Anglian Water's response to Ofwat's discussion paper on Risk and Return

February 2022

Contents

1. Executive Summary 3
1.1 Cost of Equity 3
1.2 Cost of Debt 6
1.3 Risk analysis 8
1.4 Proposed changes to the notional capital structure 8
1.5 Interdependencies between risk & return and financial resilience 9
2. Balance of risk and return 12
2.1. Introduction 12
2.2. Questions 13
3. Allowed return on equity 18
3.1. Introduction 18
3.1.1. Cross checks for the Cost of Equity 23
3.1.2. Alternative cross checks 24
3.1.3. Selecting a point estimate and 'aiming up' 25
3.1.4. Total Market Return (TMR) 26
3.1.5. Risk Free Rate (RFR) 27
3.1.6. Cost of Equity indexation 30
3.2. Questions 30
4. Allowed return on debt 35
4.1. Cost of embedded debt 35
4.2. Questions 35
5. Notional Capital Structure and Financeability 38
5.1. Introduction 38
5.2. Questions 41

1. Executive Summary

We welcome the opportunity to respond to Ofwat's recent paper, PR24 and beyond: discussion paper on risk and return. This paper is one of several discussion papers and consultations which Ofwat has recently published setting out its emerging thinking for PR24 and we have sought in this and our other responses to consider the interaction between the various discussion papers and whether, in combination, they are likely to enable the sector to meet the long term needs of customers and the environment.

As expressed in our response to Ofwat's PR24 discussion paper on *Long term delivery strategies and common reference scenarios*, we wholeheartedly support shifting the price review framework to focus on the longer-term.

This shift is particularly important for PR24 where the number of strategic priority areas (including net zero, water resilience, environmental improvements among other priorities) presents a risk of a large accumulation of potential investments. These must be appropriately prioritised, whilst managing both shorter and longer term bill pressures in a way which ensures intergenerational equity and timely service improvements for customers and the environment, whilst maintaining a financially resilient sector attractive to long term inward investment at the scale required to meet future challenges.

The need for long term investment to meet these challenges is likely to create upward pressure on bills, so it will also be imperative to ensure a range of tools are in place, such as effective social tariffs to support those who are struggling to pay.

However, the proposed approaches set out in Ofwat's risk and return discussion paper would undermine this shift to an emphasis on the long-term if applied at PR24.

Specifically, we are concerned that a number of Ofwat's proposals on risk and return risk undermining the sector's financial resilience and its ability to attract new equity needed to support the scale of investment required, resulting in adverse consequences for customers and the environment. We also note that in setting out potential approaches, and in contrast to other areas of the regulatory framework (for example greater consideration of forward looking capital maintenance approaches as recommended by the CMA), Ofwat's positions on a number of risk and return matters fail to acknowledge the conclusions reached by the CMA in its recent PR19 redeterminations. Given that these matters were subject to extensive discussion and scrutiny less than 12 months ago we question whether this is an appropriate approach.

1.1 Cost of Equity

The proposals set out in the discussion paper imply significant reductions to the Cost of Equity. This is driven by the proposed approach in the discussion paper to rely on only a subset of available evidence and methodologies which – individually and in combination – would result in significant reductions to the Cost of Equity.

The table below outlines key departures from the methodology applied by the CMA in its PR19 redetermination.

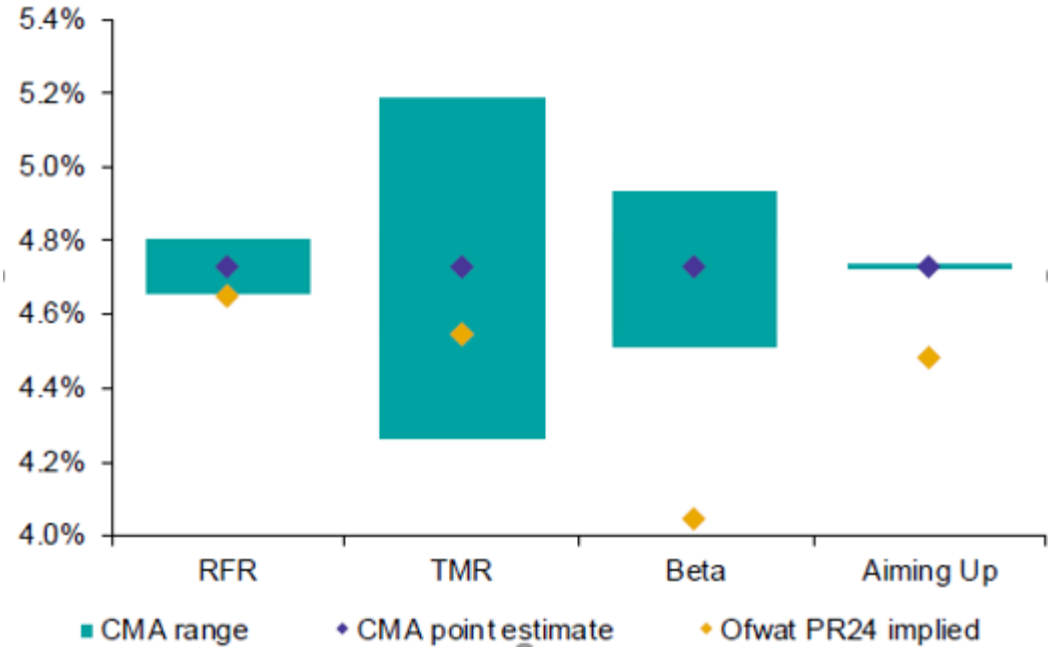
Table 1: Parameter comparison – Ofwat's PR24 Risk and Return approach compared to CMA redetermination and impact on cost of capital

Parameter	Ofwat's proposed approach	Consistent with CMA PR19?	Key differences to CMA PR19	Impact of change on WACC
RFR	ILG yields as primary input, SONIA rates as cross check	✖	No weight attached to AAA corporate index	⬇
TMR	Historical evidence (CPIH-deflated) as primary input, forward-looking evidence as cross check	✖	No weight to RPI-deflated historical data, point estimate to be informed by forward looking data	⬇
Beta	Daily, weekly, monthly betas over 2-10y period of UU and SVT, placing limited weight on PNN. Also considering relying directly on equity betas	✖	Direct reliance on equity betas. Treatment of Covid data unclear at this stage	⬇
Selecting a point estimate for CoE	Ofwat does not propose to aim up	✖	CMA aimed up to address parameter uncertainty, asymmetry & financeability	⬇
Cross checks	MAR premia to cross check and re-open Cost of Equity implied by CAPM	✖	CMA did not attach weight to MAR evidence and relied on financeability to cross check CoE	⬇
Embedded Debt	Primary input actual sector senior debt and currency derivatives, iBoxx index as cross check.	✖	Exclusion of sub debt and other derivative instruments	⬇
New Debt	iBoxx index as primary input, including outperformance adjustment	✖	Outperformance wedge adjustment	⬇

The CMA recently undertook extensive analysis and considered a large body of evidence to inform its PR19 redeterminations.[1] The chart below highlights that the methodology set out in the discussion paper would result in a downwards-biased point estimate for each parameter – significantly below the CMA's PR19 estimate and in some cases below the full range of evidence which CMA relied on in making their redeterminations.

[1] CMA PR19 FD

Chart 1: Cost of Equity implied by Ofwat's proposals vs CMA PR19 range and point estimate



The positions set out in the discussion paper appear to have been driven by attaching more weight to the outcomes of the CMA RIIO-2 energy appeals on Cost of Equity than to the sector-specific CMA PR19 redeterminations. This approach does not reflect the different legal frameworks applicable between energy appeals and water redeterminations, which has a material impact on both the process undertaken and the conclusions of the CMA RIIO-2 appeals in energy. The RIIO-2 appeals were carried out under a legal framework where the CMA conducts a merits review to assess whether the regulator is in error on specific grounds. By contrast in water the CMA undertakes a full redetermination under the *de novo* appeals regime, which means the CMA re-determines the Cost of Equity and so would likely reach different conclusions than at RIIO-2.

There is no market evidence which could support further reductions in the allowed Cost of Equity from CMA PR19 redeterminations. The proposed changes in methodology for each parameter could result in a material reduction in Cost of Equity and introduce a disconnect between Ofwat's concerns about financial resilience and the proposed changes to the Cost of Equity which, all else equal, will reduce returns and the projected equity buffer available to manage risk.

In consequence we would welcome further engagement with Ofwat to ensure that its Cost of Equity estimate based on the CAPM does not ignore relevant evidence which the CMA has relied on.

We do not agree with Ofwat's proposed reliance on MARs analysis as the sole cross check to CAPM-derived returns[2]. Firstly, 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.

[2] UKRN (2018) also cautions against the use of MAR data as a cross check *"Fundamentally, the analysis highlights the challenges that arise in seeking to use transaction premia evidence to make inferences about the cost of equity. Different drivers of outperformance are at play and multiple combinations of various drivers can explain observed premia. The role of expected outperformance means that the premia may result from unobserved investor assumptions that may be considered unrealistic or optimistic but are nevertheless the reality behind the premia. Evidence from Market-to-Asset ratios (MARs) for quoted pure-play utilities are generally not subject to the issues of control premium and winners curse, though there remains the challenge of understanding the unobserved investor assumptions."* https://www.ukrn.org.uk/wp-content/uploads/2018/06/2018-CoE-Study.pdf *(page 13)*

Secondly, Ofwat has not clearly articulated why alternative primary approaches to sense check the allowed returns have been discounted from being used, namely:

- financeability assessment and financial resilience testing
- analysis of risk exposure implied by the regulatory determination
- alternative asset pricing models
- hedge ratios

1.2 Cost of Debt

Cost of embedded debt

We welcome the consistency of the proposed approach to setting the cost of embedded debt with the PR19 CMA outcome, namely based on the average Cost of Debt in the sector (the balance sheet approach). However, it is unclear at this stage how Ofwat is planning to apply the balance sheet approach in practice.

Given that the cost of embedded debt allowance reflects an actual incurred cost that can be readily observed from past data as well as company reporting on their financial positions, we consider it appropriate to estimate this parameter through a transparent and pragmatic approach.[3] A number of other components of the allowed return are contingent on forward looking judgements and foecasts – backward looking analysis of embedded debt should be transparent and pragmatic in this context.

As a result additional clarity on the ex-ante economic principles that will be used to apply the balance sheet approach would help to achieve this outcome by reducing uncertainty around how the balance sheet approach will be applied in practice, including:

- which companies are included in the sector average;
- adjustments to include or exclude financial instruments; and
- which averaging method to apply.

We would welcome collaborative engagement between Ofwat and the sector at an early stage of this price review process to develop a clear and transparent ex-ante policy which will underpin the balance sheet approach used for PR24.

Treatment of swaps

We agree with Ofwat that relying on swap instruments to estimate the cost of embedded debt can appear to present additional complexities compared to for example the use of traditional bond financing. However, this does not mean that swaps increase risk for customers and we do not consider it appropriate to exclude all swaps on the basis of complexity alone. In fact we consider that – particularly based on some of Ofwat's early decisions on PR24 such as an accelerated transition to CPIH – they will be essential for management of basis risk.

We agree with Ofwat that where swaps have been restructured to reprofile cashflows over time that these should be excluded from the analysis as they could mask the underlying economic costs for AMP8. In this context, we welcome proposals to increase transparency around companies'

[3] "The costs of embedded debt reflect sunk costs which are largely now beyond the control of the companies today." Ibid, para. 9.543

treatment of swaps, which would enable Ofwat to understand which subcomponent of derivative instruments it might be appropriate to exclude.

Nevertheless, the vast majority of swaps in the sector are designed to achieve economic hedges which are of benefit to customers in that risk exposure is reduced and should therefore be included in the calculation of the sector average Cost of Debt. Anglian has used swaps in order to issue debt at an efficient cost and secure fixed rates. As a result, we consider that swaps should generally be included, as excluding them could present a misleading view of borrowing costs across the sector.

Exogenous cross check for cost of embedded debt

It is also critical for clear economic principles to be set out ex ante if Ofwat is to implement a cross check on debt costs. Clear principles to define the cross check upfront will avoid the cross check becoming endogenous to the balance sheet approach (where the cross check is designed ex post to 'match' the sector average). These principles will need to specify assumptions for tenor, debt composition, debt products and frequency of issuance.

Managing basis risk at PR24

The discussion paper signals that there will likely be an accelerated transition to CPIH. We consider that a natural rate of transition is in the best interests of customers. However, the market for CPI-linked debt is relatively illiquid, and CPI-linked debt would still leave companies with exposure to mismatches between CPI and CPIH. The market for CPIH-linked debt is even more illiquid, which means that in practice it will be challenging for companies to hedge basis risk exposure if full CPIH transition is implemented at PR24.

