-year) and sampling frequencies (daily, weekly, monthly).	Evidence from a range of estimation periods and frequencies although it is not clear to what extent the CMA approach will be followed.
<i>Beta</i>	Set out to place equal weight on beta estimates from before and during the Covid-19 pandemic and	Ofwat has not signalled a proposed treatment of the data from the period affected by the pandemic.

Treatment of Covid-affected data	applied an approach to testing outliers that further reduced the weight placed on Covid-affected data.	
Beta <i>De and re-levering</i>	Harris-Pringle approach used to to derive the beta estimates for the notional company, de-levering raw betas from listed comparators using enterprise value gearing and re-levering to the notional gearing.	Alternative approaches to derive notional beta, including, setting the notional gearing equal to that of the listed comparators used for equity beta estimation or relying directly on raw betas. This is one of the two angles being pursued by Ofwat to reduce notional gearing (see below for financeability).
Cross checks <i>Financeability</i>	Financeability applied as a binding cross-check on the calibration of the price control.	Financeability assessment is not a test for whether an individual component of the price control package, such as the allowed return (or the components of it), is/ are reasonable.
Cross checks <i>Alternative</i>	<p>Rejected the use of MAR as cross check, noting the difficulty of correctly interpreting MAR data, particularly in determining the suitability of a relatively minor adjustment.</p> <p>Broker forecasts of the cost of equity may be no more accurate than its own and can be tailored to the needs of specific investors.</p>	<p>Ofwat is proposing to re-open the CAPM based estimation of cost of equity where it is above the MAR cross check value.</p> <p>Possible to adjust MAR for above average performance of listed companies by deducting the present value of expected net RoRE outperformance from the MAR premium.</p>
Aiming Up	<p>Aimed up from the from the mid-point of the range by 25bp and emphasised the concept of aiming-up on the basis of:</p> <ul style="list-style-type: none"> <li>the need to promote and retain investment;</li> </ul>	<p>Intends to consider latest evidence on equity returns and wider implications of the PR24 package but has proposed not to 'aim up', as:</p> <ul style="list-style-type: none"> <li>that the PR24 package will not be designed in a way that requires an allowed return on equity above the midpoint;</li> </ul>

	<ul style="list-style-type: none"><li>• asymmetry in the package (structural asymmetry commensurate with 0.1%-to 0.2% RORE resulting from the calibration of the performance package);</li><li>• parameter uncertainty in the cost of equity; and</li><li>• ensuring financeability.</li></ul>	<ul style="list-style-type: none"><li>• asymmetry and investment incentives could be addressed at source; and</li><li>• financeability is best addressed by measures which are present value neutral in terms of customer bills – unlike aiming up on the allowed return.</li></ul>
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Ofwat has also treated the RII02 CMA precedent as equally or more relevant than the corresponding CMA21 decision. However, there are different legal frameworks applicable to appeals in these sectors which have materially affected the CMA's approach and conclusions. In particular, in the RII02 final determination the CMA is clear that:

(1) the different statutory regime and duties applicable in energy do not entitle it to proceed with a re-run of the original investigation or have a de novo re-hearing of all the evidence<sup>13</sup>. The CMA noted that it *“may decline to adopt an approach taken in the recent **CMA PR19 Redetermination which was a full redetermination of the PR19 price control by the CMA. By contrast, our role in these appeals is limited to finding whether GEMA was wrong on any of the specific grounds raised by the appellants.**”*<sup>14</sup>

(2) on the basis of this different standard of review the CMA has not interfered with Ofgem's judgement where it might differ from its own.<sup>15</sup> The CMA further noted that *“It is entirely consistent with the regulatory framework and applicable standard of review **in this sector** for us to refrain from interfering if GEMA comes to a different view on a matter where there is an element of regulatory judgement involved.”*<sup>16</sup>

It is clear from the above that the CMA finding Ofgem to not be wrong at RII02 is not equivalent to the position which the CMA might adopt in a redetermination for the water sector, particularly as the CMA's own view on various matters is known to differ from that of certain sector regulators' (for example, on the nature of the marginal investor relevant for setting the RFR).

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<sup>13</sup> CMA (2021), GD&T2 FD, Volume 1: Introductory Chapters, para. 3.88

<sup>14</sup> Ibid.

<sup>15</sup> CMA (2021), GD&T2 FD, Volume 2A: Joined Grounds: Cost of equity, para. 5.5

<sup>16</sup> Ibid.

## 2.1.1 RFR

Our view on Ofwat's proposals in summary form is as follows:

- We disagree with Ofwat's proposal to rely solely on ILGs on the basis that this approach is not consistent with economic theory and – if not adjusted - dismisses evidence of convenience yield. In our view, the existence of the convenience yield should be explicitly factored into the RFR estimate and we welcome Ofwat's intention to undertake more analysis in this regard.
- We disagree with the SONIA cross check given the potential distortions, lack of liquidity, and swap-specific factors affecting the SONIA rates which are derived by translating an overnight rate into a 20Y rate using swaps.
- We consider that either a forward rate uplift or RFR indexation is required given the market consensus that rates are going to increase.
- We consider that the choice of the averaging period is linked to market expectations – in an environment with a clear upward-sloping trend in rates, using longer term averages will result in an understated RFR.
- We consider that market based measures of expected inflation could be used to infer the RPI-CPIH wedge but caution is required before pricing in this market expectation to ensure that the chosen approach does not result in an understated RFR.

We expand on each point below.

### *Benchmark instrument*

Ofwat's proposed approach for PR24 predominantly relies on index-linked gilts ("ILGs") as a proxy for the RFR, which all else equal would disregard theoretical and empirical evidence that ILGs alone understate the RFR.

Using the unadjusted ILG yield as the sole proxy for RFR is not consistent with economic theory because ILG rate is not accessible to all market participants as a lending and borrowing rate in line with the requirements of CAPM. The existence of the convenience yield – which Ofwat acknowledges – demonstrates that the ILG rate is not available to corporate borrowers.

The recognition of the existence of the convenience yield in the UK regulatory context is not a novel approach in the latest round of CMA appeals in water and energy.

There is recent international regulatory precedent for recognising and explicitly adjusting for the convenience yield. For example, ARERA, the Italian energy regulator has included an adjustment of 100bps for the convenience yield.<sup>17</sup>

One possible remedy to this problem is to place weight on yields on highest rated corporate debt as the CMA did at CMA21 – a solution that is underpinned by the ‘zero beta’ CAPM framework based on work by Berk and DeMarzo<sup>18</sup>. However, Ofwat is proposing to reject this approach at PR24.

The CMA at CMA21 recognised additional default, complexity, illiquidity, and inflation risks present in a AAA bond index and that the ‘true’ rate is likely to be below the level implied by AAA yields. The CMA argued that these factors do not require an explicit adjustment as by picking any estimate other than the 100<sup>th</sup> percentile from a range bounded at the top by the AAA yields and ILGs at the bottom the CMA was implicitly adjusting its estimate downwards and that adjusting the upper end of the range below the 100<sup>th</sup> percentile ‘*would logically risk a double-count of the required adjustment*’<sup>19</sup>.

An alternative approach would be to adjust the ILGs directly by an estimate of the convenience yield. The estimates of the convenience yield are readily available from academic research and can also be easily observed by *inter alia* comparing the yields on AAA indices to those on ILGs.

### Cross checks

SONIA swaps (or Overnight Index Swaps) are contracts involving a payment at maturity that is linked to the compounded SONIA rate that has prevailed over the life of the contract.

The underlying rate for SONIA swap is an overnight rate which needs to be converted in a tenor of 20Y to be suitable for input into cost of equity estimation for PR24. This adjustment in tenor via swaps is likely to create distortions. For example, there has typically been limited liquidity in OIS contracts beyond the 5Y horizon rendering swap rates unreliable for the long-term 20Y window.

Another concern with the use of SONIA swap rates over long maturities is that these are likely to be affected by swap-specific distorting factors. For example, research suggests that swap rates are affected by factors such as liquidity, credit, and default risk,<sup>20</sup> regulatory requirements, tightness of the repo market due to the UK’s large QE programme, and demand by insurance and pension funds to match the extending durations of their liabilities.<sup>21</sup> These factors result in a widely acknowledged negative swap spread for long maturity instruments.

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<sup>17</sup> [ARERA \(2021\), Criteria for determining and updating the rate of remuneration of the invested capital in the infra services of energy sector for the period 2022-2027](#), p.9

<sup>18</sup> Jonathan Berk and Peter DeMarzo, *Corporate Finance*, 5<sup>th</sup> Edition (2019), Pearson Education

<sup>19</sup> CMA (2021), PR19 FD, para. 9.239

<sup>20</sup> Moody’s Analytics (2017), *Modelling and Forecasting Interest Rate Swap Spreads*

<sup>21</sup> *Negative Swap Spreads*, Federal Reserve Bank of New York (2018) Economic Policy Review 24, No. 2

Notably, the 20-year SONIA swap rate presented by Ofgem in its R1102 FD for GD&T2 is significantly below the yield of 20-year nominal government bonds, suggesting a material negative swap spread even before the convenience yield in nominal Gilts is taken into account.

On this basis, we disagree with the proposed use of SONIA swaps as a cross check.

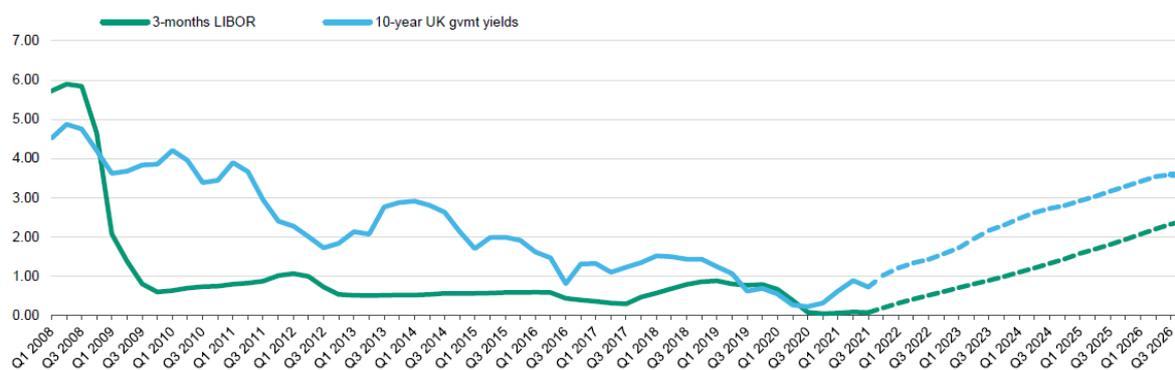
*Forward rate adjustment, indexation and averaging*

We consider that either cost of equity indexation or a forward rate uplift is appropriate to ensure that RFR is not understated given the market consensus regarding the expected future path of rates.

We note that Ofwat is not proposing to include a forward rate adjustment or to index the cost of equity. We note that these decisions are closely linked to one another and to the expected evolution of the macroeconomic environment.

Heightened macroeconomic uncertainty, high inflation, the recent increase in the BoE base rate, and the expectation of the market for further increases from 2022, all suggest a higher likelihood that rates will increase for PR24 relative to other price controls. For example, Moody's forecast<sup>22</sup> indicates a significant rise in 10-year UK government yields, as well as floating rates, to levels last seen before the financial crisis.

*Figure 4 Long-term evolution of 10-year UK government interest (nominal) and floating rates*



Source: Historical data – Bank of England, Forecast – Moody's macroeconomic assumptions as at November 2021

In this context either a forward rate adjustment or indexation (of RFR) is appropriate to avoid underestimation in the cost of equity. Absent both RFR indexation and

<sup>22</sup> Moody's (2022), Regulated Water Utilities – UK, 2022 outlook stable as regulatory certainty balances environmental and social risks

forward rate adjustment in the context of increasing rates, companies are exposed to losses from under-estimation of required returns.

We would welcome further engagement on Ofwat's assessment of the cost of equity indexation proposal and note that RFR indexation could be justified on the basis of the following rationale.

Firstly, the improvement in forecasting accuracy relative to a fixed allowance is likely to be material given the market consensus that rates will increase materially during the next five years, as well as likely movements in the RPI-CPIH wedge over time.