Historically, companies have issued RPI-linked debt because this represented an efficient method of hedging inflation risk implied by both revenues and assets. Ofwat has aknowledged this in past price reviews. For instance, at PR09, Ofwat noted that companies had '*achieved 'superior coverages' through issuing significant proportions of index-linked debt*' and that '*index-linked debt has a beneficial impact on the financial position of the companies because it has an interest cost that reflects a real rather than a nominal rate of interest*'.[4]

As a result, if the accelerated transition to CPIH is implemented at PR24, this could penalise companies for efficient financing choices on RPI-linked debt made in the past. In this context, we consider it appropriate for Ofwat to either (1) transition to CPIH at the natural rate to avoid creating basis risk exposure for companies; or (2) fund the transition of our RPI-linked debt book to CPIH through the cost of debt allowance, to mitigate the additional basis risk in AMP8 implied by the proposed change to RCV.

Risk allocation – cost of embedded debt

From an economic perspective, financing costs are the normal costs of the firm, which are fully priced in an efficient market equilibrium. When financing infrastructure, investors generally are unwilling and unable to take on material market risk of any significant deviations between revenues and costs of financing over time.

Water companies are exposed to a number of factors beyond their control including *inter alia t*he financing strategies adopted by other companies, significant market movements, different capex profiles and RCV growth across companies as well as application of regulatory policy. These factors

[4] Ofwat, PR09 Final Determination, p.135 and 139.

in combination have led to divergence in costs of debt across the sector. We would welcome engagement with Ofwat on how regulatory policy for embedded debt can strike the right balance between, on the one hand, pricing in costs as would be the case in efficient market outcomes, and, on the other hand, ensure appropriate incentives to avoid moral hazard of pass through costs.

Cost of new debt

We assume that the observed outperformance wedge on new debt is driven by the initial benchmarking Ofwat has carried out which we understand does not control for rating and tenor. We would expect that there would be no wedge where these factors are controlled for.

1.3 Risk analysis

We welcome the prominence assigned to risk analysis in the discussion paper, particularly in light of Ofwat's recent concerns around the financial resilience of the sector and the need to understand in the long term context the risks faced by companies, linked to the timing and scale of potential investment decisions.

As acknowledged by the CMA PR19 redeterminations, risk analysis represents an important cross check on allowed returns and price control calibration to support financeability and financial resilience.[5] The CMA implemented a direct link between risk analysis and the calibration of the price control (totex allowances, and incentive rates for totex and ODIs). For example, the CMA made changes to the cost assessment, totex sharing rates and ODIs, to rebalance risk and return and support financeability.

A disconnect between risk analysis and returns is liable to result in a price control where risk and return are out of balance, leaving companies exposed to excessive downside risks. We set out below key principles which we consider should underpin the use of risk analysis at PR24:

- Analysis of downside risk exposure should inform (1) calibration of the price control and regulatory mechanisms (2) the selection of a point estimate for the Cost of Equity
- Risk analysis relied on to calibrate incentives should reflect the characteristics of each company and a *notional company like Anglian Water*.
- The approach to risk should be tailored to capture forward-looking risk exposure and how risks might evolve. This is particularly important given the increased uncertainty and heightened risk implied by the common reference scenarios set out in Ofwat's Long Term Delivery Strategies paper.

1.4 Proposed changes to the notional capital structure

A robust financeability test is an essential cross check of price control calibration and a key protection for customers. Ofwat has proposed a reduction in notional gearing and an increase in the proportion of index linked debt.

First, we are not clear what the problem with the current notional capital structure is which either (1) might justify changes to the PR19 notional structure such as lower gearing; or (2) might indicate that a different notional capital structure is in the customer interest. Ofwat does not point to a

[5] CMA PR19 FD, 10.72 – 10.75

specific market failure or market distortion[6] that the change in notional gearing is required to remedy, as required by the principles of regulatory economics.

The discussion paper does not provide evidence to show that for example a 55% notional gearing level would be more optimal than the PR19 notional gearing of 60%, or that 60% gearing level creates excessive risk. However, a reduction in notional gearing could introduce economic inefficiencies through (1) companies adopting sub optimal capital structures (2) impacts on the ratio of new to embedded debt, which could increase costs for customers (3) additional costs of equity issuance. These costs could increase the cost of capital for customers without a corresponding benefit.

As there is no clear evidence that there is a problem with the current notional capital structure which could support the changes set out in the discussion paper, nor that a different formulation of the notional company is demonstrably in the customer interest, we do not support the proposed changes to notional gearing or index linked debt set out in the discussion paper.

Second, the proposed reduction in gearing is not supported by market evidence and hence does not reflect a competitive market outcome. The proposed changes introduce differences between the assumed notional financial structure on the one hand, and the actual financial structures adopted by water companies on the other hand.

Third, actual companies have actual embedded debt and hence their capital structures are largely already fixed, unless expensive embedded debt is repurchased. By reducing the notional gearing assumption to 55%, Ofwat would effectively disallow funding for nearly 10% of the embedded debt across the industry.

Fourth, the proposed changes are internally inconsistent – the *reduction* in gearing moves the notional company further away from sector average gearing, whilst the assumed increase in index linked debt is designed to match the sector average. A high proportion of index linked debt is also typically a feature of the *more highly geared*, securitised structures – but Ofwat is assuming *lower* gearing.

There is a real risk that the proposed changes to the notional capital structure set out in the discussion could undermine the financeability test as a meaningful cross check and in turn risk that price control calibration does not support credit quality or new equity investment. We do not see a corresponding customer benefit.

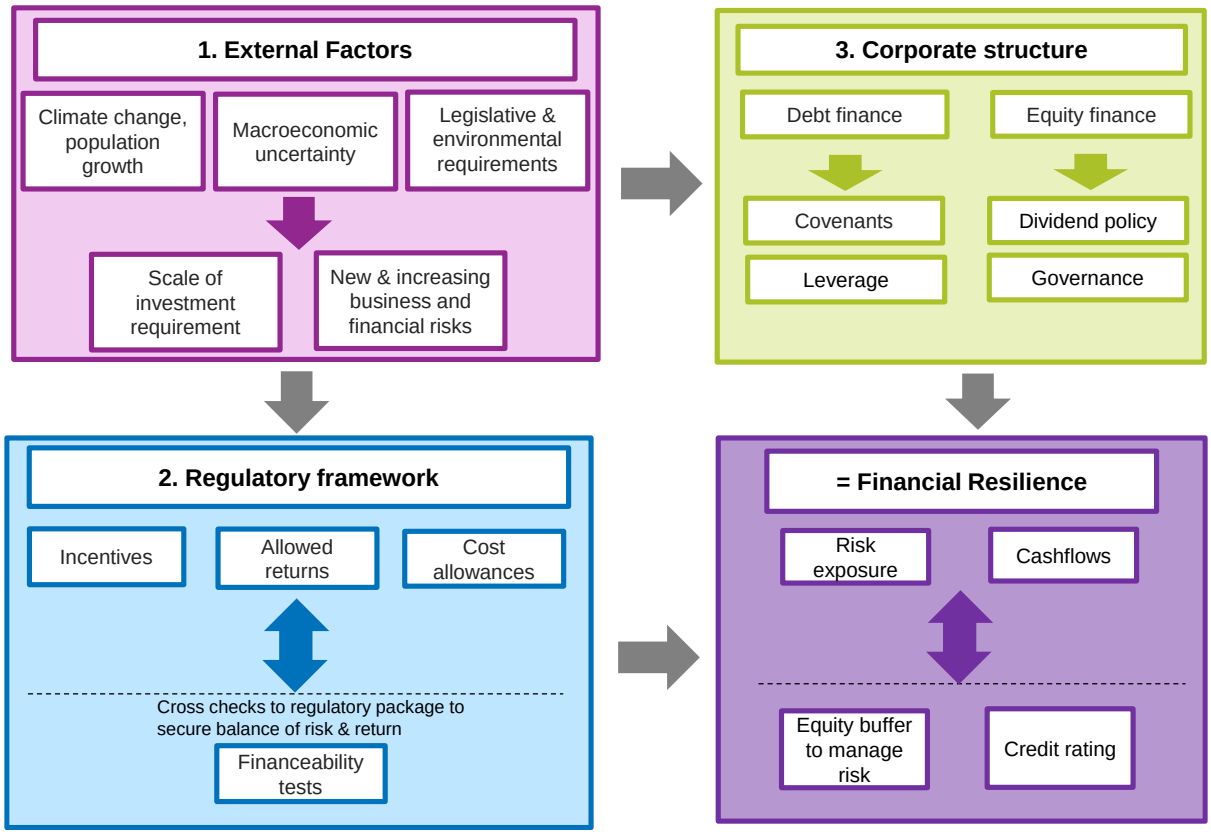
1.5 Interdependencies between risk & return and financial resilience

There are a number of core inter-dependencies between financial resilience and risk and return:

1. External factors which drive the scale and timing of investment, business and financial risk;
2. The regulatory framework which sets returns, allowances for efficient costs and customer service levels. Regulatory determinations also include financeability cross checks based on a notional capital structure; and
3. The corporate structure which companies have adopted.

[6] A conclusion that gearing of 60% might imply excessive risk is not consistent with Ofwat's previous incentive mechanism on financial resilience (the Gearing Outperformance Sharing Mechanism or GOSM, which was not applied by the CMA in its re-determination), which assumed that "'greater risk' only applied above 65% gearing.

Figure 1: An outline of the key drivers of financial resilience



We comment on each factor in turn:

First, we welcome the shift towards a longer-term regulatory focus set out in Ofwat's LTDS paper. We also welcome Ofwat's acknowledgment that uncertainties and risks for the sector, as well as the scale of enhancement expenditure anticipated, have increased. In this context external pressures (climate change, population growth, higher macroeconomic uncertainty, and legislative and environmental requirements) are likely to increase uncertainty around the timing and scale of investment (and the corresponding funding requirement) and to lead to a heightened risk exposure on the system.

Moreover, the quantum of capital investment that is likely to be required to support *inter alia* water resilience and management of climate change risks will in turn have implications for Anglian's overall debt and equity financing requirement and reinforces the importance of creating the right conditions to attract this new capital.

Second, Ofwat's proposals for risk and return all else equal imply a lower equity buffer, ex post discretion around funding of debt costs, and significant changes to the financeability assessment. As highlighted in our response to the financial resilience discussion paper, '*The equity return has decreased as a result of every price control since PR04, and the associated cash equity buffer has halved in just ten years between PR09 and PR19. Ofwat's proposed changes to risk and return suggest a lower base equity return in PR24, which will reduce the equity return buffer even further. At the same time, the risks have increased substantially, which means companies are less resilient given their smaller equity buffer*'[7]. Overall Ofwat has proposed an equity return which has resulted in

[7] Anglian Water (2022) response to 'PR24 and beyond: Financial resilience in the water sector: a discussion paper', p. 9.

material deterioration of the equity buffer available for management of risk in both percentage and absolute terms, with further reductions proposed in the PR24 discussion paper on risk and return, however this is not consistent with the exposure to risk in absolute terms which is increasing.

Third, companies' debt and equity financing strategies (such as covenanted structures and dividend policies) might also be restricted by Ofwat (for instance, through additional links between dividends and customer service levels, and monitoring of cashflows beyond the regulatory ringfence).

Taken together, Ofwat's PR24 proposals on risk, return and financeability imply an unsustainable environment for financial resilience and equity investment in the sector:

- Material reductions in equity return will reduce equity buffer available for management of risk in the context of heighted uncertainty and increasing risk exposure;
- This *reduction* in returns does not correspond to expected *increases* in business and financial risk and uncertainty. This mismatch between risk and return could undermine the ability to attract new equity investment ahead of significant anticipated enhancement expenditure;
- The expected reduction in the Cost of Debt at PR24 all else equal will improve ratios – however ratios based on a lower Cost of Debt will be more sensitive to downside scenarios;
- Changes to the notional financeability assessment could result in a lack of a meaningful cross check of allowed returns and overall price control calibration that is linked to the regulator's finance duty;
- Arbitrary changes to the notional structure could negatively affect the perceived predictability and stability of the sector; and
- The Long-Term Delivery Strategies approach introduces different financeability and risk challenges from the uncertainty around future states of the world that may not be accurately captured by market evidence. As such, a combination of pressures on returns, assumed reduction of gearing and mismatches between risk and return could constrain new equity investment for the strategic priority areas (net zero, water resilience, environmental improvements, among others) at a time when there is expected to be a need for significant new long term investment, as presaged in Ofwat's paper on Long Term Delivery Strategies.