Secondly, it is not in customers' interests to under- or over-estimate cost of equity and given wider macroeconomic uncertainty there is a "cost" of having a materially understated estimate of RFR.

Thirdly, companies and investors are not better placed to manage market risk than customers. When deciding to index the cost of new debt, Ofwat noted that *"companies have struggled to manage the forecasting risk in the past, which has potentially increased either the cost of equity or the allowed cost of debt"*.<sup>23</sup> Both PwC and CEPA have acknowledged that market risk is outside of water companies' direct control and *"indexation of the RFR prevents companies from bearing this external market risk and allows company management to focus on risks within their control"*.<sup>24</sup>

On balance, we consider that the indexation mechanism might warrant inclusion in the PR24 framework if a forward rate uplift is not provided as any increasing complexity is outweighed by the benefits delivered by the mechanism.

Should RFR indexation be introduced, engagement will be required on clear and transparent calibration of the methodology, including to explicitly factor in the varying rates into financeability tests.

Alternatively, Ofwat may choose to provide a forward rate uplift to account for expected increases in interest rates. Forward rates provide a valuable source of evidence which embeds the expectations of a wide investor base.

### *Inflation adjustment*

#### **Q3.3. How should we convert RPI-linked yields into their CPIH-linked equivalents when deriving a RFR point estimate?**

We recognise that as we approach RPI reform in 2030 the implied RPI-CPIH wedge may change given that the definitions of the two indices will be aligned from this date.

Ofwat is proposing to infer a hypothetical market CPI-linked 20-year yield by (1) interpreting the 20-year yield-to-maturity as a geometric average of RPI and CPI (post 2030) returns, (2) adjusting the pre-2030 years for the short-run wedge and (3)

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<sup>23</sup> Ofwat (2016), Water 2020: consultation on the approach to the cost of debt for PR19, p.27

<sup>24</sup> PwC (2021), Cost of equity indexation: Evaluating the case for indexation at PR24 and beyond, p.37

recalculating the annual yield. This approach could be reasonable, in principle, as an ex ante calculation.

We note that Ofwat could also derive a time-varying RPI-CPIH wedge based on the comparison of the rates on zero coupon RPI and CPI inflation swaps. This data – which can be sourced from Bloomberg – would allow Ofwat to calculate the implied wedge over a 20Y investment horizon for each year of the price control.

However, there remains uncertainty around inflation pricing in the lead up to RPI Reform, which will, absent indexation, impact the RFR estimate regardless of the exact methodology for adjusting for the ex ante estimate of the wedge. Caution will be required before pricing in this market expectation to ensure that the chosen approach does not result in an understated RFR of cost of equity indexation is not introduced.

### 2.1.2 TMR

Our view on Ofwat's proposals in summary form is as follows:

- We disagree with the proposal to place material weight on forward-looking evidence which is widely acknowledged to be the least robust of available estimation approaches.
- We disagree with the proposal to disregard the RPI series for deflating historical TMR on the basis that both CPIH and RPI have relevant strengths and weaknesses which means that weight should be placed on both; to do otherwise risks introducing a bias through omission of relevant data.
- Whilst not commented on by Ofwat, we consider that there is no clear rationale to diverge from the averaging approach adopted by the CMA.

We expand on each point below.

#### *Methodology for estimating the TMR*

Whilst Ofwat is proposing to derive the range using historical ex post and historical ex ante approaches, there is a risk that the point estimate is materially affected by forward-looking approaches and diverges from the established approach in UK regulation – supported by financial literature and empirical research<sup>25</sup> – of assuming a broadly constant TMR over time<sup>26</sup>.

<sup>25</sup> The constancy of TMR is supported by substantial financial literature that recognises an inverse relationship, with offsetting co-movement, between the risk-free rate and the ERP. See for example, Siegel (1998), *Stocks for the Long Run*. McGraw-Hill, second edition, p.11, 13, Graham and Harvey: *The Equity Risk Premium in 2015*, p.11, Martin Taylor (2016), BoE, *Banking in the Tundra*, 25 May 2016.

<sup>26</sup> CMA (2021), PR19 FD, para. 9.394

Forward-looking evidence is widely acknowledged to be the least robust of available estimation approaches. For example, the limitation of the DGM approach referred to by Ofwat is that it is wholly dependent on assumptions and produces a broad range of TMR estimates depending on the assumptions used.

The CMA placed limited weight on forward-looking evidence given its reservations about the robustness of the forward-looking evidence and its preference to maintain its assumption of a constant TMR over time<sup>27</sup>. When selecting the point estimate from the range constructed using historical ex post and historical ex ante approaches, the CMA did not consider forward-looking evidence and selected the mid-point of the historical range instead.

Given the limitation of the forward-looking approaches it is appropriate for limited weight to be placed on them for PR24, consistent with the approach followed by the CMA at CMA21 and we do not agree that forward looking approaches can robustly improve on or inform the point estimate implied by ex post approaches. There is no basis for departing from the methodology applied by the CMA.

#### *Methodology for deflating the TMR*

At CMA21, the CMA was faced with a choice between RPI and CPI series (CPIH was not an option then) and chose to estimate historic returns *“using both the RPI and the CPI (actual plus ‘backcast’) inflation series. This reflects our conclusion that both these data series have relevant strengths and weaknesses in the context of estimating real historic returns.”*<sup>28</sup>

For RPI, actual values are available for a longer proportion of the historical window, but the formula is known to have varied over time and it is not the best measure of inflation going forwards. CPI is a more reliable measure of inflation; however, it is based on modelled rather than actual observed values for a large proportion of the historical window. As a result, it is not possible to ascertain the accuracy and robustness of the CPI series.

Ofwat appears to be faced with a similar choice between RPI and the CPIH backcast which is currently being developed. The CPIH series will have the same weakness as CPI, i.e., it will be based on modelled values whose accuracy cannot be ascertained. Given that the new CPIH series is in the process of development there are further risks that the initial analysis may have some flaws.

As a result, both RPI and CPIH series have relevant strengths and weaknesses in the context of estimating real historic returns which means that weight should be placed on both; to do otherwise risks introducing a bias through omission of relevant data. This is consistent with the approach adopted by the CMA at CMA21.

#### *Methodology for averaging*

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<sup>27</sup> Ibid.

<sup>28</sup> CMA (2021), PR19 FD, para. 9.295

We note that Ofwat has not commented on the proposed approach to averaging. There is no rationale to diverge from the approach adopted by the CMA, which considered overlapping and non-overlapping estimators of returns over 10- and 20-year holding periods.

### 2.1.3 Beta

Our view on Ofwat's proposals in summary form is as follows:

- We agree that limited weight can be placed on Pennon at this stage given the lack of data and potential distortions.
- The treatment of Covid should be such that undue weight is not attached to this period in the estimates, which are intended to reflect expected returns over long-run holding periods (10 – 20 years), consistent with the remaining parameters in the CAPM framework.
- An overarching flaw of the Mason and Wright (MW) argumentation and analysis of the impact of changing gearing levels on WACC is the premise that MM should hold in the real-world regulatory setting given MM assumptions of (1) perfect capital markets and (2) the absence of corporate and personal taxation. In the hypothetical world of MM, there are no market distortions and no regulators; when these are introduced into the MM construct, the assumptions of MM no longer hold.
- However, in a regulatory setting efficient costs of embedded debt are priced into the allowance so where the regulatory allowance for embedded debt exceeds the cost of new debt, then regulatory policy is clearly non-neutral to gearing (the higher the gearing the higher the impact of this wedge). The pricing of debt in the real world is similarly affected by market distortions which derives the difference between market-based cost of debt used to set the allowance and the CAPM-based cost of debt (a fact acknowledged by UKRN).
- The dynamic observed by MW – that Ofwat's PR19 WACC increases by 15bps due to the difference in listed comparator and notional gearings – is primarily driven by an incorrect application of the MM framework. Once these distortions are stripped out, WACC does not vary with gearing.
- As a result, small deviations from the MM framework can be expected and that it is reasonable that the observed debt premium should be priced in at the notional gearing level. As a result, no adjustment is required.
- This is consistent with the approach adopted by the CMA at CMA21, which also noted that WACC rose with gearing in its model, but as the impact was relatively small and there was no evidence justifying an alternative level of notional gearing, it did not consider that any changes to the approach or notional gearing were required.

We expand on each point below.

We agree that limited weight can be placed on Pennon at this stage, as there has been limited time post the sale of Viridor and Pennon has (1) had close to zero gearing where data is available for Pennon as a pure play water company (2) acquired Bristol Water, both of which could distort observed betas in the short term.

### **Q3.1. How should we reflect the period affected by Covid-19 in our approach to estimating beta?**

We agree that the treatment of Covid-affected data is a key consideration. There was a material downward impact on water company betas due to Covid-19 – particularly during earlier stages of the pandemic. Placing full weight on the data from this period will bias the range of beta estimates downward, given that Covid-19 is a 1 in a 100 years type event.

At CMA21, the CMA placed weight on both Covid-affected and unaffected data, although Covid-affected data was relatively limited.

Detailed analysis of the impact of Covid on water company betas – potentially including structural break tests – will be required later in the price review process to come to a view as to the appropriate treatment of the Covid-affected data when estimating beta for PR24 on a forward looking basis.

### *De- and re-levering*

### **Q3.2. Noting the impact of gearing on betas discussed in the report by Professors Mason and Wright, how should we adapt our approach to specifying beta for a company at the notional gearing?**

Section 5 of Mason and Wright (2021, “MW”)<sup>29</sup> argues that the current regulatory approach to adjusting equity beta for gearing is flawed as it leads to a WACC that is increasing in gearing, whereas Modigliani and Miller (1958,<sup>30</sup> “MM”) show that WACC should be independent of gearing.

An overarching flaw of the MW argumentation and analysis is the premise that MM theorem should hold in the real-world regulatory setting given MM assumptions of (1) perfect capital markets and (2) the absence of corporate and personal taxation. In the hypothetical world of MM, there are no market distortions and no regulators; when these are introduced into the MM construct, the assumptions of MM no longer hold.

Firstly, the MM theorem assumes that “*the firm borrows at the market rate of interest*”.<sup>31</sup> Indeed, a fundamental principle of finance is that market (forward-looking) values matter, not book (backward-looking) values. However, in a regulatory setting efficient costs of embedded debt are priced into the allowance, recognising *inter alia* the long-term financing in the sector in line with long-term asset

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<sup>29</sup> Professor Robin Mason and Professor Stephen Wright (2021), A report on financial resilience, gearing and price controls

<sup>30</sup> Modigliani, F. and Miller, M. H. (1958), 'The Cost of Capital, Corporation Finance and the Theory of Investment', The American Economic Review, 48:3, June

<sup>31</sup> Ibid., p. 289, footnote 48.

lives and the implications of historical debt costs on the financeability of water companies. Where the regulatory allowance for embedded debt exceeds the cost of new debt, then regulatory policy is clearly non-neutral to gearing (the higher the gearing the higher the impact of this wedge), and so the cost of capital will also be non-neutral to gearing. Indeed, the whole point of a regulator is to introduce “distortions” that affect firm value and cause it to depart from the unregulated outcome; if these distortions cause firm value to depend on gearing, the cost of capital must depend on gearing.

Secondly, the pricing of debt in the real world is similarly affected by market distortions. The approach used by regulators to estimate WACC applies CAPM to derive the cost of equity whilst relying on market data for debt (rather than CAPM-implied cost of debt). The result of this partial application of CAPM – as referred to by MW – is that the difference between the CAPM-implied and the market-based cost of debt affects the behaviour of WACC under different gearing assumptions.

The UKRN study acknowledged that the difference between CAPM-implied and market-based costs of debt is driven by debt premia. *“The “pure” CAPM-WACC [i.e., one that uses CAPM for both debt and equity] does not include the **observed premium element** in the cost of debt that is unexplained by the CAPM. As a result, it is typically lower than the CAPM(E)-WACC, that uses CAPM to estimate the cost of equity, but **uses bond yields to estimate the cost of debt** (although in practice for most of the time the two estimates have moved broadly in line).<sup>32</sup>*

As noted in the UKRN study “we acknowledge that the **unexplained premium component of the cost of debt is a cost companies do face when issuing debt**”.<sup>33</sup>

The debt premium faced by companies reflects efficient costs for water companies and should be priced in. Furthermore, more highly geared firms are particularly penalised by this premium, and so a WACC that is increasing in gearing is consistent with expectations.