Regulatory decisions are a key input to securing financial resilience and we would welcome engagement with Ofwat to consider how each of the three factors above support the financial resilience of the sector.

In summary, securing financeability and the overall balance of risk and return is a complex matter with many inputs which in themselves are complex (as highlighted in Figure 1 above). Assumptions which underpin almost all inputs will either impact on either risk allocation or equity buffer available to manage risk. As a result, whilst it is possible to consider inputs in isolation (for example to reflect on long term strategy separate from risk and return, cost of embedded from cost of equity, cost of capital from financial resilience) there are multiple interdependencies and there is an aggregation effect arising from the combination of all relevant inputs on both equity buffer and risk exposure. In consequence it is essential for Ofwat keep close observation on equity buffer as part of their PR24 thinking and the aggregation impact of isolated decisions against the acknowledged backdrop of increasing risk, uncertainty and potential investment requirements.

2. Balance of risk and return

2.1. Introduction

We welcome the prominence assigned to risk analysis in the discussion paper, particularly in light of Ofwat's recent concerns around the financial resilience of the sector, ahead of PR24. We would like to see robust risk analysis at PR24 that is relevant and tailored to the price review and business plan processes and allows for a careful assessment of companies' risk exposure.

Furthermore, we consider that risk analysis should be viewed in the context of providing a link between the levels of allowed returns and the incentive package on the one hand, and the risk exposure faced by companies, the equity buffer companies require to manage risk, and the overall financial resilience of the sector on the other hand.

As we state in our response to the discussion paper on Financial Resilience at PR24, '*one of Ofwat's primary duties is to ensure companies are able to finance their functions (in particular through securing reasonable returns on their capital). The cost of capital must be commensurate to the risk implied from Ofwat's calibration of the price control and sufficient to incentivise investors to finance investments. There is thus an intrinsic link between the allocation of risk between companies and customers, the returns allowed by Ofwat, and the financial resilience of companies. In fact, Ofwat has the most direct influence over the ability of companies to finance their functions by setting the allowed returns on capital. Therefore, companies and the regulator have joint responsibility to ensure long-term financial resilience.*'[8]

As shown in our response to the discussion paper on Financial Resilience at PR24, our equity buffer has reduced by approximately 50% since PR09. This is illustrated in the table below

Table 2 Notional equity buffer since PR04

	Calculation	Units	PR04	PR09	PR14	PR19
Notional gearing	*a*	%	55	57.5	62.5	60
Cost of equity (real RPI)	*b*	%	7.73	7.08	5.65	3.18
Anglian Water RCV	*c*	£m	4,995	6,571	7,650	7,943
Equity buffer	***d = (1-a) x b x c***	**£m**	**174**	**198**	**162**	**101**

Note: Anglian's RCV numbers are the average nominal outturn closing RCV for each price control. The PR19 value is based on 2020/21 only. See https://www.ofwat.gov.uk/publications/regulatory-capital-value-updates/.

Sources: Ofwat (2004), 'Future water and sewerage charges 2005-10'; Ofwat (2009), 'Future water and sewerage charges 2010-15: Final Determinations; Ofwat (2014), 'Setting price controls for 2015-20 – Final price control determination notice: policy chapter A7 – risk and reward', December, pp. 41-42; Ofwat (2019), 'PR19 final determination: Allowed return on capital technical appendix', December, pp. 4-5. Oxera calculations.

If the allowed cost of equity was to be reduced further at PR24, the equity buffer would likely see a nearly proportionate reduction, which would be inconsistent with the objective of promoting

[8] Anglian Water (2022) response to 'Financial Resilience in the water sector: a discussion paper', 31 February.

financial resilience in the water sector. In this context, it is particularly important to consider whether the Cost of Equity supports financeability by enabling companies to maintain a sufficient equity buffer to maintain financial resilience in an environment of increasing risk and uncertainty.

2.2. Questions

Question 2.1 - 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 welcome the proposal to reduce complexity and improve understanding of risk at PR24; and agree that some mechanisms adopted might introduce unnecessary complexity that is disproportionate to their impact.

However, as with other aspects of the regulatory framework, there should be clear principles for inclusion or removal of mechanisms within the risk allocation framework. For example, these could include:

- Creating right incentives
- Supporting robust risk allocation
- Delivering lower costs to customers over the long term; and
- Ensuring financeability and financial resilience.

We do not propose mechanisms which should be removed at this stage of the price control process.

We note that Ofwat is considering removal of the RPI / CPI wedge mechanism, and consider that this provides an interesting case study in the challenges implied by making changes to the current framework. Removal of this mechanism would reduce price control complexity (as theoretically would the removal of any reconciliation mechanism) but this would also create significant exposure to basis risk as there would be a mismatch between CPIH-linked assets and RPI-linked liabilities (as well as for any CPI linked debt that companies raised during AMP7 to manage the transition to CPIH from PR19 onwards). Managing this risk caused by removing this mechanism may not be achievable in practice and as such this would create additional risk and imply additional costs to customers – with no corresponding benefit.

We also note that a number of Ofwat's proposals in the wider suite of PR24 discussion documents, most notably the proposed changes to cost assessment for the Bioresources price control, would introduce significant additional complexity and risk.

We would welcome further engagement with Ofwat on our proposals for mechanisms below on (1) the rate of transition to CPIH (2) Ofwat's "minded-to" position on Cost of Equity indexation which could expose companies to material increases in market rates.

Question 2.2 - Do you have any comments on our proposed approach to producing risk ranges, including but not limited to:

(a)- Risk ranges for the efficient notional company prepared by Ofwat; and (b) Company-specific ranges produced by companies?

We welcome and support a robust risk analysis undertaking at PR24 that underpins the design of regulatory mechanisms, the determination of allowances and provides real insight into companies' risk exposure[9] and plans. Anglian interprets risk analysis as a real-world corporate finance cross check on calibration of returns.

Risk assessment for the water sector is a complex exercise and will require a tailored solution to be developed following a detailed and constructive engagement between Ofwat and the companies. For example, a key challenge will be to capture structural breaks in risk between regulatory determinations. 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'.

For instance, although Ofwat retained its broad approach to PCs and ODIs from PR14, it sought to make PCs more 'stretching' in PR19 requiring a higher level of outcomes relative to cost allowances, as well as introduced more scope for downside than upside performance.[10] We note that at PR19 the CMA considered the structural asymmetries in ODIs (including the balance of rewards vs penalties, as the levels of stretch assumed) to inform its conclusion that the risk exposure implied by Ofwat's determination was asymmetric. This informed its decision alongside other factors to aim up in selecting a point estimate on the cost of equity, as well as provide additional funding through totex.[11]

When assessing the level of 'stretch' for PR24, use of historical performance data for purposes of risk modelling may not capture the structural breaks, or the scale of change in risk exposure implied. Ofwat therefore needs to clarify how it intends to address and deal with structural breaks in risk. It will also be necessary to carefully consider whether the levels of performance achieved in the past are sustainable (i.e. whether the past level of service can be assumed to be the new baseline). We consider that achieving improvements in service levels inherently becomes more challenging over time and hence the risk – reward balance naturally becomes more negatively skewed over time, which will need to be captured in PR24 risk analysis.

The asymmetric calibration of the PR19 price control is corroborated by observed performance in year 1 of AMP7 where 80% of companies have not been able to achieve their base return.[12] This is also shown in figure 2[13] below and emphasises the importance of securing a balance between risk and return and addressing potential sources of asymmetry at source as part of price control calibration. The proposed PR24 approach to focus on common performance commitments with continued

[9] CEPA notes "it is possible that the current approach to risk measurement limits the ability to accurately assess impact, in particular around covariance and shared risk drivers…"Allocation of risk: Prepared for Ofwat, June 2021, p.9.

[10] Ofwat explained that by 'stretching', it meant stretching performance by reference to each company's business plan, see Ofwat (2018), Putting the sector in balance: position statement on PR19 business plans, p7

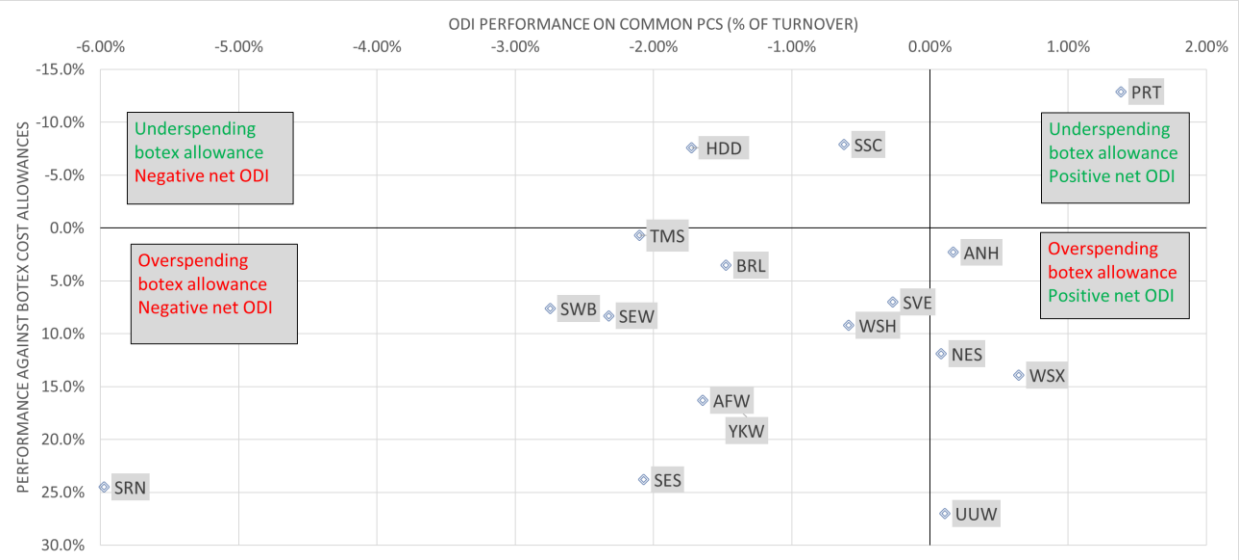
[11] CMA PR19 noted "Our assessment of the Disputing Companies' ability to finance the performance of their functions takes into account all the factors considered in these determinations, in particular the assessment of WACC, the wholesale totex allowances and RCV adjustments." Final report, 10.70

[12] "In FY 2020-21 the sector achieved, on average, a RoRE of 2.3%, well below the average allowed base return of 4%." Moody's Investor Service (2022), 10 January, p.9

[13] In this figure we have captured company performance against base cost allowances, including low pressure and sewer flooding (in line with the PR19 approach to botex plus modelling) but excluding growth related expenditure. This is plotted against common ODI performance, including C-MeX and D-MeX, as a % of turnover.

expectations of significant improvements in performance from base cost allowances will compound this asymmetry.

Figure 2: Common ODI and Base Cost Performance 2020-21



Source: Company APR data and Ofwat service delivery report underlying data (2021)

Another key issue – as highlighted by CEPA in its recent paper[14] – is the interconnectivity of risk i.e., the link between risk and the scope of one risk to magnify another and for risk in combination to be much greater than the individual risk is also difficult to capture through Monte Carlo simulation.

The objective to improve comparability across companies is welcome especially in areas with common parameters (which could include common methodology and use of historical data), however, company specific analysis around individual company business plans will also be critical to capture company specific risks and we would welcome engagement with Ofwat on how we approach this. This dual approach will help give risk analysis greater prominence at PR24. We also expect companies own risk analyses will be central to their wider scenario planning as part of the development of their long-term development strategies.

New developments in the sector, such as the DPC framework or expansion of wider markets and competition, are also likely to affect the overall risk exposure that companies face, particularly where Ofwat is requiring incumbent companies to take on some of the risk from the arrangement with no commensurate increase in return. It will be important to ensure that the impact of risk of these arrangements is appropriately reflected in the calibration of the regulatory package, particularly in relation to allowed returns.

The discussion paper sets out new approaches to risk analysis and its role in price control calibration at PR24, as follows:

- Risk analysis will not be used to sense check whether the allowed return is sufficient to manage risk;
- Risk analysis which Ofwat relies on for price control calibration will be based on sector wide, backwards-looking evidence rather than forward looking evidence based on company specific characteristics;

[14] ibid

- Similarly Ofwat intends to rely on its assessment on the attainable level of service and efficiency as a starting point for its analysis;
- Risk analysis will only capture in-period risk and would exclude key drivers of risk such as embedded debt.