Thirdly, MW also seem to fail to recognise that WACC is only independent of gearing in a world of no taxes – an assumption underpinning the MM work which clearly does not apply in the real world. For example, they note that “a WACC that increases with gearing seems at odds with the observed behaviour of regulated firms, particularly in the water sector, that have chosen gearing levels higher than the notional level used by the regulator”<sup>34</sup>, however, this behaviour is easily explained by the benefits from the tax shield. Relatedly, there is no justification for “hard-wiring in” a U-shaped WACC in MW’s world (MW option 5), which does not recognise taxes and bankruptcy costs.

Overall, whether a regulatory approach leads to WACC being independent or non-independent of gearing is *not* the correct criterion to decide whether the approach is valid, since regulatory intervention automatically nullifies the MM assumptions and

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<sup>32</sup> Wright et al (2018). Estimating the cost of capital for implementation of price controls by UK Regulators, p.77

<sup>33</sup> Ibid.

<sup>34</sup> Professor Robin Mason and Professor Stephen Wright (2021), A report on financial resilience, gearing and price controls, p.26

the MM construct no longer applies. The dynamic observed by MW – that Ofwat's PR19 WACC increases by 15bps due to the difference in listed comparator and notional gearings – is not robust as it is materially driven by (1) an incorrect application of the MM framework given the dynamics of the regulatory framework for pricing embedded debt costs and (2) a failure to account for differences between CAPM-implied cost of debt and market-based cost of debt used in allowance setting i.e. market distortions in the form of debt premia. These factors have to be explicitly adjusted for to allow for an accurate assessment of how WACC behaves under different gearing assumptions and to test for invariance to gearing in line with MM. As MW have not performed their analysis on this basis, it is likely to materially overstate the impact of the effect MW seeks to estimate. Two adjustments are required to this end.

Firstly, as discussed above the MM test should be performed based on the cost of new debt. Both Ofwat<sup>35</sup> and MW have acknowledged that embedded debt is outside the MM framework, however, MW have not performed the test on the basis of new debt only. Instead, MW calculate WACC using new debt only under PR19 and alternative approaches to de and re-levering but present the 15bps increase in WACC on the basis of total debt only. Where only the Ofwat estimate of the **cost of new debt** (and associated issuance and liquidity costs) is used in the analysis, the increase in WACC is 6bps rather than 15bps.

Secondly, as discussed above the analysis also needs to be adjusted for the impact of market distortions in the form of debt premia which UKRN have acknowledged is a part of efficient financing costs for water companies. MW have also acknowledged that CAPM is a poor model of debt returns. Whilst they propose an option based on the application of CAPM to both debt and equity, they do not attempt to strip out the impact of the distortion due to difference between CAPM and market-based costs of debt when measuring the impact of changes in gearing on the original PR19 FD WACC...

...and when the assessment of how WACC behaves under different gearing assumptions is based on **CAPM cost of new debt**,<sup>36</sup> PR19 FD WACC does not vary with gearing.

The above suggests that perfect invariance with gearing is not possible in a regulatory setting due to differences between Ofwat's methodology for estimation of debt costs, which results in a premium to the CAPM-cost of debt. Instead, small deviations from the MM framework can be expected arising from pricing in efficient debt costs for water companies.

By contrast, the approaches proposed by MW, starting from the premise that MM does apply, "force" cost of equity to be invariant to gearing and introduce departures from the MM principles and introduce distortions. For example, MM Proposition II stipulates that an *increase* in leverage results in an *increase* in the

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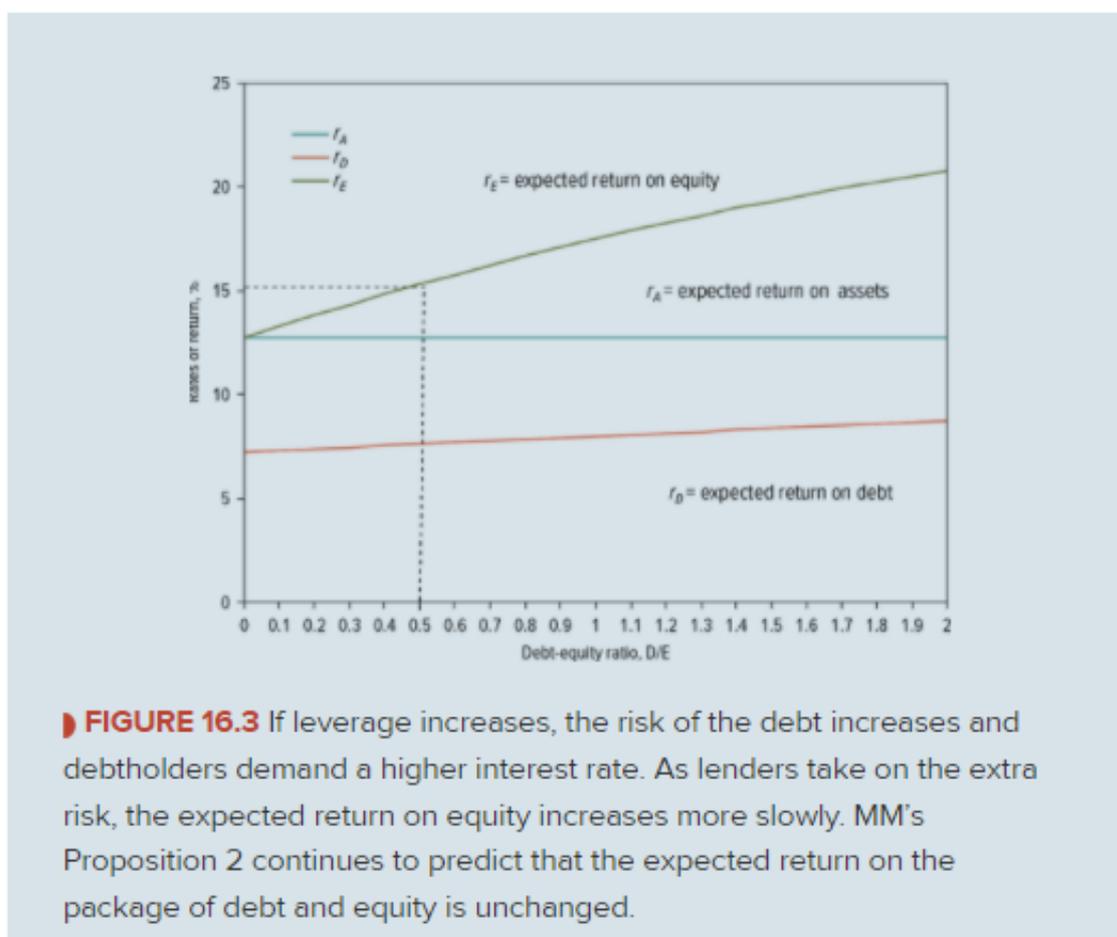
<sup>35</sup> Ofwat (2020), 'Reference of the PR19 final determinations: Risk and return – response to common issues in companies' statements of case', May, para. 3.81.

<sup>36</sup> The formula for CAPM-derived cost of debt is  $R_d = R_f + \beta_d \times (R_m - R_f)$

expected returns on equity. This relationship holds regardless of whether the cost of debt is assumed to be constant, or whether the cost of debt is assumed to increase due to higher default risk associated with increasing leverage.

The use of raw betas directly, for example, rather than de- and re-levering in line with standard corporate finance principles, introduces a departure from MM theorem because it results in adopting a beta for listed comparators with 54% gearing for a notional capital structure at 60% gearing without recognising that *higher* leverage implies *higher* expected returns on equity in line with MM.

Figure 5 MM proposition II



Source: Brealey, Myers, Allen, and Edmans (2022), Principles of Corporate Finance

As a result, there is no justification for hard-wiring a second “wrong” (e.g., using the raw equity beta) to try to make a “right” (a WACC that is independent of gearing), since this is no longer a “right” in a non-MM world.

MW recognise that it may be acceptable to retain the existing approach if the effect on the WACC of the regearing procedure is relatively small. In this context the CMA at CMA21 also noted that WACC increased with gearing in its model, but as the impact was relatively small and there was no evidence justifying an alternative level of notional gearing, it did not consider that any changes to the approach or

notional gearing were required.<sup>37</sup> Furthermore, during the appeal, Ofwat suggested to adopt the gearing of the listed water companies as the notional gearing for the purposes of estimating the allowed return<sup>38</sup> – an approach that the CMA did not adopt.

We agree with the view set out by Phil Burns – one of the authors of the 2018 UKRN Cost of Equity Study – that the effect of the proposal to use raw betas directly (or set the notional gearing to the enterprise value gearing of listed comparators)<sup>39</sup> is that *“the regulator’s estimate of the cost of equity **becomes conditional on company-specific levels of gearing for those companies which are listed, which creates potentially significant endogeneity problems and increases scope for regulatory gaming.** For companies that aren’t listed, but where their beta is set by reference to comparator stocks, **their allowed cost of equity is directly influenced by another company’s capital structure...** For those companies, their allowed cost of equity becomes essentially arbitrary”*.<sup>40</sup> Direct reliance on raw betas will extrapolate company specific risk factors and company specific capital structures and leverage (rather than a stable and predictable notional capital structure) to the whole sector.

Lastly, we do not consider that the NATS precedent is directly relevant to water given that the difference between the observed gearing of listed comparators and the assumed notional level is significantly smaller in water (c. 6%) than for NATS (30%).

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<sup>37</sup> CMA (2021), PR19 FD, para. 9.530

<sup>38</sup> CMA (2021), PR19 FD, para. 9.505

<sup>39</sup> The outcome of both proposals is the same.

<sup>40</sup> Wright et al (2018), Estimating the cost of capital for implementation of price controls by UK Regulators

## 2.1.4 Cross-checks for cost of equity

Our view on Ofwat's proposals in summary form is as follows:

- We disagree with the use of MAR as a cross check for cost of equity as assumptions of outperformance are not consistent with the notional construct and the cross check blurs the distinction between notional and actual whilst disregarding the risk exposure of the actual company.
- There are challenges in decomposing MAR data – including the large number of assumptions and judgments required – and in correctly interpreting the results – as evidenced by the conflicting results of the decomposition undertaken for U UW and SVT by Ofwat's advisers during the appeal.
- We disagree with the proposals to demote financeability as a key cross check on the calibration of the price control, including that of cost of equity. Whilst market based cross checks have value – if chosen and calibrated correctly – their usefulness and relevance is less than that of the financeability cross check. This is because they are fully exogenous to the company and the price control parameters and lack the linkage with the finance duty.
- Multi-factor models that are richer descriptors of systematic risk than the CAPM, have greater explanatory power than CAPM and are preferred in academia can provide additional evidence on the required Cost of Equity and potentially serve as a cross check to CAPM derived returns.
- Risk analysis should serve as an explicit cross check on return calibration – the CMA's approach at PR19, increasing risk exposure and Ofwat's concerns about financial resilience all support this explicit linkage.

We expand on each point below.

### *MARs as the primary cross check*

We disagree with the proposed use of MAR as a key cross check on the cost of equity.

Firstly, Ofwat is setting the cost of equity for an efficient notional firm which – consistent with a long-established practice in UK regulation – is assumed to perform in line with the regulator's assumptions. As acknowledged by MW, *“the idea of a 'notional' firm is one in which both the firm and the regulator are efficient; in the latter case, this means, inter alia, that the cost of capital is set correctly and all other*

regulatory allowances are achievable, so that the MAR is equal to 1"<sup>41</sup>. In contrast, MAR reflect characteristics and assumed performance of specific actual companies. The use of MAR cross check is therefore distorting the notional structure by superimposing actual company assumptions that are fundamentally inconsistent with the premise of the notional company. Furthermore, the use of MAR cross check is one-sided whereby assumed performance of the actual company – which may or may not materialise – is reflected in the allowed returns whilst actual company risks are fully disregarded from the calibration of the risk-return balance.

Secondly, a high degree of judgement and a number of assumptions are required to decompose a MAR such that it might provide a useful input into the calibration of allowed returns.