We are concerned that these changes 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. It is also unclear how this approach is consistent with Ofwat's shift to focussing on the long-term, and expectations for forward looking adaptive plans and long term delivery strategies.

All else equal Ofwat's proposals could *lower* Cost of Equity, equity buffer and projected cashflows available to absorb and manage downside or asymmetric risk, and increase exposure to *higher* risk and uncertainty.

We set out below key principles which we consider should underpin use of risk analysis at PR24:

- Analysis of downside risk exposure should inform (1) calibration of the price control (2) the Cost of Equity in line with Ofwat's financeability duty
- Ofwat's methodology will need to ensure that (1) risk is allocated to the party best able to manage it (2) risk analysis reflects the characteristics of each company and captures a *notional company like Anglian Wate*r.
- The approach to risk analysis is tailored to capture forward-looking risk exposure and how risks might evolve.

Long term risks in different states of the world

Ofwat has also asked companies to adopt a long-term approach to planning, which requires companies to develop a strategy spanning across multiple future AMPs. In light of this, it would be appropriate for Ofwat to ensure that other elements of the price control, including the risk assessment and calibration of allowed returns are also framed to capture long term future implications.

Any of the four drivers of uncertainty underpinning the common reference scenarios expressed in Ofwat's Long Term Delivery Strategies paper, even in isolation, could drive substantial increase in enhancement expenditure (for instance, to increase operational resilience in light of climate change or enable a high growth projection) in certain states of the world.

To the extent that one or more of these drivers materialises, this effect could be compounded, potentially leading to a very large enhancement and future base maintenance requirements in future AMPs.

- Higher investment costs would need to be at least in part financed by debt, which could increase financing costs and reduce financial headroom, in turn putting pressure on credit ratios.
- Alternatively, there could be a material requirement for new equity and /or a reduction in projected distributions, which could in turn create financeability challenges for equity under different scenarios – particularly in combination with (1) reduced returns on equity implied by the risk and return discussion paper (2) an assumed reduction in notional gearing (which would rely on new equity) (3) distributions below market benchmarks.

Companies must be able to finance their investment programmes under any of the future common reference scenarios (or combinations of these scenarios). In other words, when setting allowed returns and the overall regulatory package, Ofwat must ensure that companies are financeable even under the high totex scenarios.

Moreover, it will be critical to extend the horizon for risk analysis beyond the boundary of the next price control period to consider the potential implications of different pathways and options for customer and company risk.

3. Allowed return on equity

3.1. Introduction

We disagree with Ofwat's proposals for estimating the Cost of Equity at PR24. The proposed methodology considers only a subset of available evidence and methodologies which the CMA has recently relied on for its PR19 determination. Indeed, the methodology set out in the discussion paper would result in a downwards-biased point estimate for each parameter – significantly below the CMA's PR19 estimate and in some cases below the full range of evidence which CMA relied on in making their redeterminations.

The positions set out in the discussion paper appear to have been driven by attaching more weight to the outcomes of the CMA RIIO-2 energy appeals CMA outcome on Cost of Equity than on the sector-specific CMA PR19 redeterminations. This approach fails to reflect that there is a different legal framework applicable between energy and water, which has a material impact on both the process undertaken and the conclusions of the CMA RIIO-2 appeals materially affected the CMA's conclusions in energy.

The RIIO-2 appeals were carried out under a legal framework where the CMA conducts a merits review to assess whether the regulator is in error on specific grounds. By contrast, in water, the CMA undertakes a full redetermination – under the *de novo* appeals regime, which means the CMA re-determines the Cost of Equity and so would likely reach different conclusions to those at RIIO-2.

In the RIIO-2 appeals, CMA has stated that '*the appeals do not entitle the CMA to proceed with a re-run of the original investigation or have a de novo re-hearing of all the evidence*'.[15] On the basis of the different standard of review in energy, CMA has not interfered with Ofgem's position '*where there is an element of regulatory judgement involved*'.[16]

Ofwat's proposals for PR24 are also inconsistent with Ofwat's concerns about water company financial resilience, as the proposed methodological changes to Cost of Equity will, all else equal, reduce returns and projected equity buffer available to manage risk.

The table below contrasts the approach and evidence which the CMA relied on for its PR19 re-determination with the approach and evidence which Ofwat proposes to rely on for PR24.

[15] CMA (2021), GD&T2 FD, Volume 1: Introductory Chapters, para. 3.88
[16] CMA (2021), GD&T2 FD, Volume 2A: Joined Grounds: Cost of Equity, para. 5.5

Table 3: Comparison between CMA PR19 FD approach and Ofwat's proposals for PR24

Parameter	PR24 Proposed Approach and Evidence	PR24 consistent with CMA PR19?	CMA PR19 Approach and evidence	Impact of methodology change on Allowed Returns
RFR *Use of AAA-rated corporate index*	Ofwat propose to rely on index-linked Gilts ('ILGs') as the sole proxy for RFR, dismissing the evidence from AAA-rated corporate debt bonds.	✗	Relied on the evidence from index-linked Gilts ('ILGs') and AAA rated corporate bonds to estimate RFR. It constructed a range for the RFR based on the yield on ILGs at the lower end and AAA rated corporate bonds at the upper end and selected the point estimate at the mid-point of this range. The CMA did not consider any adjustments to the AAA rate were required given its approach to selecting the point estimate.	↓
RFR *SONIA Cross check*	Propose to use SONIA rates as a cross check.	✗	Rejected the SONIA swap rate as a cross check on the basis that it is inherently a short-term rate and investors borrowing at SONIA would need to post collateral, making it unsuitable as a benchmark for long-run RFR	↓
RFR *Averaging*	Propose an averaging period of 'several' months	?	Adopted 6-month period for estimation	?
RFR *RPI-CPIH wedge*	The approach and evidence for the RPI-CPIH wedge is unclear at this stage given uncertainty around market pricing of the wedge ahead of RPI reform in 2030.	?	Used an estimate of the long-term RPI-CPIH wedge to translate the RPI-linked Gilt yields into CPIH	?

RFR *Forward rate adjustment*	Proposes to exclude forward rate adjustments.		Did not adjust for forward rates.	
TMR *Estimation framework*	Ofwat has proposed to use a range derived from both the historical approaches (ex-post and ex-ante) as a starting point, while considering forward-looking evidence to select a point estimate in that range.		Relied upon evidence from historical ex-post and the historical ex-ante approaches. The CMA concluded that limited weight should be placed 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.	
TMR *Inflation*	Ofwat has proposed to estimate a CPIH-based TMR directly using CPIH back series currently being developed by ONS.		Placed weight 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).	
TMR *Averaging*	Ofwat has not discussed its approach to averaging.		The CMA relied upon arithmetic means, namely both overlapping and non-overlapping estimators of returns over 10 and 20-year holding periods	
Beta *Comparators*	Ofwat intends to rely primarily on SVT and UUW data at this time.		The CMA utilised United Utilities (UUW) and Severn Trent (STV) as proxies for beta.	

Beta *Estimation window and frequency*	Ofwat has proposed to consider evidence from a range of estimation periods and frequencies to inform its best view of beta, although it is not clear to what extent Ofwat intends to follow the same approach as the CMA.		The CMA adopted an expansive approach estimating beta using a range of different time windows (2, 5, 10-year) and sampling frequencies (daily, weekly, monthly).	
Beta *Covid-affected data*	Ofwat has not signalled a proposed treatment of the data from the period affected by the pandemic and is seeking views on this.		The CMA set out to place equal weight on beta estimates from before and during the Covid-19 pandemic and applied an approach to testing outliers that further reduced the weight placed on Covid-affected data.	
Beta *De and re-levering*	Ofwat is considering alternative approaches to derive beta estimates for the notional company, including, setting the notional gearing equal to that of the listed comparators used for equity beta estimation. These changes would materially reduce the allowed return.		The CMA applied the Harris-Pringle approach 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. It explicitly considered and rejected a similar approach to that proposed in the Wright and Mason paper that Ofwat references from the NATS redetermination.	
Cross checks *Financeability*	Ofwat is clear that it does not see the financeability assessment as a test for whether an individual component of the price control package, such as the allowed return (or the components of it), is reasonable.		The CMA concluded that the overall determination, in the round, needs to include a consideration of whether the WACC assumptions chosen are consistent with the credit rating assumed throughout the determination. The CMA therefore applied financeability as a binding cross-check on the calibration of the price control.	

Cross checks *Alternatives*	Ofwat intends to make use of MARs analysis, noting that this approach is widely used by equity analysts to infer investor discount rates. Ofwat further notes that it intends to make use of broker forecasts/analyst reports as a cross check.		The CMA rejected the use of MAR as a cross check, noting the difficulty of correctly interpreting MAR data, particularly in determining the suitability of a relatively minor adjustment. The CMA further noted the challenge of interpreting broker forecasts of the cost of equity in relation to utility companies. It highlights that such estimates may be no more accurate than its own and can be tailored to the needs of specific investors.	
Aiming up	Ofwat intends to consider latest evidence on equity returns and wider implications of the PR24 package but has proposed not to 'aim up', as it considers: • that the PR24 package will not be designed in a way that requires an allowed return on equity above the midpoint; • asymmetry and investment incentives could be addressed at source; and • financeability is best addressed by measures which are present value neutral in terms of customer bills – unlike aiming up on the allowed return.		When setting the point estimate for the cost of equity, the CMA aimed up from the from the mid-point of the range by 25bp and emphasised the concept of aiming-up on the basis of: • the need to promote and retain investment; • asymmetry in the package (structural asymmetry commensurate with 0.1%-to 0.2% RORE resulting from the calibration of the performance package); • parameter uncertainty in the cost of equity; and • ensuring financeability	

3.1.1. Cross checks for the Cost of Equity

MAR as a cross check

Ofwat has indicated that it is likely to use MAR evidence – based on evidence from listed companies and from recent transactions – to inform its selection of a point estimate for the Cost of Equity.

We do not agree with Ofwat's proposed cross check. MAR evidence is an unreliable benchmark, as a number of subjective assumptions are required to decompose a MAR before it can be a useful input into the calibration of allowed returns.

Market prices observed for listed companies and recent transactions are affected by a large number of inputs, which need to be estimated with an increasing degree of uncertainty in future periods. For instance, investors need to form a view on the evolution of the regulatory regime and potential business performance, and the profile of future investment requirements, among others. This means that attributing the existence of a premium to investors' assumed outperformance on Cost of Equity is inherently difficult.

The CMA did not give MAR analysis weight in its PR19 redeterminations, noting that it remained "***cautious about using market prices to determine the point estimate for the Cost of Equity or overall cost of capital***".[17]

We do not consider Ofwat's adjustment to the listed multiple to resolve the problems with MAR analysis. A similar analysis was carried out by Europe Economics as part of the PR19 CMA appeals and estimated a premium of 2% for United Utilities compared to 18% for Severn Trent.[18] CMA considered the divergence in results as a good illustration of the problems with this analysis, concluding 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***".[19]

A similar logic can be applied to the divergence between MARs observed in recent transactions in the water sector (1.4x for Bristol Water and <c1-1.1x[20] for Southern Water).

Due to the issues outlined above, we consider that MAR evidence is not a reliable cross check to the cost of equity.

[17] CMA (2021), PR19 FD, para. 9.1362
[18] Ibid, para. 9.1360
[19] Ibid, para. 9.1360
[20] Actual MAR values for Southern Water transaction have not been published so it could be significantly lower than 1-1.1 range reported in the press.

3.1.2. Alternative cross checks

We suggest that Ofwat places more weight on alternative and more robust cross checks such as financeability assessment, risk analysis, hedge ratios (such as Oxera's ARP-DRP framework),[21] and alternative asset pricing models.

Financeability assessment

The finaceability assessment, which is explicitly linked to Ofwat's financeability duty, should be viewed as the primary cross check to the allowed Cost of Equity. This is because the financeability test is designed to capture the overall financial position of the company under the proposed regulatory package. On the other hand, market based cross checks reflect indirect evidence and are therefore less reliable.

This approach is consistent with the one adopted by the CMA for the PR19 determination, where CMA concluded that the financeability test is a relevant cross-check for the allowed Cost of Equity and rejected Ofwat's submission '*that the need to maintain credit metrics can never be part of the WACC assessment*',[22] noting that '*the overall determination, in the round, needs to include a consideration of whether the WACC assumptions chosen are consistent with the credit rating assumed throughout the determination*'.[23]

As outlined in our response to Ofwat's discussion paper on Financial Resilience at PR24, it is the responsibility of both companies and Ofwat to ensure credit ratings do not fall below investment grade. Employing the financeability assessment as a primary cross check would promote consistency between the calibration of allowed returns and achieving the objective of financial resilience. This is because, the financeability test draws a direct link between allowed returns and projected cashflows, credit ratios and equity buffer available for risk management.