For example, assumptions are required for all future projected price control periods on costs (Opex and Capex), output delivery incentives (ODIs), tax, financing and the macroeconomic environment, the evolution of the regulatory framework and risk, and to then assume out- or under-performance on each of these components of the settlement. Other factors which could contribute to a market premium and so require analysis include, *inter alia*, value impacts from non-regulated businesses and pensions.

All factors that might affect the market price – and assumed performance scenarios for these factors – are estimated with uncertainty. This means that isolating the contribution from assumed outperformance on cost of equity is inherently difficult.

It is not hard to see these company specific drivers of premia in water, for example, in performance on costs, ODIs and financing.

Ofwat's advisers, Europe Economics, attempted to control for the above average performance of listed companies by decomposing MARs at PR19 and landed at materially different conclusions for SVT and U UW which the CMA considered a good illustration of the difficulty of correctly interpreting such analysis.<sup>42</sup> The CMA concluded that "*the variation between these two companies that are often categorised as being similar suggests to us that an average of just these two is unlikely to give a sufficiently clear picture of whether the cost of capital allowance is higher or lower than is required across all companies in the sector*".

For CMA21, the CMA did not give MAR analysis weight in coming to a final view on the point estimate for the cost of capital noting that it remained "*cautious about using market prices to determine the point estimate for the cost of equity or overall cost of capital*". The CMA acknowledged that there are wide range of reasons why prices may rise and fall over time. On balance it concluded that MARs did not present sufficient evidence of the WACC estimate's appropriateness for the entire water sector.

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<sup>41</sup> Professor Robin Mason and Professor Stephen Wright (2021), A report on financial resilience, gearing and price controls, p. 8

<sup>42</sup> CMA (2021), PR19 FD, para. 9.1360

There are more robust and reliable cross checks (below) which could better cross check equity returns and should be preferred to MAR analysis, which represents the least reliable cross check on CAPM evidence.

### *Alternative cross checks – Financeability*

The commentary below focuses on the role of financeability as a cross check. We discuss Ofwat's proposed approach to financeability – including notional company specification – in greater detail in section 2.3.

Financeability tests are a critical cross check on the judgments applied in setting the key parameters of the price control including the cost of capital, Totex allowances and incentives. A robust financeability test is an essential cross check on the cost of equity as it is the only one explicitly linked to Ofwat's finance duty and the only one capable of directly reflecting the overall financial position of the regulated company under the proposed regulatory package.

A company's financial position and capital structure, projected cashflows and credit metrics and financial headroom available for management of risk are all critical considerations in the financeability assessment and are all materially driven by the level of allowed cost of equity.

Whilst market based cross checks have value – if chosen and calibrated correctly – their usefulness and relevance is less than that of the financeability cross check as they are fully exogenous to the company and the price control parameters and lack the linkage with the finance duty.

At CMA21, the CMA considered financeability to provide a relevant cross-check on the choice of the cost of equity and did not agree with Ofwat's submission that the need to maintain credit metrics can never be part of the WACC assessment<sup>43</sup>. The CMA noted that the WACC was the primary factor in ensuring that an efficient firm can finance its functions, and that if the WACC was set at a level which properly reflected the cost of debt and cost of equity for the investors in the sector, both debt and equity investors would earn sufficient returns to cover the costs of financing, and therefore the companies would be financeable.

The CMA considered that due to parameter uncertainty, the CAPM could be used to derive a wide range of outcomes for the CoE, the lower end of which could result in ratios that are lower than necessary to support an investment-grade rating for the notional company. The CMA therefore argued that the use of credit ratios at least provides a check on whether the cost of equity appears to be of a level which is broadly consistent with the high-quality credit ratings required by Ofwat.

### *Alternative cross checks – Multi-factor models*

Following the development of Portfolio Theory, researchers have developed different theories aiming to explain excess portfolio returns. This includes the CAPM model which explains excess returns on the basis of a single risk factor, beta i.e.,

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<sup>43</sup> CMA (2021), PR19 FD, para. 9.1378

systematic risk. The simplicity of the model and the ease of calculation made it widely popular among academics and practitioners alike, and the UK regulators continue to use it to estimate the allowed Cost of Equity.

The performance of the CAPM model has been extensively challenged in various research papers which have revealed limitations in its explanatory power.

As a response to inadequate performance of the CAPM, Eugene Fama and Kenneth French published a landmark paper in 1992<sup>44</sup> introducing the Size and Value factors, arguing that that anomalies related to the CAPM were better captured by their three-factor model. This model reflected the authors' findings that in the long run, small stocks have generated higher returns than large stocks and value stocks have generated higher returns than growth stocks albeit they contain more risk.

Fama and French continued to research models with greater explanatory power and in 2015<sup>45</sup> proposed a five-factor model where, besides the excess return on the market ( $R_m - R_f$ ) factor, the dominant factors contributing to excess returns were identified as size, value, profitability, and investment patterns.

To note, other models have also been developed which aim to address the weaknesses in CAPM's explanatory power. There are three broad contenders for the optimal model: the Stambaugh and Yuan (2016)<sup>46</sup> 4-factor model, the Hou, Xue, and Zhang (2015)<sup>47</sup> q-model, and the Fama-French 5-factor model ('FF5F')<sup>48</sup>.

These models – that are richer descriptors of systematic risk than the CAPM and have greater explanatory power than CAPM – can provide additional evidence on the required cost of equity and potentially serve as a cross check to CAPM derived returns.

### *Alternative cross checks – Risk analysis*

The commentary below focuses on the role of risk analysis as a cross check. We discuss Ofwat's proposed approach to risk analysis in greater detail in section 2.4.2.

Ofwat is proposing to use RoRE risk ranges as a sense check for the incentive package, rather than to cross check the adequacy of allowed returns.

As acknowledged by the CMA at CMA21, risk analysis represents an important real world, corporate finance cross check on allowed returns in line with financeability requirements. A disconnect between risk analysis and returns calibration is liable to

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<sup>44</sup> Fama, E. F., and K. R. French. "The Cross-Section of Expected Stock Returns." *Journal of Financial Economics*, Vol. 47, No. 2. (June 1992), pp. 427-465

<sup>45</sup> Fama, E. F., and K. R. French. "A Five-Factor Asset Pricing Model." *Journal of Financial Economics*, 116 (2015), pp. 1–22.

<sup>46</sup> Stambaugh, Robert F. and Yuan, Yu, *Mispricing Factors* (September 17, 2016). *Review of Financial Studies* 30, April 2017, pp. 1270-1315.

<sup>47</sup> Hou, K.; Xue, C.; and Zhang, L., "Digesting Anomalies: An Investment Approach", *Review of Financial Studies*, 28 (2015), pp. 650–705

<sup>48</sup> Fama, E. F., and K. R. French, "A Five-Factor Asset Pricing Model", *Journal of Financial Economics*, 116 (2015), pp. 1–22.

result in a price control where risk and return are out of balance, leaving companies exposed to excessive downside risks. Such an outcome could undermine financial resilience of the sector.

As a result, Ofwat's concerns regarding financial resilience and comments about increasing risk exposure point towards a clear and explicit link between risk analysis and calibration of returns.

The CMA's CMA21 determination implemented a direct link between risk analysis and return calibration. Firstly, the CMA made certain changes to the cost assessment and to the ODIs, to rebalance risk and return and support financeability<sup>49</sup>. Secondly, the CMA provided an upward adjustment to the cost of equity for the remaining asymmetry in the ODI package to address the expectation that expected return would be below the allowed return<sup>50</sup>. Such explicit linkage is appropriate for PR24 to ensure that returns of the price control package are commensurate with the risk exposure.

### 2.1.5 Aiming-Up

Our view on Ofwat's proposals in summary form is as follows:

- Consistent with CMA21, it is appropriate to consider holistically a broad range of factors – investment incentives, CAPM parameter uncertainty, financeability and asymmetry – in coming to a view on the degree of aiming up required for PR24.
- It is not possible at this stage to comment on the extent to which aiming up might be appropriate for financeability and asymmetry, however aiming up is warranted for parameter uncertainty in and of itself given that the detriment to consumers from setting the allowed return too high or too low is therefore not symmetric.
- Absent RFR indexation, there are no credible reasons to suggest that parameter uncertainty is decreasing between PR19 and PR24; rather there are factors pointing towards the opposite conclusion, for example, uncertainty due to Covid, increasing risk exposure bringing into question relevance and sufficiency of historical beta data.

We expand on each point below.

Ofwat's proposal not to aim up is a departure from the CMA21 methodology which included 25bps to account for investment incentives in light of parameter uncertainty, financeability, and asymmetric risk on ODIs (including possible changes in forward-looking risk exposure). It is appropriate to consider holistically this broad range of factors in coming to a view on the degree of aiming up required for PR24.

<sup>49</sup> CMA (2021), PR19 FD, para. 9.1338

<sup>50</sup> CMA (2021), PR19 FD, para. 10.104

At this early stage of PR24, the calibration of the price control package and any implied asymmetry are unknown, and the forward-looking risk exposure has not yet been analysed comprehensively. It is, therefore, not possible to comment on the extent to which aiming up might be appropriate for these factors. However, as we comment below, parameter uncertainty continues to support aiming up on the cost of equity.

Cost of equity is not directly measurable, and the parameters are subject to both theoretical debate and statistical uncertainty. In the context of this uncertainty, the regulator's objective is to select a point estimate of cost of equity (and WACC) that will balance the potential welfare loss from under-estimation against welfare loss from over-estimation. Given that the demand for most regulated services is inelastic because these services are essential in nature, the welfare loss from under-investment is large. The detriment to consumers from setting the allowed return too high or too low is therefore not symmetric.

Therefore, in order to maximise consumer welfare, or equivalently, minimise the expected consumer welfare loss, a degree of aiming up above the estimated market-based cost of equity is required, which partially mitigates the significant negative net effect of underinvestment.

At CMA21, the CMA recognised that *"there is substantial uncertainty over the level of the WACC"*<sup>51</sup> and expressed two concerns on investment incentives in this context:

- *"We continue to be of the view that there are risks of an exit of capital from the long-term investors in the sector, should the cost of capital be set too low;*
- *We also believe that there are risks that there will be underinvestment in new assets, if the expected return on capital on new investment in AMP8 and beyond does not provide incentives to reinvest capital and maintain or grow the asset base over time".*<sup>52</sup>

The CMA considered that Ofwat's approaches do not directly address the long-term concerns about an exit of capital from the sector over time if the cost of capital is set too low<sup>53</sup>.

## 2.2 Cost of Debt

Overall, Ofwat's proposed approach to setting the allowance for the cost of debt is broadly in line with the CMA21 methodology, with the exception of (1) the intended exclusion of swaps (apart from cross currency ones) from the balance sheet approach and (2) the continued application of the outperformance wedge to new debt. These departures from the CMA methodology do not appear to be well justified.

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<sup>51</sup> CMA (2021), PR19 FD, para. 9.1269 (a)

<sup>52</sup> Ibid, para. 9.1394

<sup>53</sup> Ibid, para. 9.1285

Many aspects of the balance sheet approach are unspecified at this stage and the lack of clear ex-ante principles for how the balance sheet approach will be applied gives rise to uncertainty and scope for regulatory discretion ex post. Further work is required to develop a clear and transparent ex ante policy based on robust principles – it is crucial that this occurs on a collaborative basis between Ofwat and the sector at the early stages of PR24.

We agree with the recognition that company specific adjustments to the cost of debt may be justified – consistent with the outcomes of the last three appeals in the water sector.

### 2.2.1 Cost of Embedded Debt

Our view on Ofwat's proposals in summary form is as follows:

- We welcome the broad consistency of the proposed approach with CMA21 outcomes, but disagree with the proposed exclusion of all swaps (apart from cross currency swaps). Inflation and interest rate swaps exhibit debt-like characteristics, are part of the market value of debt capital, and in a number of cases are indivisible from instruments raised as part of defined hedging strategies.
- We agree that where swaps have been restructured solely to reprofile cashflows over time, those should be excluded from the analysis ('outliers'), but we consider that a blanket exclusion is not appropriate and could misstate efficient costs.
- There is limited detail and transparency of the calculation methodology for the balance sheet approach which would be applied as well as the specification of cross-checks at this stage.
- Clear and transparent ex ante policy based on robust principles should be established during the early stages of the price review process.

We expand on each point below.

#### **Q4.1. Do you agree with our proposed role for benchmark bond indices in cross-checking a cost of debt allowance based on a balance sheet approach?**

At a high level, the approach based on sector average costs (the balance sheet approach) is consistent with the CMA's methodology. However, we note the lack of clarity regarding the policy which needs to be resolved at early stages of the price review process and disagree with the proposed exclusion of swaps from the calculation.

There is limited detail and transparency on the calculation methodology for the balance sheet approach as well as the specification of cross-checks at this stage. This creates material uncertainty and scope for regulatory discretion ex post as the outputs are highly sensitive to the calculation methodology and adjustments as

demonstrated in the CMA Final Determination. Additionally, this also reduces the clarity of incentives for companies seeking to recover efficient debt costs on a sustainable basis over time.

The key principles and factors that require ex ante specification include, but are not limited to:

- Companies included in the sector average calculation – the CMA considered all WaSCs and large WoCs in its calculation and did not consider, unlike Ofwat, that a greater focus on listed companies was warranted.
- Averaging methodology – the CMA, for example, argued that using median values across a broad range of companies would ensure that the allowance is not skewed by the performance or risk approach of outlier companies.<sup>54</sup>
- Treatment of different instruments – for example, identification and assessment of outliers, floating rate debt (weight placed and any adjustments to the interest rate) and debt with complex features.
- Specification of cross checks (trailing average period, debt mix, potential adjustments required) – for example, shorter trailing averages would not be sufficient to capture the pre-Global Financial Crisis debt that matures after AMP8 and will continue to impact cost of debt in the meantime; an adjustment for EIB may not be justified at all given that the proportion of such debt is decreasing materially over time. Clear ex ante principles for the calibration of cross checks are required to avoid potential circularity of the cross check (where the cross check is designed ex post to 'match' the sector average).

We also consider that Ofwat's calculations under the balance sheet approach and for the cross checks should be made available to companies for transparency and to allow scrutiny.

Ofwat proposes to exclude all swaps, other than currency swaps, from its view of the notional cost of debt, arguing that the exclusion of other swaps is a long-standing regulatory practice.

We agree that where swaps have been restructured solely to reprofile cashflows over time that these should be excluded from the analysis ('outliers') as these could distort costs across regulatory periods. However, the vast majority of swaps in the sector are designed to achieve economic hedges and should be included in the calculation of the actual cost of debt.

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<sup>54</sup> CMA (2021), PR19 FD, para. 9.635 (b)

## 2.2.2 New Debt

We disagree with the proposed application of the outperformance wedge on new debt. The CMA removed the wedge on new debt on the basis that previous drivers (high rating, EIB debt, floating debt) would be unlikely to drive systematic outperformance going forwards.

It is important to recognise the observed outperformance wedge may be driven by factors for which it would not be appropriate to adjust PR24 allowances, including rating, flight to safety in COVID for AMP7 issuances, and tenor.

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### **Q4.2. Given the persistent issuance discount of water company bonds against the iBoxx A/BBB index, how should this be reflected in our new debt allowance-setting?**

We disagree with the proposed application of the outperformance wedge. The CMA considered in detail the approach and results of Ofwat's analysis at CMA21 and did not apply wedge to the cost of new debt.

Analysis carried out at the CMA indicated that 'outperformance' was primarily driven by tenor and rating which Ofwat did not control for in its analysis.

The CMA removed the wedge on new debt on the basis that previous drivers (high rating, EIB debt, floating debt) would be unlikely to drive systematic outperformance going forwards.<sup>55</sup>

- Ofwat's evidence on credit ratings was focused on issuance in previous controls, whereas with new debt companies in the sector were at or below the notional Baa1/BBB+ target – this will be equally or more applicable in PR24 based on the current specification of the framework.
- With the completion of Brexit, it was unclear whether water companies would retain access to EIB-style debt on the same advantageous terms – equally applicable at PR24.
- The impact of floating rate debt does not warrant an adjustment as it is largely negated by Ofwat's new debt 'true-up' mechanism whereby companies' outturn allowance will reflect subsequent movements in the benchmark, and so will already incorporate prevailing market rates – equally applicable at PR24.

The CMA considered that the only driver which it might be appropriate to adjust for is tenor, but it did not consider this to be material.

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<sup>55</sup> CMA (2021), PR19 FD, para. 9.824

It is important to recognise the observed outperformance wedge may be driven by factors for which it would not be appropriate to adjust PR24 allowances, including rating, flight to safety in COVID for AMP7 issuances, and tenor.

### 2.2.3 Company-specific cost of debt

Our view on Ofwat's proposals in summary form is as follows:

- We welcome recognition that company specific adjustments on the cost of debt may be appropriate – consistent with the CMA/CC findings in the last three rounds of water appeals.
- Relatedly frequency of issuance – driven in part by size – can have a material impact on the cost of debt and has been allowed for via a separate uplift by Ofgem. AFW is smaller in size than all three networks that were awarded the uplift.
- Specific decisions AFW has taken in relation to timing of issuance have resulted in a lower cost of debt. As a result, AFW is not planning to request an uplift on embedded debt at PR24 as it expects its costs to be funded but an uplift on new debt is required.

We expand on each point below.

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#### **Q4.3 Do you agree with our proposal to restrict company specific adjustments to reflect only factors due to small size, and to remove the benefits test?**

We welcome Ofwat's recognition that company specific adjustments on the cost of debt may be warranted and the removal of the customer benefits test.

In this context small companies typically access debt capital markets on infrequent basis to avoid premia associated with debt issued below benchmark. This implies (1) greater (relative to more frequent issuers) mismatch with the new debt allowance which assumes daily issuance and (2) greater risk that the issue dates could coincide with high points in the evolution of interest rates and/ or credit spreads which will affect the cost of debt relative to the sector on a long-term basis. Relatedly, smaller companies face additional costs of carry and higher transaction costs relative to larger issuers. These factors suggest that all components of the cost of debt warrant consideration in the allowance in order to capture the all-in costs of raising finance that a smaller notional company would face.

The cost of debt may also be affected by the different risk profiles of water and wastewater businesses i.e. potentially higher risk for the standalone water business affecting debt pricing.

Ofgem has previously provided an infrequent issuer uplift of 6bps for certain networks in the RII02 Gas Distribution price control based on the estimates proposed by Scotia Gas Networks ('SGN') and Northern Gas Network ('NGN'). Ofgem defined

less frequently issuing notional networks as those that are expected to issue less than £150m per annum on average, namely SGN Scotland, NGN and WWU.

We also note that both SGN and NGN – and by extension Ofgem who accepted their analysis and arguments – estimated the required uplift for new debt. The 6bps awarded by Ofgem has been expressed as an uplift on the overall cost of debt but the estimate on new debt is at least 15bps as presented below.

*Table 2 Comparison of estimates of the infrequent issuer uplift*

	Uplift on overall cost of debt (bps)	Proportion of new debt	Uplift on new debt (bps)
NGN	6	40% <sup>56</sup>	15
SGN	6	23% <sup>57</sup>	26
Ofgem	6	15 – 22% <sup>58</sup>	27 - 40

Notes: The proportion of new debt for SGN and the uplift on new debt for Ofgem are implied figures rather stated explicitly by either party.

AFW is smaller in size than all these companies – as at 31 March 2021 SGN Scotland was 1.4x and NGN and WWU were both 1.8x larger – and is an infrequent issuer of debt relative to the large companies in the sector. The above suggests that an uplift on the cost of debt would be appropriate in principle to account for these factors, at least on new debt.

Specific decisions AFW has taken in relation to timing of issuance have resulted in a lower cost of debt than current allowances. As a result, AFW does not consider that an uplift on embedded debt is required at PR24 – assuming its embedded debt costs are recoverable relative to the unadjusted allowance. Absent our company-specific financing decisions, the features and characteristics of AFW would likely have required additional compensation on the cost of debt relative to the sector-wide allowance.

However, our performance on the cost of new debt does not benefit from the mitigation provided by the timing of issuance of our existing portfolio, leaving us exposed to a greater risk of mismatch with the allowance and greater risk of issuing debt at points which coincide with higher rates.

Even after allowing for our prudent approach to debt maturity profile and ensuring we are compliant with the constraints contained in our Whole Business Securitisation we still face significant risk. As a result, an uplift on the cost of new debt to reflect our size and infrequency of issuance would be appropriate.

<sup>56</sup> NGN (Response to DD, Finance Annex, FQ1)

<sup>57</sup> RII0-GD2 Business Plan" and "Section D: Ensuring efficient financing" of SGN's GD2 Draft Determination response ("DD") by SGN

<sup>58</sup> [RIIO2 Final Determinations – Finance Annex \(REVISED\) \(ofgem.gov.uk\)](#), footnote 28

## 2.3 Financeability and the notional company

### 2.3.1 Overarching points

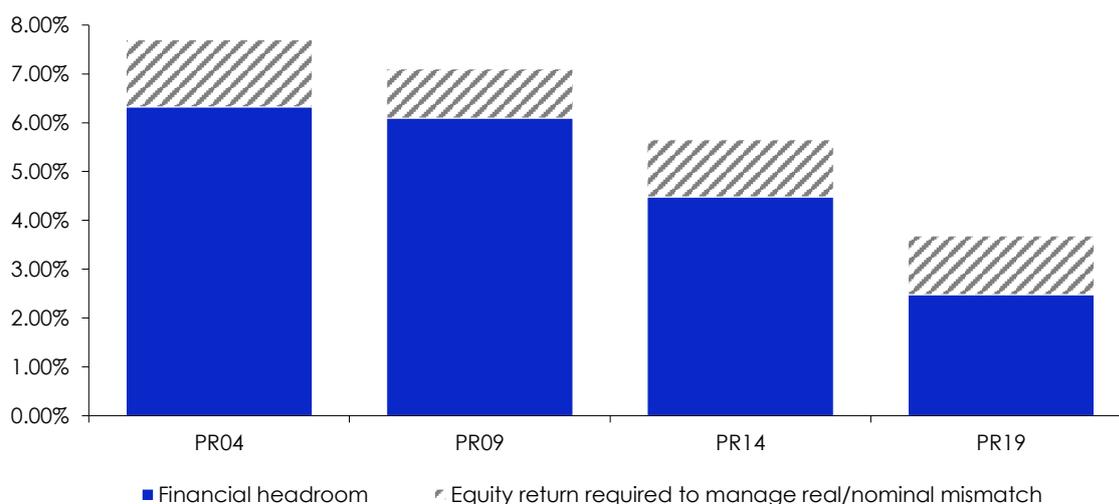
#### Q7.1. Do you agree that financeability is likely to be less constrained at PR24 than at PR19?

We do not agree that financeability is likely to be less constrained at PR24 at this stage of the price control process.

Ofwat's PR24 proposals on risk, return and financeability imply a challenging and unfavourable environment for financial resilience and equity investment in the sector during a period where there is material uncertainty around the timing and scale of investment over the long term under different common reference scenarios, as well as different levels of risk exposure.

The chart<sup>59</sup> below illustrates the reduction in financial headroom available to the notional company for management of risk over time. Ofwat's PR24 proposals, all else being equal, would reduce this buffer further against a backdrop of increasing risk and uncertainty.

Figure 6 Evolution of financial headroom available for downside scenario management



Notes: Financial headroom is calculated by deducting the equity return required to manage real/ nominal mismatch from the allowed cost of equity for each price control. Equity return required to manage real/nominal mismatch is calculated as the product of assumed notional gearing, proportion of fixed rate debt (these two together represent the proportion of total capital exposed to the mismatch) and the inflation assumption (which quantifies the impact of the mismatch as the difference between nominal and real cost of debt).

A robust financeability test is an essential cross check on the cost of equity as it is the only one explicitly linked to Ofwat's finance duty and the only one capable of directly reflecting the overall financial position of the regulated company under the proposed regulatory package.

<sup>59</sup> Considers the remaining equity return available after the returns required to manage the real/nominal mismatch (depending on the index-linked debt proportion assumed at each price control) have been deducted.