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 reflects 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.[24]

Risk analysis

The discussion paper proposes to use RoRE risk ranges as a cross check for the incentive package, but not for allowed returns. This position is inconsistent with the approach used by the CMA at the PR19 redeterminations, where CMA drew a clear link between asymmetric RoRE risk implied by ODIs and allowed returns, noting that '*for the expected return to be consistent with the cost of capital, we would expect a small premium to be required*'[25].

As outlined in the section on the Balance of Risk and Return, risk analysis as a cross check to allowed returns would also promote consistency between the calibration of allowed returns and achieving the objective of financial resilience. Similarly to the financeability assessment, using risk analysis as a cross check is consistent with the notion that there is an intrinsic link between the allocation of risk between companies and customers, the returns allowed by Ofwat, and the financial resilience of companies.

[21] Ibid, para. 9.1384
[22] Ibid, para. 9.1378
[23] Ibid, para. 9.1378
[24] CMA (2021), PR19 FD, para. 10.72
[25] Ibid, para. 9.1340

Hedge ratios and the ARP-DRP framework

A further cross check that was considered by the CMA during the PR19 appeals was the use of hedge ratios, and in particular the ARP-DRP framework developed by Oxera.

This cross check focuses on ensuring that the gap between the Cost of Equity and the Cost of Debt is sufficiently high. In the PR19 redetermination, CMA described the analysis as '*based on what seems like a logical principle: that for a regulated business with capped returns, the cost of equity used in the WACC should still be assumed to remain sufficiently above the current cost of debt to promote equity investment in the sector.*'[26] However, CMA did not adjust its estimate of the WACC in relation to the ARP-DRP analysis, as it did not agree with the specific assumptions used in the calculation of the ARP.[27]

Given the theoretical merits of the framework, we consider that it would be useful to investigate the usefulness of this cross check for calibrating the allowed cost of equity at PR24.

Alternative asset pricing moels (such as multi-factor models)

Multi-factor models have been developed as an alternative to the CAPM. The first version was the three-factor model developed by Fama and French in 1992, which included variables for Size and Value in order to increase the explanatory power of the pricing model.[28]

In 2015, Fama and French expanded the model to include two additional variables, namely profitability and investment patterns, to further improve the model's explanatory power.[29]

We consider that these models provide a useful cross check to the Cost of Equity implied by the CAPM, as they are widely accepted as having greater explanatory.

3.1.3. Selecting a point estimate and 'aiming up'

Ofwat proposed that the PR24 package will not be designed in a way that requires an allowed return on equity above the midpoint.

We set out below, in line with position adopted by the CMA at PR19, factors which could justify the use of the 'aiming up' to select a point estimate for the Cost of Equity, including:[30]

- Balance of impact from risk of underinvestment where the Cost of Equity is set too low, with risk of overcharging customers where it is set too high;
- Scale of possible changes in forward-looking risk exposure;
- Degree of exposure to asymmetric risk 'in the round'; and
- Supporting financeability.

The Cost of Equity is not directly observable, and the parameters of the CAPM are subject to subjective estimation assumptions and statistical uncertainty. Due to the high level of uncertainty, regulators need to balance the potential welfare loss associated with underestimating allowed returns against welfare loss from overestimation.

If the return allowance is set too high, customer bills increase beyond the socially optimal level. On the other hand, if the return allowance is too low, there is a risk of underinvestment relative to the

[26] Ibid, para 9.1386
[27] Ibid, para 9.1386
[28] Eugene, F. and French, K., 1992. The cross-section of expected stock returns. Journal of Finance, 47(2), pp.427-465.
[29] Fama, E.F. and French, K.R., 2015. A five-factor asset pricing model. Journal of financial economics, 116(1), pp.1-22.
[30] CMA (2021), PR19 FD, para. 9.1388-9.1401

socially optimal level, with customers ultimately being negatively affected by inadequate infrastructure.

In light of the above, aiming above the midpoint of the CAPM-implied Cost of Equity is consistent with an objective of minimising the expected consumer welfare loss that can result from underinvestment.

We note that the long-term investment requirements of the water sector require sufficient financial incentives for companies to commit capital. A cost of capital that is too low may be beneficial to customers by reducing bills in the short-term term. However, companies may be discouraged from identifying and proposing otherwise desirable investment projects in the future. If overall water asset health deteriorates as a result, this may lead to higher required investment and higher customer bills in the long-term. In this way, the cost of capital allowed by Ofwat in the short-term can have a direct impact on the level of future investment and long-term bill profile of customers.

The exact amount by which the Cost of Equity allowance should exceed the mid-point implied by the CAPM is dependent on the overall regulatory package (for instance, on the level of RoRE asymmetry implied by ODIs). In general, we welcome Ofwat's intention to address this reason for aiming up 'at source' (i.e. by setting a balanced package of incentives), although note that we do not yet have a clear view on calibration of (for example) incentives at PR24. Therefore, at this stage, it is not yet possible to determine the size of the aiming up adjustment, or to conclude that such an adjustment will not be required at PR24.

Nonetheless, we consider that at least some of the factors which the CMA relied on for aiming up at the PR19 redetermination are likely to continue to apply at PR24. In particular, the risk of underinvestment in the sector at a time of high uncertainty around future investment requirements is likely to remain a concern. In particular we consider that only way to address the asymmetric consequences of the inherent uncertainty in setting the Cost of Equity is through an adjustment to aim up 'at source' (i.e. through selection of the point estimate on the Cost of Equity), in line with Ofwat's preferred treatment of asymmetry.

3.1.4. Total Market Return (TMR)

Methodology for estimating the TMR

Ofwat proposed to estimate the TMR range using historical ex post and ex ante approaches as well as forward-looking approaches. We agree with Ofwat's proposal to rely on historical approaches, but not with the proposal to rely on forward-looking evidence to inform the choice of the point estimate.

Forward-looking evidence are generally considered to be the least robust of the estimation methods. This is because the outcome of forward-looking models, such as the DGM, depend on a number of subjective assumptions.

In its PR19 redeterminations, the CMA placed most weight on historical evidence, and did not rely on forward-looking evidence to select the mid-point of the range, due to '*reservations about the robustness of the forward-looking evidence*' and a '*preference to maintain our assumption of a constant TMR over time*'.[31] CMA concluded that '*the historic ex-ante evidence, which seeks to control*

[31] Ibid, para 9.394

for particularly good/bad luck which one may not expect to be repeated, provides a useful cross-check'.[32]

In light of the issues associated with forward-looking approaches, we consider that historical ex post approaches should be used to select the point estimate for the TMR.

Methodology for deflating the TMR

We do not agree with Ofwat's proposal to deflate historical returns directly through CPIH, as both RPI and CPIH series have relevant strengths and weaknesses in the context of estimating real historic returns, which means that the full dismissal of RPI series is inappropriate.

The actual values of the RPI series can be observed over a longer proportion of the historical window. However, the RPI the formula has changed over time and its discontinuation makes it less useful as a measure of inflation in the future.

On the other hand, CPIH is a more reliable measure of inflation. However, a larger portion of the historical CPIH (and CPI) series is based on 'backcast' data rather than actual observed values. As a result, the accuracy and robustness of the CPIH series cannot be ascertained.

Given that both RPI and CPIH series have relevant strengths and weaknesses in the context of estimating real historic returns, we consider that the methodology for deflating the TMR should consider both series. This would be consistent with the methodology adopted by the CMA during the PR19 determination.[33]

Methodology for averaging

In its PR19 redetermination, the CMA concluded that the arithmetic mean and the range of estimators would result in the same mid-point esimate of the TMR, with the latter approach merely resulting in a wider range. Therefore, CMA ultimately relied directly on the arithmetic average due to its higher simplicity and transparency.[34]

Furthermore, the CMA considered both overlapping and non-overlapping estimators of returns over 10 and 20-year holding periods. This was done to reflect the long holding periods of investors in UK water companies and to ensure consistency across other elements of the cost of capital. The CMA assigned weight to all estimators to avoid 'cherry-picking' the data.[35]

We consider that the approach adopted by the CMA at PR19 remains appropriate for estimating the TMR at PR24.

3.1.5. Risk Free Rate (RFR)

Ofwat has proposed to rely on government bond yields and not on AAA bonds in light of the CMA RIIO2 decision. Ofwat has also proposed to the use of SONIA rates as a cross check with an averaging period of several months as likely appropriate.

Exclusion of AAA bonds

We do not agree with Ofwat's proposed approach to disregard AAA bonds, as theoretical and

[32] Ibid, para 9.394
[33] Ibid, para 9.397
[34] Ibid, para 9.393-9.397
[35] Ibid, para 9.393-9.397

empirical evidence indicates that ILGs alone understate the RFR.[36] ILG rates are not accessible as lending and borrowing rates to all market participants, which violates the CAPM's requirements. This was acknowledged by the CMA '*ILGs do not completely meet our requirement of the RFR as applied in the CAPM, that all market participants can borrow at the same rate. UK government can borrow at rates considerably lower than those that can be achieved by even higher-rated non-government issuers*.'[37]

In relation to Ofwat's argument that AAA debt is not risk free, we note that CMA at PR19 acknowledged additional default, complexity, liquidity and inflation risks present in AAA index. However, CMA concluded that the risk of loss resulting from default on these bonds is exceptionally low, and evidence from actual performance suggests that the expected loss is significantly lower than the debt premium. CMA at PR19 also did not consider that these factors would require an explicit adjustment, as ultimately the RFR estimate is the midpoint of the ILG and AAA evidence, so adjusting the upper end of the range below the 100th percentile '*would logically risk a double-count of the required adjustmen*t'.[38]

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 for certain academic papers and can also be easily observed by comparing the yields on AAA indices to those on ILGs. We welcome Ofwat's intention to develop estimates for the convenience yield.

The recognition of the existence of the convenience yield in the UK regulatory context is not a novel approach. In fact, the CC referred to the convenience yield as early as the 2008 during the Stansted Airport inquiry, noting that it, at least partially, explained the differential between the return on gilts and the return on other financial assets. The CC attributed at least 30bps to the liquidity premium component of the convenience yield. When deriving its point estimate – based on ILGs – the CC did not make an explicit adjustment for the convenience yield, however, this estimate was at least 30bps higher than the 3, 6 and 12-month averages of the Gilt yields included by the CC in the evidence base[39].

The convenience yield could be measured, for instance, through the negative correlation between UK gilts and equity returns or using the adjustments made by equity analysts covering UK regulated utilities for the convenience premium. In relation to this, we note that German[40] and Italian[41] utility regulators have acknowledged the existence of a convenience yield and adjusted the RFR accordingly (e.g. ARERA, the Italian regulatory, applied a 1% uplift to the RFR to reflect the convenience premium).

Cross checks based on SONIA swaps

We do not agree with Ofwat's proposal to use SONIA swaps as a cross check to the RFR. The SONIA swap represents an overnight rate which needs to be converted in a tenor of 20Y before it can be considered an appropriate cross check to the RFR. This adjustment in tenor is likely to create

[36] Berk, J and DeMarzo, P (2014), Optimal Portfolio Choice and the Capital Asset Pricing Model, Chapter 11 Appendix, pp398-399
[37] Ibid, para 9.104
[38] Ibid, para. 9.239
[39] CC (2008), Stansted Airport Ltd Q5 price control review, Appendix L
[40] BK4-21-055 Beschluss (bundesnetzagentur.de) p.38
[41] 614-21alla.pdf (arera.it), p.9

distortions. For example, there has typically been limited liquidity in OIS contracts beyond the 5Y horizon, which makes swap rates unreliable for a longer horizon of 20Y.

The BoE has stated that there have been improvements in the liquidity of OIS contracts beyond 5Y, and BoE intends to publish OIS curves out to longer maturities as soon as operationally possible. However, it is not clear whether the distortions have reduced sufficiently – the CMA referred to these distortions as potential weaknesses in SONIA swaps at RIIO2 CMA.

SONIA swap rates over long maturities are also 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[42], 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.[43] These factors result in a widely acknowledged negative swap spread for long maturity instruments.