Ofwat's PR19 approach to risk, return and financeability have already resulted in a weakening of credit quality within the sector, as illustrated by the downgrade in the assessment of predictability and stability of the regime, tightening of credit ratio thresholds and prevalence of downgrades in credit rating and negative watches. For example:

- During the PR19 process Moody's downgraded its assessment of predictability and stability in the UK water regulatory regime from Aaa to Aa<sup>60</sup> and tightened the thresholds for key ratios such that companies now have to exhibit stronger ratios to maintain the same credit quality. This decision reflected an independent rating agency's view on a riskier regulatory regime and the prospect of substantial degradation in credit quality. Moody's noted the *"increasing risk of future political interference in the design of the regulatory framework"*.
- The publication of the PR19 FD was followed by a series of downgrades and placements on negative watch by at least one of the rating agencies<sup>61</sup>.

Moody's<sup>62</sup> recently assigned stable outlook to the sector given that the allowed returns are fixed until 2025 but noted that political and regulatory scrutiny of the sector remains high and that ongoing regulatory pressure and, in particular, the two opposing themes of long-term resilience investment needs and affordability constraints, continue to weigh against a positive outlook. This continued pressure may ultimately result in further downgrades and more challenging ratio guidance. In a report for AFW, Moody's noted that downward rating pressure could result from an *"increase in business risk for the sector as a result of legal and/or regulatory changes leading to a reduction in the stability and predictability of regulatory earnings, which are not offset by other credit strengthening measures"*<sup>63</sup>.

As noted by Moody's the sector continues to be exposed to risks of political and regulatory intervention which may ultimately result in further downgrades and more challenging ratio guidance.

There is a real risk that the changes to the notional capital structure could mean that the financeability test is not meaningful and in turn risk that price control calibration undermines the financial resilience of the sector.

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<sup>60</sup> Moody's (2018), Regulator's proposals undermine the stability and predictability of the regime, p.4

<sup>61</sup> For example, Moody's (2020), Reviews 12 UK Water Groups for Downgrade, S&P (2020), Four Water Companies Downgraded

<sup>62</sup> Moody's (2022), Regulated Water Utilities – UK, 2022 outlook stable as regulatory certainty balances environmental and social risks

<sup>63</sup> Moody's (2021), Affinity Water Limited - Update following affirmation of Baa1, stable outlook

## 2.3.2 Gearing

Ofwat's proposed framework for determining an appropriate notional structure is incomplete as it is missing a number of key criteria required to meet the high hurdle for departures from the notional structure endorsed by the CMA.

We disagree with Ofwat's proposals on gearing for the following key reasons. The reduction

(1) is not supported by robust justification that the current structure is sub-optimal – intervention could lead to market distortions and additional costs;

(2) lacks support from market evidence – average gearing is 70% whereas Ofwat is planning to rely on enterprise value gearing of 2 companies out of 17;

(3) contradicts CMA precedent – the CMA did not think there was evidence to justify an alternative level of gearing or that another level of notional gearing would better serve customers despite Ofwat's arguments to amend notional structure.

### **Q5.1. Do you agree with the framework we have set out for determining an appropriate notional structure and PR24 and beyond?**

Ofwat has proposed a framework for determining an appropriate notional structure, however, there are key criteria missing from this framework. The appropriate notional structure should

- Be supported by clear identification of market failure to avoid introduction of distortions and unintended consequences.
- Imply an internally consistent notional structure.
- Support stability and predictability of regulation, the notional structure should be stable over time with high hurdle for changes.
- Be realistic and based on market evidence if the financeability assessment is to be meaningful.
- Not assume reallocation of risks between capital providers without pricing those risks.

*The proposal is not supported by robust specification of a problem with the current notional structure*

It is unclear how Ofwat defines an efficient notional structure. Ofwat has not produced any evidence that current 60% gearing is an inefficient level – intervention could lead to market distortions and additional costs.

A reduction in notional gearing could introduce economic inefficiencies through (1) companies adopting sub-optimal capital structures where the notional capital structure does not reflect market evidence or evolution of observed sector financing over time, (2) impacts on the ratio of new to embedded debt, which could increase costs for customers, and (3) additional costs of equity issuance.

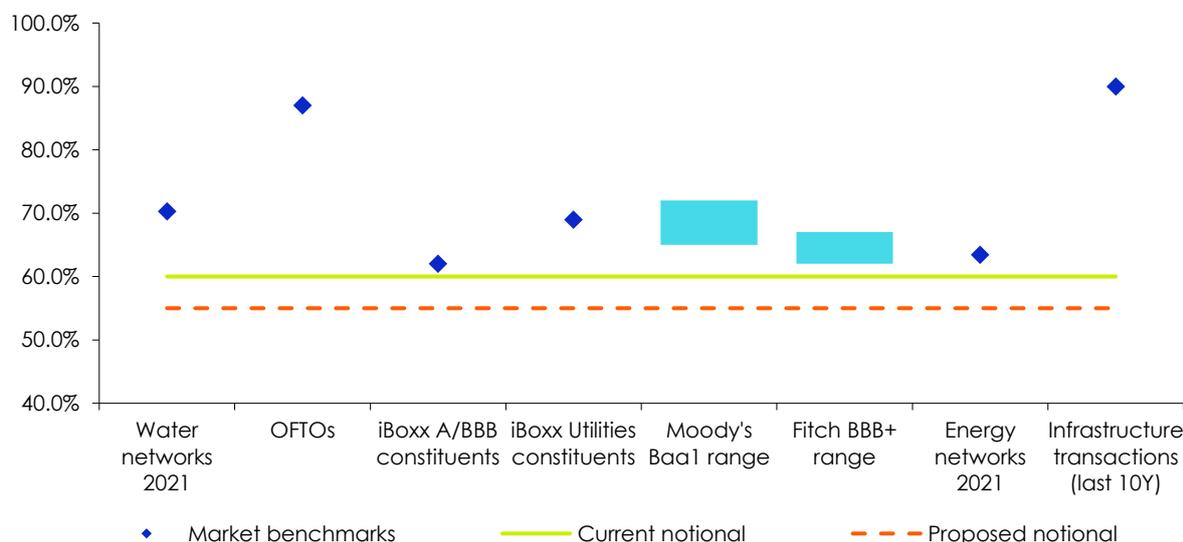
*The proposal is not consistent with market evidence represented by observed water company capital structures*

The notional capital structure should be based on market evidence for water companies as (1) water company financing is a proxy for efficiency, as per the balance sheet approach used to remunerate embedded debt costs (2) financeability tests will better capture implications of price control calibration for the financial resilience of the sector.

The proposed decrease in gearing is inconsistent with market evidence as the proposed change does not represent an approximation of the sector average position (c.70%) and there has not been a trend of decrease in gearing over time. We note that the CMA did not think there was evidence to justify an alternative level of gearing<sup>64</sup> or that another level of notional gearing would better serve customers<sup>65</sup>. Reduction in gearing can only be justified using market evidence EV gearing for listed companies while relevant evidence from the rest of the sector is dismissed.

The chart below illustrates that the proposed reduction in notional gearing is not supported by market evidence from either the water sector or wider set of benchmarks.

Figure 7 Market benchmarks for gearing



Notes: OFTO assets across all rounds. Book value gearing of index constituents. Energy gearing across the four energy sectors. Energy, renewable, water, waste, social and transport transactions. All values apart from rating ranges are medians.

<sup>64</sup> CMA (2021), PR19 FD, para. 9.530

<sup>65</sup> Ibid, para. 9.44

Sources: Monitoring financial resilience 2021 report, InfraNews, IJ Global, Ofgem, Refinitiv Eikon, Moody's (2018), Regulated electric and gas networks – UK, Risks are rising, but regulatory fundamentals still intact, Fitch (2021), Fitch Affirms United Utilities at 'BBB+'; Stable Outlook, Energy Network 2021 RFRs

Moreover, we disagree with the use of an enterprise value-based measure of gearing. As is widely acknowledged – including by the rating agencies<sup>66</sup> – RCV represents the invested capital on which the water utility will earn a return over time, so the relevant measure of leverage is Net Debt to RCV. Enterprise value assumes a MAR greater than 1, however, this is not appropriate for the notional company. As acknowledged by MW, “the idea of a ‘notional’ firm is one in which both the firm and the regulator are efficient; in the latter case, this means, *inter alia*, that the cost of capital is set correctly and all other regulatory allowances are achievable, so that the MAR is equal to 1”.<sup>67</sup> We note, the rating assessment by credit agencies uses RCV gearing unadjusted.

Under the correct measure of gearing, Ofwat's proposed value is below all the relevant evidence from the sector. We disagree with the inclusion of Hafren Dyfrwyd in the range of actual RCV gearing in the sector as the company is a clear outlier (with gearing c. 25% lower and ILD proportion 40% higher than the sector average). A more accurate representation of the actual gearing in the sector is 60 – 83%.

We also disagree that the lower actual gearing in the energy sector is relevant to the selection of notional gearing in water. Asset beta and gearing capacity are both linked to the underlying asset risk – the higher the business risk, the higher the asset beta and the lower the gearing capacity. The asset beta for GD&T2 set by Ofwat is higher than the PR19 asset beta and the CMA has recognised the higher systematic risk exposure of energy relative to water.<sup>68</sup> It is not appropriate to draw conclusions from the lower gearing level in energy without also considering the higher risk exposure and the provision of a higher asset beta which correspond to this sector.

The decrease is inconsistent with rating agency thresholds at the target Baa1 rating for the notional company. A gearing of 55% would be commensurate with a rating of A3 but the other metrics are not consistent with this rating and the rating of the sector overall is lower.

In addition, Ofwat references the Firmus appeal as precedent of the CMA expressly recognising that a regulator could in certain circumstances reasonably assume that a financeability constraint could be addressed by raising equity finance. We disagree with this interpretation of the Firmus decision, which reflected company specific factors that do not apply in the current context, *inter alia*, Firmus expected to receive additional cash flows from past under-recovery of revenues. Similarly, company-specific factors apply to NATS whose actual gearing was significantly lower than notional gearing, coupled with an asset light business model.

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<sup>66</sup> Moody's Rating Methodology, Regulated Water Utilities, June 2018

<sup>67</sup> Professor Robin Mason and Professor Stephen Wright (2021), A report on financial resilience, gearing and price controls, p. 8

<sup>68</sup> CMA (2021), GD&T2 FD, Volume 2A: Joined Grounds: Cost of equity, para. 5.362, 5.365

### *The proposal implies an internal inconsistency within the notional structure*

The proposal implies an internal inconsistency within the notional structure versus the rationale for the proposed increase in proportion of ILD (to match sector average position). At the same time the sector average is being relied upon to set the allowance for the cost of embedded debt implying that it represents an efficient position.

### *The proposal undermines the stability and predictability of the notional structure*

Ofwat has not set out evidence to support departures from the notional structure used by the CMA – which considered both market evidence and impact of de and re-levering equity betas – before coming to a view that the PR19 assumption was appropriate. The proposed departure lacks justification and so undermines the stability and predictability of the notional structure.

Regulatory policy can also have a destabilising effect on financeability metrics, for example, through the impact on rating agency methodologies and guidance. The 'Putting the Sector Back in Balance' consultation resulted in Moody's downgrading the credit quality of the sector, and recent rating agency commentary indicates that this could recur at PR24:

*"We could change the outlook to negative if it appears likely that the credit fundamentals for the sector will deteriorate, in the context of a weakening economic outlook or greater affordability constraints preventing companies from being able to fund necessary investments to improve or enhance performance. Ongoing regulatory pressure continues to weigh against a positive outlook."*<sup>69</sup>

We do not consider a further decline in the perceived predictability and stability of the regulatory regime to be in the customer interest.

### *The proposal does not provide sufficient buffer against shocks*

Ofwat argues that combined effects of a more uncertain future and revenue at risk from service performance may indicate a greater role for equity in order to provide a buffer against supply-side or demand-side shocks. However, this is based on the false premise that lower gearing *per se* would provide a greater buffer against shocks. Equity investment in the RCV is fully employed and is not available for management of risk.

Ofwat's approach does not change the overall risk exposure for the business but just reallocates it to equity whilst at the same time reducing equity returns further. Where financial headroom implied by a given level of returns is not adequate to support financial resilience or management of risks, this cannot be addressed by changing gearing, rather the efficient market outcome would be a higher required return on capital to reflect business risks. A different gearing assumption changes the implied mix of different forms of capital and reallocates risk between debt and equity providers but does not appropriately price the risks present.

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<sup>69</sup> Moody's (2022), Regulated Water Utilities – UK, 2022 outlook stable as regulatory certainty balances environmental and social risks

### 2.3.3 Index-linked debt

We do not support a change to the assumed proportion of index linked debt for the notional company as this change is not well-justified, results in a number of inconsistencies within the notional structure and exacerbates the RPI/CPIH/CPI basis risk.

#### **Q5.2. Do you agree the proportion of index-linked debt should be increased and what are your views on the composition of index-linked debt for PR24?**

Ofwat has not presented evidence to support a departure from the proportion of index-linked debt assumed by Ofwat and the CMA at PR19, particularly as there are companies in the sector (SVT, SWB, WSX) which have index-linked debt below the notional assumption, whereas a high proportion of ILD is primarily a feature of securitised structures.

The proposed change could undermine the predictability and stability of the notional financial structure assumed across successive price reviews.

As noted above, when considered collectively this proposal and the proposed decrease in gearing result in an internal inconsistency within the notional structure whereby one assumption is based on sector average and the other is not. In the sector, a high proportion of ILD correlates with high gearing, which further suggests combination of changes to gearing and ILD are inconsistent.

The sector average ILD position (50%) relies on inflation swaps (sector average ILD position is c.38% excluding swaps), which Ofwat is proposing not to price in its allowance for the cost of embedded debt.

Any increase in ILD proportion to more closely match the sector average would exacerbate the RPI/ CPIH mismatch for the notional company. It is also not consistent with the rationale for reducing gearing (above), which moves the notional company further away from the sector average position.

An increase in ILD to match the sector average (currently c.90% RPI-linked) would exacerbate the basis risk associated with *increasing* RPI linked liabilities the notional company at a time when the proportion of the RCV linked to RPI is *reducing* unless all ILD is assumed to be CPIH for the notional company and the costs of swapping RPI to CPIH are appropriately allowed.

The notional company would not issue *additional* RPI debt (as reflected on company balance sheets) at the point of transition to CPIH. At the same time, it is internally inconsistent to assume CPIH linked revenues and assets, but RPI linked liabilities.

### 2.3.4 Dividend yield

We do not agree that real RCV growth should be funded through a combination of debt and equity such that gearing of the notional company remains consistent with the notional gearing set at the start of the control period.

Corporate finance principles do not support the need for dividends to vary with capital growth and companies may prefer to vary gearing over time rather than adjust the dividend levels to keep gearing constant. We consider that financeability conclusions should not be sensitive to whether dividend yield or payout ratios are held constant.

Given the significant investment required in the sector, it is crucial for that the effective dividend assumption applied by Ofwat is consistent and commensurate with the payout ratios of market benchmarks.

It is also likely that the combination of (1) the stated expectation of injections of equity, combined with (2) increased risk exposures across the proposed price control methodology and the evolution of the operational environment, (3) proposals for a reduced allowed return that do not reflect these risks, and (4) reduced dividend assumptions, will make equity investors more reluctant to provide equity capital in the first place.

#### **Q7.2. Do you agree that real RCV growth should be funded through a combination of debt and equity such that gearing of the notional company remains consistent with the notional gearing set at the start of the control period?**

We do not agree that dividends should vary in order to maintain constant gearing.

Dividend yield is a key metric in assessing financeability from an equity perspective and is particularly important in the context of regulated utilities given that investments in utilities are often driven by the availability of dividends. Multiple studies show that investors in utilities expect to receive a proportion of return in the form of dividends.

Impson, in an empirical study of US firm share price responses to dividend announcements, says:

*“The evidence from this study also documents significantly stronger negative market responses to dividend-decrease announcements by public utilities compared with unregulated firms, even when yield, price-standardized dividend change firm size and Tobin's Q differences are considered. This evidence is consistent with all of the hypothesized effects: investor surprise at the revelation of insider expectations that the regulatory process may not yield a fair return, disappointment of a clientele who*

*prefer high yields, objection to overinvestment in unsupported projects and the possibility of a rise in agency costs.”<sup>70</sup>*

Ofwat has also recognised that given their status as income or dividend-paying stocks, utilities pay out a dividend yield that is at the top end of the range compared to other sectors.<sup>71</sup>

On this basis, we consider that it is crucial for equity financeability that the effective dividend assumption applied by Ofwat is consistent and commensurate with the payout ratios of market benchmarks. Where the effective payout ratio is below market benchmarks and does not reflect investors' expectation about stable yields, the expectation that equity investors will inject additional capital to reduce notional gearing is not sustainable over time and introduces a greater variance to market benchmarks.

While equity investors might tolerate some variations in distributions to equity, the pool of capital with ability and willingness to tolerate prolonged periods of low distributions is small. As noted by Ofwat, our shareholders have agreed to forego dividends from the appointed business over the period 2020-25, to enable all returns to be reinvested into the company to reduce gearing levels. As a result, further deviations from the market benchmarks for dividend payout ratios in AMP8 would be significantly detrimental to attractiveness of Affinity Water as an equity investment proposition.

It is also likely that the combination of (1) stated expectation of injections of equity, combined with (2) increased risk exposures across the proposed price control methodology and the evolution of the operational environment, (3) proposals for a reduced allowed return that do not reflect these risks, and (4) reduced dividend assumptions, will make equity investors more reluctant to provide equity capital in the first place.

In relation to the quote from RII02 CMA cited by Ofwat that *“falling equity returns would suggest a lower level of gearing and a lower dividend yield would be appropriate”*, we note that there is limited market evidence to support further reductions in cost of equity given the step change already implemented at PR19. This means that further reductions in the dividend yield lack justification.

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<sup>70</sup> Impson, M., Market Reaction to Dividend Decrease Announcements: Public Utilities vs. Unregulated Industrial Firms. *Journal of Financial Research*, Fall 1997.

<sup>71</sup> Ofwat (2018), 'Putting the sector back in balance: Consultation on proposals for PR19'. April, p25.

### 2.3.5 RCV indexation

We could support full transition to CPIH if (1) costs associated with hedging CPI/ CPIH are priced appropriately (2) it is possible to hedge CPIH exposure and mitigate RPI/ CPIH basis risk in practice given the illiquidity of CPIH markets (3) and if the transition is applied consistently to both asset and liability sides i.e. all debt is assumed to be CPI or CPIH linked under the new notional capital structure. Otherwise, our preference would be for a transition to CPIH at the natural rate to minimise basis risk where ILD for the notional company is assumed to comprise of both RPI- and CPI/ CPIH-linked debt.

#### **Q6. Do you agree with our proposed framework to evaluate the transition to CPIH indexation, and our proposal to transition fully at the start of PR24?**

We broadly agree with Ofwat's proposed framework but note that risk allocation should be included as an explicit criterion and that Ofwat's assessment appears to materially understate the implementation costs for a full transition.

We note that there are challenges associated with implementing a full transition to CPIH that need to be borne in mind when coming to a view as to whether full or phased transition is appropriate for PR24.

Under a full transition to CPIH, for internal consistency between asset and liability sides, all debt should be assumed to be CPIH, with appropriate pricing of hedging costs. However, this may not be practicable or may be cost prohibitive given the quantum of hedging required and the status of CPI and CPIH debt markets.

Index-linked debt in the sector is almost entirely RPI-linked (90% of the total index-linked debt) which creates a significant asset liability mismatch with the CPIH-linked revenues / RCV. As a result, companies will be exposed to RPI/ CPIH basis risk due to the specification of the regulatory policy which is outside their control.

In order to hedge this risk, companies would need to enter into swap agreements to match RPI debt payments to the CPIH linked revenue stream. To date companies have largely issued CPI-linked debt – given the lack of debt in the CPIH-linked market – meaning that even where companies hedge their RPI exposure, they are still exposed to basis risk between CPI and CPIH.

The relative lack of liquidity in the CPI and CPIH swap markets means the large transactions (c. £25bn of RPI-linked debt) required to hedge RPI exposure significantly exceed the market's normal transaction volumes. This could mean that either (a) it is not practicable to hedge the sector's current RPI exposure due to bank bandwidth and lack of appetite from institutional investors or (b) that the cost of hedging is substantive. All else being equal, this would create additional costs to customers to ensure NPV neutral transition.

These challenges imply that a more natural progression may be preferable. A more phased transition to CPIH is likely to avoid the asset liability mismatch whilst facilitating further transition ahead of RPI Reform in 2030. We note that even under phased transition, the PR19 assumption that all debt is RPI-linked would need to be updated to a hybrid RPI/ CPIH mix and the costs of hedging a proportion of RPI debt to CPI/ CPIH (consistent with the RPI/ CPI(H) split on the asset side). Detailed and robust analysis is required to quantify the required allowance for managing basis risk.

## 2.4 Risk Analysis

### 2.4.1 Risk allocation mechanisms

We broadly agree with the criteria proposed by Ofwat but consider that financeability implications and incentive properties warrant inclusion in the list as well.

We consider that many of the existing regulatory mechanisms should be retained as they have material impacts, improve the efficiency of risk allocation and support financeability such that the associated costs are smaller than the benefit they deliver.

Our view is that the GOSM should be removed given that (1) the CMA found that there was not enough evidence to support its implementation, (2) it clearly fails the cost-benefit criterion in the framework proposed by Ofwat, in addition to undermining financeability, as it may have a detrimental impact on resilience rather than improve it, (3) it introduces undue complexity given its redundancy.

#### **Q2.1 Do you agree with our principles for reviewing old and new reconciliation mechanisms and do you have suggestions for further reconciliation mechanisms which could be retired for PR24?**

We broadly agree with the criteria proposed by the Ofwat but consider that financeability implications and incentive properties warrant inclusion in the list as well.

Overall, we consider that many of the existing regulatory mechanisms should be retained as the associated costs are smaller than the benefit they deliver. This because (1) they improve the efficiency of risk allocation, (2) can have material impacts on financial risk exposure under different scenarios which are priced into the return requirements and (3) support financeability.

We agree with the proposal to retain interim determinations of k (IDOKs) – given that investors and rating agencies attach weight to the protections they are perceived to offer both companies and customers – and consider that further guidance would be helpful to clarify how this mechanism fits into the PR24 framework.

We note that if a full transition to CPIH is implemented, the RPI-CPIH wedge mechanism will be redundant. However, as discussed above full transition is only appropriate if costs associated with hedging CPI/ CPIH are priced appropriately and if the transition is applied consistently to both asset and liability sides, i.e., all debt were assumed to be CPI or CPIH linked. Otherwise, there would be inappropriate trade-off between complexity and exposure to basis risk, with no corresponding benefit to customers.

Where phased transition is retained, the wedge mechanism would be necessary and justified given the significant asset-liability mismatch that exists due to the high proportion of RPI linked debt in the sector (90% of the total index-linked debt is RPI-linked). We note that the recent volatility and increase in the value of the RPI-CPIH wedge illustrates that the mechanism is required to protect companies from the material impact of the risk that arises due to uncontrollable changes in the macroeconomic environment and regulatory policy.

Whether the Developer Services Revenue Adjustment Factor should be retained is contingent on the approach to regulating developer services. It would only be appropriate to remove the mechanism when water companies are no longer exposed to the uncontrollable risks that the mechanism was designed to mitigate.

Our view is that the GOSM should be removed given that (1) the CMA found that there was not enough evidence to support its implementation, (2) it clearly fails the cost-benefit criterion in the framework proposed by Ofwat, in addition to undermining financeability, as it may have a detrimental impact on resilience rather than improve it, and (3) it introduces undue complexity given its redundancy.