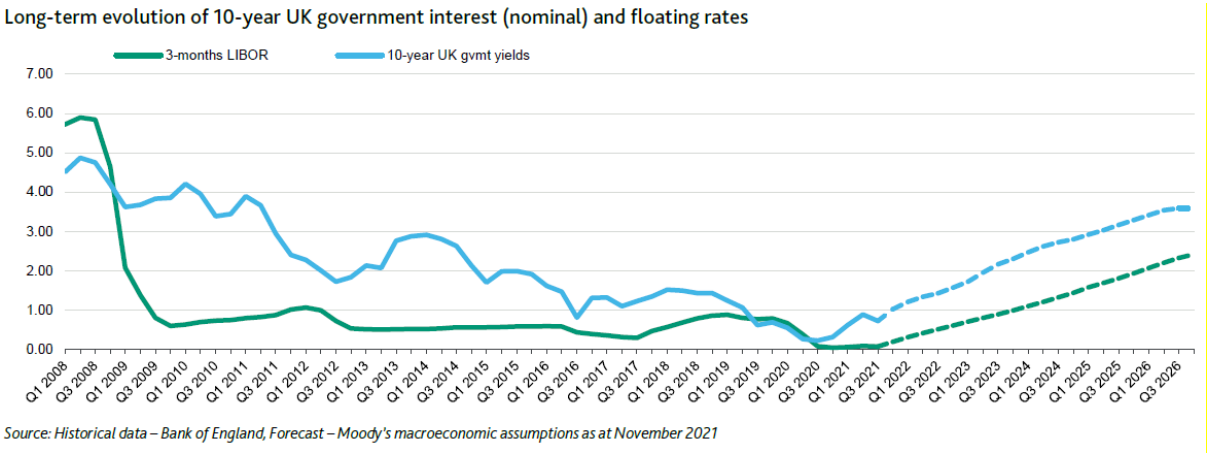
Forward rate adjustment

We consider that the approach to forward rate adjustment and averaging is closely linked to (1) the expected evolution of the macroeconomic environment and (2) the decision on Cost of Equity indexation.

Forward rates provide a valuable source of evidence which embeds the expectations of a wide investor base.

Heightened macroeconomic uncertainty, high inflation, the recent increase in the BoE base rate and the expectation of the market for further increases during 2022 all suggest a higher likelihood that rates will increase for PR24 relative to other price controls. For example, Moody's forecast[44] indicates a significant rise in 10-year UK government yields, as well as floating rates, to levels last seen before the financial crisis.

Figure 3: Long term evolution of 10-year government interest (nominal) floating rates



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

[42] Modeling and Forecasting Interest Rate Swap Spreads (moodysanalytics.com)
[43] Negative Swap Spreads (newyorkfed.org)
[44] Moody's (2022), Regulated Water Utilities – UK, 2022 outlook stable as regulatory certainty balances environmental and social risks

This means that current spot rates are unlikely to be more accurate predictor of future spot rates than the forward curve. In the absence of RFR indexation, a forward rate adjustment is appropriate to avoid underestimation in the RFR.

3.1.6. Cost of Equity indexation

Overall we consider that there is a strong case for either (1) application of a forward rate adjustment; or (2) Cost of Equity indexation.

Absent both RfR indexation and forward rate adjustment in the context of increasing rates, companies are exposed to losses arising from under-estimation of required returns in a rising interest rate environment:

First, given the market consensus that rates will increase materially during the next five years, as well as uncertainty round the movements in the RPI-CPIH wedge ahead of RPI Reform in 2030, the improvement in forecasting accuracy relative to a fixed allowance is likely to be material and should not be dismissed.

Second, RFR indexation is likely to have a non-trivial impact on financeability by reducing the downside exposure to factors outside company control.

Third, 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".[45] 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*".[46]

3.2. Questions

Question: 3.1 - How should we reflect the period affected by Covid-19 in our approach to estimating beta

Ofwat indicated that it will consider daily, weekly and monthly betas over a 2-10-year period for United Utilities and Severn Trent, placing only limited weight on Pennon.

We agree that limited weight should 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.

However, to address the issue of the small sample size for the water industry, we consider it appropriate to include the betas of UK energy network companies, given the similarities between the sectors.[47] Ofgem, for example, included water company betas in its estimation of required returns for RIIO-2.

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[45] Water 2020: consultation on the approach to the Cost of Debt for PR19

[46] PwC, 'Cost of Equity indexation: Evaluating the case for indexation at PR24 and beyond', October 2021.

[47] CMA RIIO-2 FD: Vol. 2A: Joined Grounds: Cost of Equity, para. 5.347 "Both sectors enjoy extremely high levels of regulatory protections, in particular in relating to regulated asset bases, inflation protection, revenue certainty and the funding of operating and investment costs."

We agree with the discussion paper 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.Our initial reply on 18 January 2021 to the PR19 CMA panel, contained detailed empirical evidence from Gregory, Harris and Tharyan (GHT-3) on the impact that Covid has had on beta estimates and how this should be factored into the long-run beta estimate, used in the allowed WACC.[48] Covid has distorted normal cyclical patterns and we suggest not placing undue weight on 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.

We are of the view that Ofwat should not place full weight on Covid-affected data given the material non-recurring impact of the pandemic on water company betas, which was acknowledged by the CMA during both PR19 redeterminations and RIIO2 appeals.

[48] Gregory, Harris and Tharyan, "The Evolution of Beta through the Covid Crisis", January 2021

Question 3.2 - 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?

Mason and Wright ("MW") argue 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 ("MM") show that WACC should be independent of gearing.

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. 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.

First, the MM test should be performed based on the cost of new debt alone as the theorem assumes that "the firm borrows at the market rate of interest".[49] Both Ofwat[50] and MW have acknowledged that embedded debt is outside the MM framework, however, 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.

Second, the approach used by regulators to estimate WACC applies CAPM to derive the Cost of Equity whilst relying on *inter alia* sector 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 this 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)*". [51]

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. As noted in the UKRN study "*we acknowledge that the unexplained premium component of the Cost of Debt is a cost companies do*

[49] 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, pp. 289, footnote 48.
[50] Ofwat (2020), 'Reference of the PR19 final determinations: Risk and return – response to common issues in companies' statements of case', May, para. 3.81
[51] Wright et al (2018). Estimating the cost of capital for implementation of price controls by UK Regulators, page 77

face when issuing debt".[52] The debt premium faced by companies reflects efficient costs for water companies and should be priced in.

Indeed, we would not expect MM to apply in the presence of market distortions. **As a result, there is no contradiction that the MM prediction of gearing-independent WACC no longer holds, since MM should not apply in the first place where regulatory policy on debt pricing introduces distortions.** If there is a regulator (assumed away by MM) and regulatory policy depends on gearing, then clearly firm value will depend on gearing; thus, the cost of capital must also depend on gearing (a higher firm value must mean a lower cost of capital).

Regulatory policy effectively causes "distortions" that affect firm value and cause it to depart from an unregulated outcome; if these distortions cause firm value to depend on gearing, the cost of capital must depend on gearing.

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 takes us out of an MM world. Thus, 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.

By contrast the approaches proposed by MW which "force" Cost of Equity to be invariant to gearing 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 expected returns on equity.

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 because results in adopting a beta for listed comparators with 54% gearing for a notional capital structure at 60% without recognising that higher leverage implies higher expected returns on equity in line with MM.

A fundamental result in MM is that the Cost of Equity increases with gearing (their Proposition 2). It seems strange that MW are concerned about a "profound inconsistency" (when there is no inconsistency in MM) but suggest a solution which is more inconsistent.

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 PR19 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.[53] 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[54] – 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)[55] is that "*the regulator's estimate of the Cost of*

[52] Wright et al (2018). Estimating the cost of capital for implementation of price controls by UK Regulators, page 77
[53] CMA PR19 FD, 9.530
[54] Ibid. para. 9.505
[55] The outcome of both proposals is the same.

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"[56]. 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%).

Question 3.3 - 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. We note that whilst RPI Reform is expected in 2030 there remains material uncertainty around the form this might ultimately take, as indicated by the recent judicial review expected to be heard in summer of this year.

Ofwat could derive a time-varying RPI-CPIH wedge based on the comparison of the rates on zero coupon RPI and CPI inflation swaps. This 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 and considerable caution will be required before pricing in this market expectation on an ex ante basis to ensure that the chosen approach does not result in an understated RFR as Ofwat is not minded to introduce cost of equity indexation.

[56] Wright et al (2018). Estimating the cost of capital for implementation of price controls by UK Regulators

4. Allowed return on debt

4.1. Cost of embedded debt

4.2. Questions

Question 4.1 - 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 PR19 redetermination methodology. The approach to setting the allowance for embedded debt costs was subject to extensive debate during the appeal and the CMA gave detailed consideration to a large volume of evidence.

As a result, we agree that focus on the balance sheet approach is appropriate, and we welcome Ofwat's objective to apply the approach in a "*transparent way based on a suitable central estimate of company balance sheet debt costs*". However, for this transparency to be achieved, it is essential that ex-ante principles are set out by Ofwat in advance of the active assessment of the allowed cost of debt for PR24.

As it stands, many aspects of the balance sheet approach are unspecified at this stage and this lack of clear ex-ante principles for how the balance sheet approach will be applied gives rise to uncertainty.

We consider that the CMA's PR19 methodology is appropriate and can inform the ex-ante principles required. We would welcome further engagement with Ofwat on the principles and factors which require ex ante specification including:

- Companies included in the sector average calculation – the CMA considered all WaSCs and large WoCs
- 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 decisions of outlier companies.[57]
- Treatment of different instruments – for example, identification and assessment of outliers, treatment of swaps (below)

Treatment of swaps

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 with Ofwat that relying on swap instruments to estimate the cost of embedded debt can appear to present additional complexities compared to for example the use of traditional bond financing. However, this does not mean that swaps increase risk for customers and we do not consider it appropriate to exclude all swaps on the basis of complexity alone. In fact we consider that – particularly based on some of Ofwat's early decisions on PR24 such as an accelerated transition to CPIH – they will be essential for management of basis risk.

[57] CMA PR19 FD, para. 9.635 (b)

We agree with Ofwat that where swaps have been restructured to reprofile cashflows over time that these should be excluded from the analysis as they could mask the underlying economic costs for AMP8. In this context, we welcome proposals to increase transparency around companies' treatment of swaps, which would enable Ofwat to understand which subcomponent of derivative instruments it might be appropriate to exclude.

Nevertheless, the vast majority of swaps in the sector are designed to achieve economic hedges which are of benefit to customers in that risk exposure is reduced and should therefore be included in the calculation of the sector average Cost of Debt. Anglian has used swaps in order to issue debt at an efficient cost and secure fixed rates. As a result, we consider that swaps should generally be included, as excluding them could present a misleading view of borrowing costs across the sector.

- Ofwat's approach of fully decoupling swaps from the underlying conventional bonds does not take into account the fact that swaps in a number of cases are indivisible from instruments raised as part of defined hedging strategies.
- The exclusion of swap costs is not consistent with the CMA PR19 position, which was based on reported APR data and did not adjust to exclude swaps.
- Similarly in the RIIO2 appeals, the CMA recognised that swaps that are used to synthetically replicate debt instruments, such as index-linked debt, are useful inputs into the calculation of the sector's debt costs.

We would like to engage with Ofwat to develop a methodology for assessing whether individual swaps warrant inclusion in the sector average that will not result in undue regulatory burden.

Exogenous cross check for cost of embedded debt

It is also critical for clear economic principles to be set out ex ante if Ofwat is to implement a cross check on debt costs.[58] Clear principles to define the cross check upfront will avoid the cross check becoming endogenous to the balance sheet approach (where the cross check is designed ex post to 'match' the sector average). These principles will need to specify assumptions for tenor, debt composition, debt products and frequency of issuance.

Question 4.2 - 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?

Ofwat proposed to calculate the cost of new debt by using a short-term average of the iBoxx A/BBB index. Ofwat further suggested that an outperformance adjustment could be applied, noting that water companies issued debt with yields at 55 bps below the market benchmark.

While we agree with the general principle of relying on the benchmark index for the cost of new debt, we disagree with the proposed application of the outperformance wedge.

Analysis carried out at CMA in relation to Ofwat's proposed outperformance adjustment for PR19 indicated that 'outperformance' was primarily driven by tenor and rating. CMA removed the wedge on the basis that previous drivers (high rating, EIB debt, floating debt) would be unlikely to drive systematic outperformance.[59]

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[58] "As can be seen from the description of Ofwat precedent above, there has been no consistent approach to the application of a benchmark in this sector." Ibid, para.9.551

[59] Ibid, para.9.823

We assume that the observed outperformance wedge is driven by the initial benchmarking Ofwat has carried out which we understand does not control for rating and tenor. We would expect that there would be no wedge where these factors are controlled for and that an adjustment would not be appropriate on this basis.

In particular, the benchmark index assumes that all debt with years-to-maturity of less than 10Y fall out of the index – and this is likely to reinforce the importance of controlling for tenor as part of the benchmarking analysis.

Question 4.3 - 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 agree that it is appropriate to apply company specific adjustments due to size and remove the benefits test.

We would welcome engagement with Ofwat on how regulatory policy for embedded debt can strike the right balance between, on the one hand, pricing in costs as would be the case in efficient market outcomes, and, on the other hand, ensure appropriate incentives to avoid moral hazard of pass through costs.

Company-specific performance on cost of debt is affected by factors that are not fully within the control of the individual company, such as changes in market conditions, strategy of other firms, and the profile of investment requirement.

We set out commentary below on key factors which could be considered as part of evaluating risk allocation for cost of debt risks, and which could inform a different allocation of risks associated with cost of debt performance across companies and customers.

Consistency with competitive market outcomes: Competitive market outcomes provide protection from excessive deviations between revenues and costs of financing over time that would not be acceptable to investors financing infrastructure assets in a competitive market. The financing of other infrastructure assets typically depends on the long-term stability of revenue to match debt profiles (for example long-term PPAs, CfDs) and investors generally are unwilling and unable to take on material market risk of any significant deviations between revenues and costs of financing over time.

Appropriate risk allocation: Companies are exposed to a number of factors that affect the Cost of Debt performance that are outside company control. Companies have limited control over (1) timing of issuance, (2) evolution of the macro environment (3) strategies of other companies in the sector on which the allowance depends.

Consistency with design of the regulatory framework: The PR19 framework for example applies a sharing factor to a number of other types of costs such as Totex.

Creating right incentives: Incentivising efficiency and allocating risks to the part that best placed to manage them (i.e. whether *inter alia* they are within management control) are widely acknowledged are relevant principles when designing regulatory mechanisms.

Supporting financial resilience: Financeability is relevant to the discharge of Ofwat's duties, continued ability for the companies to access capital markets to finance their activities at reasonable rates and deliver service quality improvements and Net Zero investments consistent with consumer's interests.

Moreover, as set out during the course of the PR19 CMA redetermination, credit ratings are linked to the difference between the cost of embedded debt and Ofwat's allowance.

5. Notional Capital Structure and Financeability

5.1. Introduction

The financeability assessment forms a key element of the regulatory package, as it ensures that companies can finance their activities given the constraints of the regulatory package.

Ofwat has proposed a number of changes to financeability assessment at PR24:

- Ofwat has proposed changes to the specification of the notional capital structure including:
  - to adopt a lower notional gearing level at PR24 along with a framework for evaluating the appropriate level of gearing
  - to increase the proportion of ILD to align more closely with sector average levels.
  - to fully transition to CPIH from PR24.
- Ofwat has proposed that the financeability assessment is a test of the sufficiency of cashflows from the price control package as a whole but does not test whether an individual component of the price control package, such as the allowed return (or the components of it), is reasonable. Ofwat proposes to address financeability constraints through additional equity injections or reduced dividends in the first instance.
- Ofwat has developed new approaches to risk analysis and its role in price control calibration at PR24:
  - Risk analysis will not be used to sense check whether the allowed return is sufficient to manage risk;
  - Risk analysis which Ofwat relies on for price control calibration will be based on sector wide, backwards-looking evidence rather than forward looking evidence based on company specific characteristics;
  - Similarly Ofwat intends to rely on its assessment of the attainable level of service and efficiency as a starting point for its analysis;
  - Risk analysis will only capture in-period risk and would exclude key drivers of risk such as embedded debt.

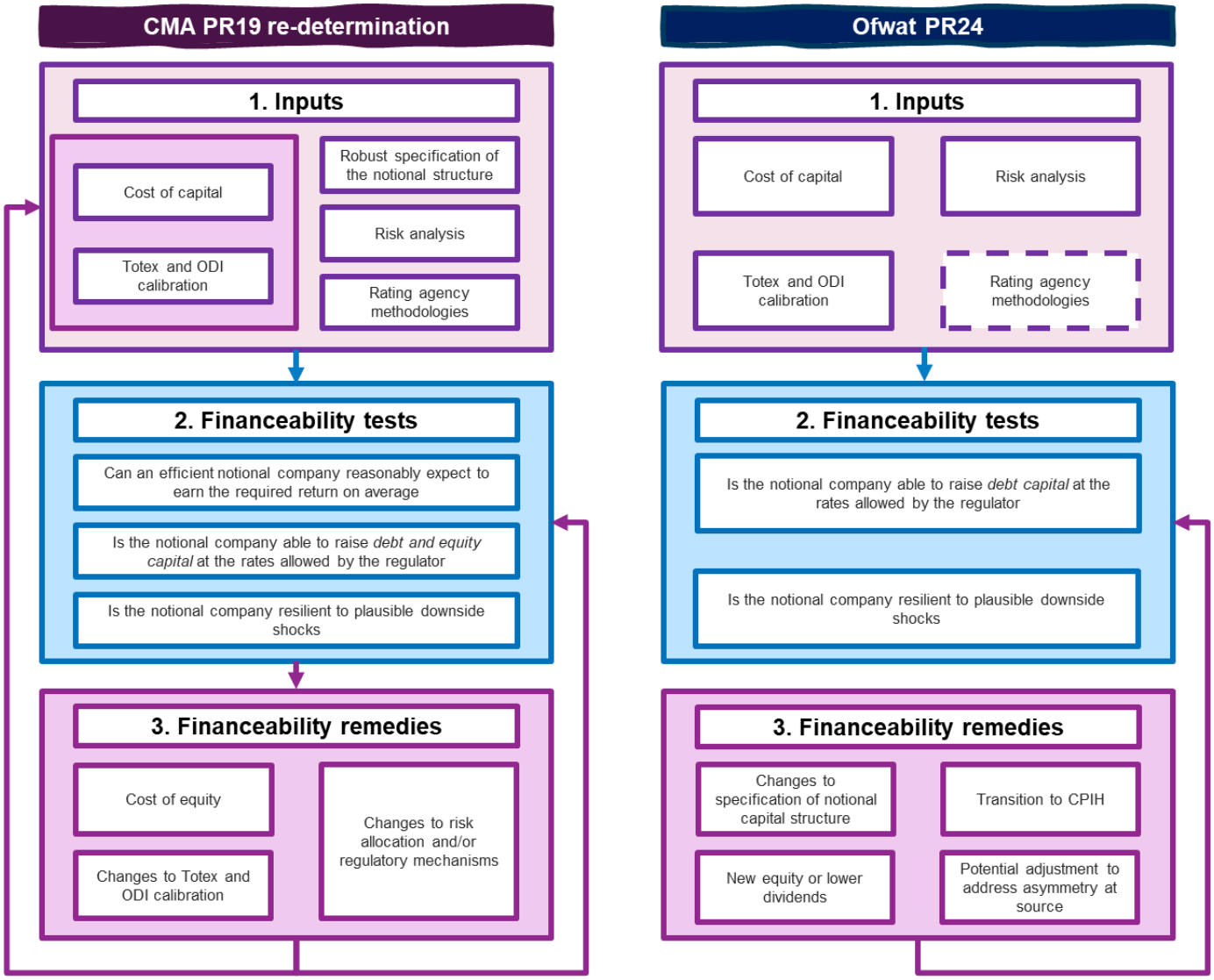
We are concerned that a combination of (1) proposed changes to the notional capital structure which are not supported by clear specification of a problem with or inefficiency in the PR19 structure; (2) Ofwat's view that financeability tests cannot inform calibration of any individual regulatory building block or mechanism; and (3) decoupling of Anglian's total risk exposure from calibration of returns and risk allocation will undermine financeability as a robust cross check on the overall balance of risk and return. This in turn increases risk to customers that the regulatory determination does not support financeability and financial resilience.

The changes proposed by Ofwat create a fundamental departure from the methodology applied by the CMA during the PR19 redeterminations, which used financeability evidence to directly inform price control calibration including (1) changes to risk allocation such as totex sharing rates[60] (2) selecting a point estimate for Cost of Equity.[61] We do not consider that these departures – illustrated

[60] CMA PR19 FD, 10.74(b)-(c)
[61] ibid. 10.73(a)

in the chart below – are in the customer interest. The decoupling of the notional financeability test and the balance between risk and return could jeopardise the financial resilience of the sector and the perceived stability of the wider regulatory environment.

Figure 5: Deconstructing CMA PR19 and Ofwat PR24 approaches to financeability



5.2. Questions

Question 5.1 - Do you agree with the framework we have set out for determining an appropriate notional structure and PR24 and beyond?

Identification of market failure

We are not clear what the problem with the current notional capital structure is which either might (1) justify changes to the PR19 notional structure to reduce gearing; or (2) indicate that a different notional capital structure is in the customer interest. Ofwat does not point to a specific market failure or market distortion[62] that the change in notional gearing is required to remedy, as required by the principles of regulatory economics.

In particular, the discussion paper does not provide evidence to show that a 55% notional gearing level would be more optimal than the PR19 notional gearing of 60%, or that 60% is sub optimal or creates excessive risk. As Ofwat has not demonstrated that 55% represents a more optimal structure, a reduction in notional gearing could introduce economic inefficiencies through (1) companies adopting sub optimal capital structures (2) impacts on the ratio of new to embedded debt, which could increase costs for customers (3) additional costs of equity issuance. These costs could increase the cost of capital for customers without a corresponding benefit.

As there is not clear evidence that there is a problem or that a different notional structure is demonstrably in the customer interest, we do not support the proposed changes to notional gearing or index linked debt (see response to question 5.2).

Consistency with market evidence

The proposed decrease in gearing is inconsistent with market evidence as the proposed change does not represent an approximation of the sector average position (approximately 70% on average, ranging from 60% to 83%)[63] based on rating agency definitions of gearing. On this basis the CMA did not consider there was evidence to justify an alternative level of gearing[64] at PR19 or that another level of notional gearing would better serve customers[65].

The proposed changes introduce differences between the assumed notional financial structure on the one hand, and the actual financial structures adopted by water companies on the other hand – and heightens the risk that notional financeability tests do not reflect implications of regulatory decisions and price control calibration for financial resilience of the sector.

We disagree with the use of enterprise value-based measure of gearing to inform the notional structure. RCV represents the invested capital on which the water utility will earn a return over time and the relevant measure of leverage for rating agencies[66]. Assuming assets higher than the RCV is not appropriate for the notional company which is typically based on the assumption that there will be no out- or under-performance on an expected basis. This assumption may not hold where for example investors or potential investors in a specific asset are forecasting out- or under-performance. As acknowledged by MW, *"the idea of a 'notional' firm is one in which both the firm*

[62] A conclusion that gearing of 60% might imply excessive risk is not consistent with Ofwat's previous incentive mechanism on financial resilience (the Gearing Outperformance Sharing Mechanism or GOSM, which was not applied by the CMA in its re-determination), which assumed that "'greater risk' only applied above 65% gearing.

[63] Excluding Hafren at 45% regulatory gearing

[64] CMA PR19 FD, 9.530

[65] Ibid, para 9.44

[66] Moody's Rating Methodology, Regulated Water Utilities, June 2018

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".

We also note that the assumed reduction in gearing is inconsistent with rating agency thresholds at the target Baa1 rating for the notional company. A gearing of 55% would be consistent with a rating of A3 but the other metrics are not consistent with this rating – all else equal this suggests that lower gearing would not be consistent with a competitive market outcome based on rating agency methodologies.

Increasing risk and uncertainty

Ofwat suggests that combined effects of a more uncertain future and revenue at risk from service performance may indicate a greater role for equity 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.

Assuming a lower notional gearing cannot improve the company's overall financial position with the same level of business risk – it merely shifts risk exposure from debt to equity. Where financial headroom implied by a given level of returns is not adequate to support financial resilience or management of risks, the efficient market outcome would be a higher required return on capital to reflect business risks. Business risk cannot be 'assumed away' by a change in the gearing assumption. 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.

In summary Ofwat's proposals on gearing (1) are not supported by robust justification that the current structure is suboptimal – intervention could lead to market distortions and additional costs; (2) lack support from market evidence – average gearing is 70%; and (3) are not consistent with recent CMA precedent – the CMA did not consider there was evidence to justify an alternative level of gearing at PR19[67] or that an alternative level of notional gearing would better serve customers.[68]

Framework for changes to the notional company

The notional structure should be stable over time with a high hurdle for changes. We suggest that the following criteria are relevant for setting the notional capital structure:

- **Identification of market failure** i.e., it is important to identify a clear problem with the current notional structure to avoid unintended consequences and inefficiencies. As highlighted in the Mason and Wright report there are several economic reasons why *"it is standard in UK regulation to leave capital structures decisions to regulated firms"*
    - Regulators typically do not consider calculations of optimal or efficient gearing to be feasible
    - Efficient financial decisions are best left to the responsibility of companies who have superior information on efficient financing
    - The use of a (reasonable) notional gearing avoids setting the Cost of Equity with reference to a single, unusual comparator.