The GOSM does not deliver any benefits because:

- The underlying risks that the GOSM is intended to address have not been correctly diagnosed and evidenced meaning that the mechanism cannot be well-targeted. *"We have not seen evidence suggesting that material harm to customers is likely should further default events occur in the water sector<sup>72</sup>...our assessment found that there is weak evidence of a regulatory gap after considering the range of relevant regulatory tools... we have not been presented with evidence demonstrating that either the risks or consequences of these companies experiencing financial failure are likely to be large".<sup>73</sup>*
- The mechanism is not supported by finance theory and is inconsistent with Ofwat's own approach for estimating WACC. As discussed in section 2.1.3, it is uncontroversial that cost of equity increases with gearing under MM II and these increased per-unit returns earned by shareholders in a highly-g geared structure come with associated and offsetting risks to those returns.<sup>74</sup>

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<sup>72</sup> CMA (2021), PR19 FD, para. 9.1209

<sup>73</sup> CMA (2021), PR19 FD, para. 9.1223

<sup>74</sup> CMA (2021), PR19 FD, para. 9.1214

- The GOSM may result in a disbenefit – *“the design of the GOSM could exacerbate some of the risks, by taking money away from companies that Ofwat believes have poor financial resilience. If the payments reduce cashflow in times of distress and companies cannot raise additional equity, this approach could harm resilience and increase gearing”*.<sup>75</sup>

Lastly, we note that the move to adaptive planning will require greater flexibility in the price control to be effective and enable decisions to be made in a timely manner. Our view is that proportionate and targeted reopener or uncertainty mechanisms (for example, for Net Zero) will be required in due course to unlock funding at trigger points and enable companies to respond to changes in the levels of required investment. Mechanisms with an ex ante agreed threshold which can be triggered at the company's discretion would be best placed to address this need without becoming overly burdensome for companies. For example, we set out three potential thresholds in our response to Ofwat's discussion document on long term delivery strategies and common reference scenarios: (1) £100m totex, in line with the DPC threshold, (2) threshold based on cost:RCV ratio, or (3) threshold increase in RCV such that the scope was of a similar proportion for each company, regardless of company size.

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<sup>75</sup> CMA (2021), PR19 FD, para. 9.1206

## 2.4.2 Risk analysis methodology

Our view on Ofwat's proposals is as follows:

- An explicit link between risk analysis and calibration of the overall package (and most critically allowed returns) will be crucial to ensuring a balanced price control that does not jeopardise resilience (the risk cross-check)/
- We disagree with the proposed delineation between notional and company-specific risk and Ofwat's proposal to lead on producing notionalised company RoRE risk ranges – it is key for the calibration of a balance package that company specific risk analysis (for a notional company like Affinity Water) is given weight, as sector wide analysis may not capture' company specific factors and characteristics which create exposure
- Holistic analysis of the differences in risk exposure for the water and wastewater services is required to inform PR24 calibration – this is illustrated by the larger exposure and downside from ODI performance on water relative to wastewater.
- Forward-looking operational risks and evolving correlations between the drivers are difficult to capture using historical data as risks might not be 'mean-reverting'.
- In order to address this limitation, Ofwat should (1) capture where possible structural breaks in risk by using more recent performance data, (2) quantify and explicitly allow for step changes in risk and uncertainty and (3) take into account correlations amongst these risks.

We expand on each point below.

**Q2.2. Do you have any comments on our proposed approach to producing risk ranges, including but not limited to:**

**a. Notional risk ranges for the efficient notional company prepared by Ofwat; and**

**b. Company-specific risk ranges produced by companies.**

As discussed in section 2.1.4, risk analysis represents an important real world, corporate finance cross check on allowed returns in line with financeability requirements, consistent with the CMA's methodology for CMA21. Increasing risk exposure, Ofwat's concerns on financial resilience and proposals for further reductions in the cost of equity mean that an explicit link between risk analysis and calibration of the overall package (and most critically allowed returns) will be crucial to ensuring a balanced price control that does not jeopardise financial as well as operational resilience.

We are concerned that Ofwat's proposed approaches – for example, that risk analysis would not be used to sense check allowed returns – could result in a disconnect between risk analysis and price control calibration including downside returns, leaving companies exposed to excessive downside risks. Such an outcome could undermine financial resilience of the sector. Instead, risk analysis at PR24 should reflect the following key principles:

- Analysis of downside risk exposure should inform the overall calibration of the price control, including the cost of equity in line with Ofwat's finance duty – rather than a narrow focus on ODI calibration.
- Risk analysis must be capable of reflecting the characteristics of each company and captures a notional company like Affinity Water.
- Risk analysis should capture risk exposure on a forward-looking basis.
- Risk analysis should consider key relevant dimensions. For example, it will be critical to capture inter-dependencies between risks (e.g. cost-service relationship) as combination scenarios could highlight key operational challenges the plan is designed to mitigate as well as specification of severe but plausible scenarios for stress testing the plan on a notional and actual basis.
- Risk analysis should not be constrained to just PR24 but also consider long-term impacts in line with the long-term delivery scenarios.

We recognise that risk analysis is a complex exercise that requires detailed and constructive engagement between Ofwat and the sector to develop a tailored solution capable of capturing the evolving risks and providing Ofwat with a holistic view of the risks faced by the sector.

#### *Notional vs actual, company specific analysis*

We disagree with the proposed delineation between notional and company-specific risk – which introduces a distinction between notional and company specific – and disagree with Ofwat's proposal to lead on producing notionalised company RoRE risk ranges.

The sector wide analysis which Ofwat is proposing to develop may not capture company specific factors and characteristics. Companies have first-hand experience running the businesses and managing associated risks, and input (and indeed leadership) from companies will be crucial to developing a complete and accurate view of the risks facing the sector.

Clarity and guidance are needed on how notional and company-specific (but still notional) risk analysis would interact with each other quantitatively to help inform the final RoRE risk ranges in Ofwat's PR24 determinations.

Overall, our view is that companies are likely to be closer to and better understand operational risks (as they operate under and manage these risks) and therefore should lead on defining P10 and P90 to inform price control calibration.

Ofwat should instead provide more clarity and guidance on how notional and company-specific actual risk analysis would interact with each other quantitatively to help inform the final RoRE risk ranges in Ofwat's PR24 determinations. We agree that there is a benefit from improving comparability across companies on common parameters as long as this is accompanied by company specific analysis.

There is currently a key gap in terms of understanding the difference in the risks faced water and wastewater businesses and what this difference implies for required returns.

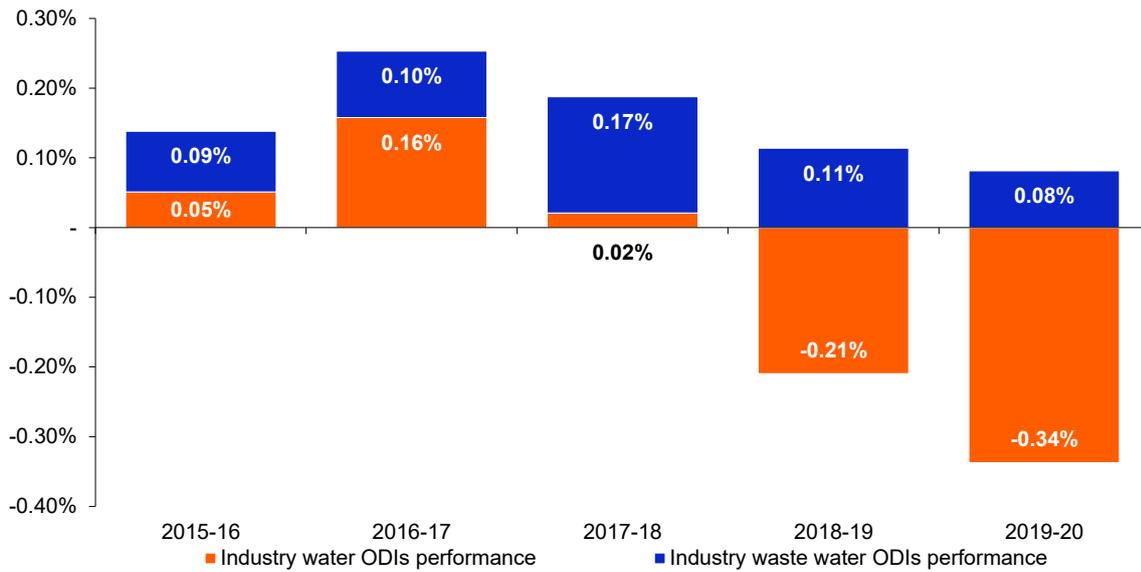
The chart below illustrates the differences in risk exposure on one of the core price control building blocks which drives risk exposure – ODI performance. It is clear from the chart that there is a material difference in companies' performance on water and wastewater ODIs, with water ODIs generally having a larger impact on RoRE and more frequently resulting in material underperformance, whereas the performance on wastewater is consistently positive.

Moreover, the trends for the water service (relative to wastewater) are common to WaSCs and WoCs. For WaSCs the exposure to the higher risk water business is diluted as they benefit from the portfolio effect of the water and wastewater services, but is not the case for WoCs.

Indeed, the CMA in its CMA21 redetermination assessed that it was also necessary that the company should be reasonably able to achieve targets on ODIs and achieve cost allowances on an expected basis to secure the base return. The expectation that the price control might be set, e.g. using upper quartile and incentive targets simultaneously in performance and cost efficiency while expecting higher than ever levels of investment (RCV growth) would imply that the average notional company would not be expected to achieve the base return. This would need to be captured in financeability assessments.

It is clear that a holistic analysis of the differences in risk exposure for water and wastewater business is required to inform PR24 calibration.

Figure 8 Industry ODI performance (RoRE%)



### Data challenges

Forward-looking operational risks and evolving correlations between the drivers – arising from changes in the operational environment or changes in the regulatory framework – are difficult to capture using historical data as risks might not be ‘mean-reverting’. This is particularly important as forward-looking risks and uncertainty implied by the determination might be increasing as recognised by Ofwat. Factors such as changes to ODIs and wider risk allocation framework as well as new developments in the sector, such as the DPC framework, will affect the overall risk exposure faced by companies relative to previous price controls and should be accounted for.

In order to address this limitation, Ofwat should (1) capture where possible structural breaks in risk by using more recent performance data, (2) quantify and explicitly allow for step changes in risk and (3) take into account correlations amongst these risks. We note that at CMA21 the CMA considered the impact of the new approach to PCs on expected performance.

Quantifying these step-changes and new risks would require holistic engagements amongst companies, customers and Ofwat, in forms of well-evidenced forecasts and case studies, to allow for a comprehensive assessment and detailed understanding of the impact of these changes on risk exposures in PR24.

At later stages of the price review process, the changes applied by Ofwat to AFW's business plan will have likely consequences for risk – in the short and long term, and to customers as well as the company. Company-specific analysis of these changes from Affinity Water will be key to understanding their impacts.

### 3 Appendix – mapping of consultation questions to the sections with relevant responses

Questions put forth by Ofwat in its consultation	Corresponding Section
Q2.1. Do you agree with our principles for reviewing old and new reconciliation mechanisms and do you have suggestions for further reconciliation mechanisms which could be retired for PR24?	Section 2.4.1
Q2.2. Do you have any comments on our proposed approach to producing risk ranges, including but not limited to: a. Notional risk ranges for the efficient notional company prepared by Ofwat; and b. Company-specific risk ranges produced by companies.	Section 2.4.2
Q3.1. How should we reflect the period affected by Covid-19 in our approach to estimating beta?	Section 2.1.3
Q3.2. Noting the impact of gearing on betas discussed in the report by Professors Mason and Wright, how should we adapt our approach to specifying beta for a company at the notional gearing?	Section 2.1.3
Q3.3. How should we convert RPI-linked yields into their CPIH-linked equivalents when deriving a RFR point estimate?	Section 2.1.1
Q4.1. Do you agree with our proposed role for benchmark bond indices in cross-checking a cost of debt allowance based on a balance sheet approach?	Section 2.2.1
Q4.2. Given the persistent issuance discount of water company bonds against the iBoxxx A/BBB index, how should this be reflected in our new debt allowance-setting?	Section 2.2.2
Q4.3 Do you agree with our proposal to restrict company specific adjustments to reflect only factors due to small size, and to remove the benefits test?	Section 2.2.3
Q5.1. Do you agree with the framework we have set out for determining an appropriate notional structure and PR24 and beyond?	Section 2.3.2
Q5.2. Do you agree the proportion of index-linked debt should be increased and what are your views on the composition of index-linked debt for PR24?	Section 2.3.3
Q6. Do you agree with our proposed framework to evaluate the transition to CPIH indexation, and our proposal to transition fully at the start of PR24?	Section 2.3.5
Q7.1. Do you agree that financeability is likely to be less constrained at PR24 than at PR19?	Section 2.3.1
Q7.2. Do you agree that real RCV growth should be funded through a combination of debt and equity such that gearing of the notional company remains consistent with the notional gearing set at the start of the control period?	Section 2.3.4