[67] CMA PR19 FD, 9.530
[68] Ibid, para 9.44

- **Consistency with market evidence**, i.e., 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. Typically, the notional structure has loosely followed sector financing (albeit with a lag), so it might also be appropriate that the notional company follows changes in notional company financing over time.
- I**nternal consistency of the notional structure** e.g., if the proportion of index-linked debt is based on the sector average position, for consistency gearing should also be based on the sector average.
- **Consistency with logical sequencing of financeability tests** i.e., the notional structure should not be used to solve for financeability and undermine the binding nature of such tests on price control calibration.

Question 5.2 - 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's proposals would result in selective adoption of sector average positions for the notional company which could distort the robustness of the notional financeability assessment. We do not support a change to the assumed proportion of index linked debt for the notional company as a result of the following inconsistencies:

- Ofwat is proposing to increase the proportion of ILD to *reduce* the variance to sector average levels whereas a reduction in notional gearing levels would *increase* the variance to the sector average position. At the same time cost of embedded debt is based on the sector average as a proxy for an efficient market outcome.
- We observe that a high proportion of ILD is primarily a feature of securitised structures with higher gearing – adopting a higher proportion of index linked debt would not be consistent with the proposed reduction in notional gearing. Companies in the sector with gearing closer to the notional level (SVT, SWB, WSX) have index-linked debt below the notional assumption.
- The sector average proportion of ILD relies on swaps, but Ofwat is proposing to exclude swaps from its allowance for cost of embedded debt
- 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*. The notional company would not issue additional ILD debt (as reflected on company balance sheets) where there is no CPIH market of material size and the transition to CPIH already presents significant risk of asset liability mismatch.

Question 6 - 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 consider that a phased transition to CPIH based on the natural rate is in the customer interest. This is because a faster rate of transition to CPIH will create a mismatch between CPIH-linked assets and RPI-linked liabilities, which would imply:

- Material basis risk for companies (as companies would be exposed to the difference between RPI and CPIH across AMP8); and

- Additional costs for customers to price in the cost of hedging basis risk (assuming it is practicable to hedge the risk) to ensure that the transition is NPV neutral.

The CPIH market is currently nascent, as highlighted by a recent FT article[69] which noted that *"the media doesn't report CPIH and it is not used in the real world for any practical purpose except by Ofwat for setting controlled water prices."* For the sector to manage the asset liability mismatch it would necessitate current water company balance sheets to swap £25bn of RPI-linked debt and swap positions to CPIH.

It is by no means clear that there is sufficient appetite in the market for water companies to be able to hedge CPIH exposure implied by a full transition. The relative lack of depth of liquidity in the CPI and CPIH swap markets mean the large transactions required to hedge RPI exposure may represent much more than the market's normal volumes and could mean that either it is not practicable to hedge the sector's current RPI exposure due to bank bandwidth and lack of appetite from institutional investors or that the cost of hedging is substantive. All else equal, this would create additional costs to customers to ensure an NPV neutral transition.

We note that although the DMO (UK Debt Management Office) considers RPI to be a flawed measure it has announced that it will not phase out the issuance of RPI linked debt before 2030. This, along with the Judicial Review granted in relation to RPI/CPIH reforms, suggests a more cautious approach to CPIH transition may be appropriate.

A more phased transition to CPIH is likely to avoid the asset liability mismatch and additional costs whilst facilitating further transition to CPIH ahead of RPI Reform in 2030. If Ofwat is minded-to implement a full transition we would welcome engagement with Ofwat to explore how basis risk can be managed and priced.

We also note that an accelerated transition to CPIH will increase bills in the short term, but result in lower revenues, asset growth and lower bills in the longer term. A *lower* run-off based on smaller asset base in the longer term will fund *lower* levels of capex in future price controls and would put additional pressure on equity cashflows in future price controls to support expected increases in investment required. This may not represent a sustainable model.

Question 7.1 - Do you agree that financeability is likely to be less constrained at PR24 than at PR19?

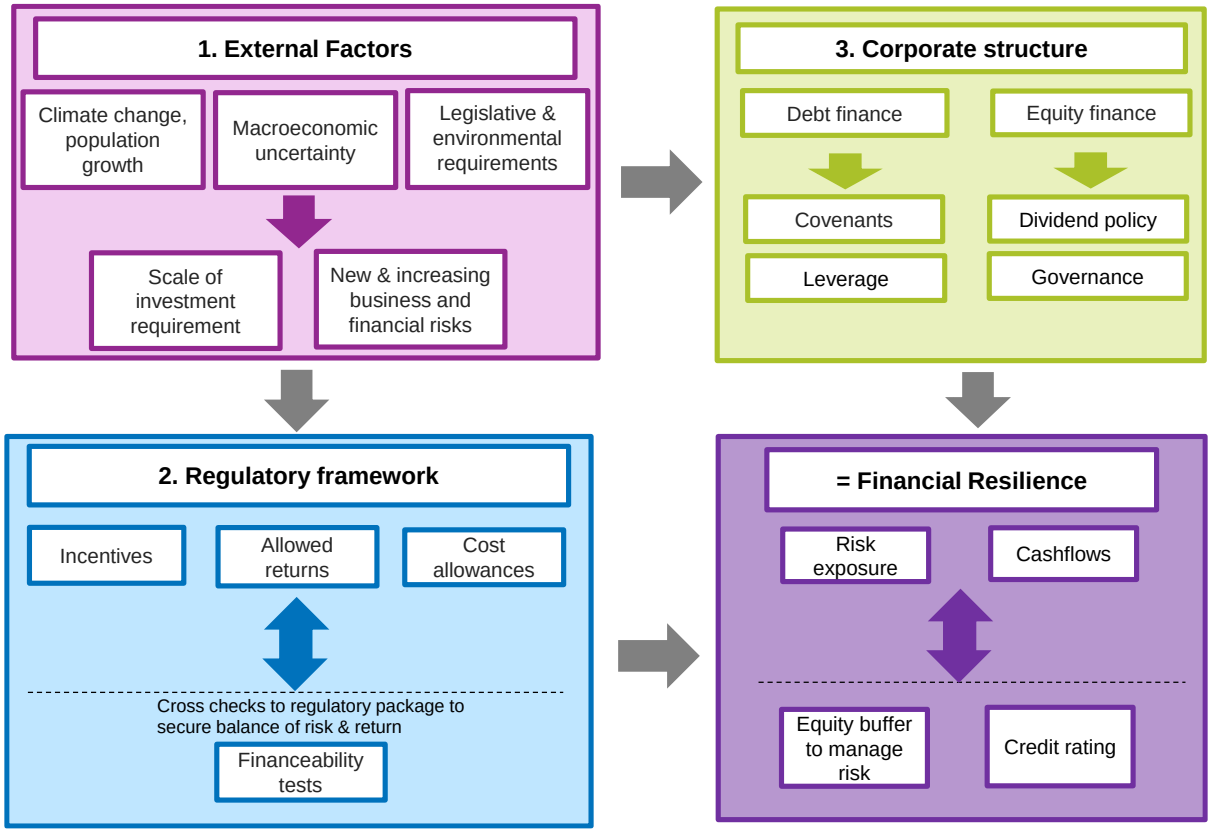
We do not agree that financeability is likely to be less constrained at PR24 at this stage of the price control process.

There are a number of core inter-dependencies between financial resilience and risk and return:

- External factors which drive the scale and timing of investment and business and financial risk;
- The regulatory framework which sets returns, allowances for efficient costs, customer service levels. Regulatory determinations also include financeability cross checks based on a notional capital structure;
- The corporate structure which companies have adopted.

[69] The fight over measuring UK inflation | Financial Times (ft.com)

Figure 6: The core interdependencies between financial resilience and risk and return



We comment on each factor in turn:

First, we welcome the shift towards a longer-term regulatory focus set out in Ofwat's LTDS paper. We also welcome Ofwat's acknowledgment that uncertainties and risks for the sector, as well as the scale of enhancement expenditure anticipated, have increased. In this context external pressures (climate change, population growth, higher macroeconomic uncertainty, and legislative and environmental requirements) are likely to increase uncertainty around the timing and scale of investment (and the corresponding funding requirement) and to lead to a heightened risk exposure on the system.

Moreover, the quantum of capital investment that is likely to be required to support *inter alia* water resilience and management of climate change risks will in turn have implications for Anglian's overall debt and equity financing requirement and reinforces the importance of creating the right conditions to attract this new capital.

Second, Ofwat's proposals for risk and return all else equal imply a lower equity buffer, ex post discretion around funding of debt costs, and significant changes to the financeability assessment. As highlighted in the response to the financial resilience discussion paper, the equity return buffer has decreased as a result of every price control since PR04 and halved in just ten years between PR09 and PR19.[70]

Third, companies' debt and equities financing strategies (such as covenanted structures and dividend policies) might also be restricted by Ofwat (for instance, through additional links between

[70] Anglian Water (2022) response to 'Financial Resilience in the water sector: a discussion paper', 31 February. Table 1, p.4

dividends and customer service levels, and monitoring of cashflows beyond the regulatory ringfence).

Taken together, Ofwat's PR24 proposals on risk, return and financeability imply an unsustainable environment for financial resilience and equity investment in the sector:

- Material reductions in equity return will reduce equity buffer available for management of risk in the context of heighted uncertainty and increasing risk exposure;
- This *reduction* in returns does not correspond to expected *increases* in business and financial risk and uncertainty. This mismatch between risk and return could undermine the ability to attract new equity investment ahead of significant anticipated enhancement expenditure;
- The expected reduction in the Cost of Debt at PR24 all else equal will improve ratios – however ratios based on a lower Cost of Debt will be more sensitive to downside scenarios;
- Changes to the notional financeability assessment could result in a lack of a meaningful cross check of allowed returns and overall price control calibration that is linked to the regulator's finance duty;
- Arbitrary changes to the notional structure could negatively affect the perceived predictability and stability of the sector; and
- The Long-Term Delivery Strategies approach introduces different financeability and risk challenges from the uncertainty around future states of the world that may not be accurately captured by market evidence. As such, a combination of pressures on returns, assumed reduction of gearing and mismatches between risk and return could constrain new equity investment for the strategic priority areas (net zero, water resilience, environmental improvements, among others) at a time when there is expected to be a need for significant new long term investment, as presaged in Ofwat's paper on Long Term Delivery Strategies.

It is likely that the combination of (1) expectation of equity injections, combined with (2) increased risk exposures across the proposed price control methodology and the evolution of the operational environment, (3) proposals to reduce allowed returns 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 summary, securing financeability and the overall balance of risk and return is a complex matter with many inputs which in themselves are complex (as highlighted in Figure 1 above). Assumptions which underpin almost all inputs will either impact on either risk allocation or equity buffer available to manage risk. As a result, whilst it is possible to consider inputs in isolation (for example to reflect on long term strategy separate from risk and return, cost of embedded from cost of equity, cost of capital from financial resilience) there are multiple interdependencies and there is an aggregation effect arising from the combination of all relevant inputs on both equity buffer and risk exposure. In consequence it is essential for Ofwat keep close observation on equity buffer as part of their PR24 thinking and the aggregation impact of isolated decisions against the acknowledged backdrop of increasing risk, uncertainty and potential investment requirements.

There is a risk that proposed changes implied by the risk and return discussion paper could lead to a downgrade of the regulatory framework with negative implications for financial resilience.

During the PR19 process Moody's downgraded its assessment of predictability and stability in the UK water regulatory regime from Aaa to Aa[71] and tightened the thresholds for key ratios such that companies must 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 has recently concluded that the "*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*."[72]

Question 7.2 - 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 consider that the fact that there might be some capital growth is not a substitute for dividend yield. Dividends are paid precisely to support predictable and stable cashflows to investors, which investors rely on.

Corporate finance principles do not support the need for dividends to vary with capital growth. In practice companies might prefer to vary gearing over time depending on capital investment requirements rather than adjust a dividend yield to keep gearing constant.

As a result, we consider that:

- financeability conclusions should not be sensitive to whether dividend yield or pay-out ratios are held constant.
- requirements for new equity under different totex or downside scenarios would be clearer where projected cashflows assume a consistent dividend yield or pay-out ratio to illustrate the scale of equity requirement across the price control and in the longer term.

[71] Moody's – Regulator's proposals undermine the stability and predictability of the regime, 28 May 2018, p.4.
[72] Ibid, p.8