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Reference of the PR19 final determinations: Risk and return – response to common issues in companies’ statements of case

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1. Summary

Introduction

- 1.1 Our final determinations aimed to align the interests of companies and investors to those of customers by setting an appropriate balance of risk and return. Our aim is to incentivise companies to deliver stretching levels of efficiency and levels of service that improve over time.
- 1.2 This document covers the common issues raised by the four disputing companies on the balance of risk and return, the allowed return on capital, financeability, and the gearing outperformance sharing mechanism.
- 1.3 No disputing company has made substantive comments on the impact of Covid-19 in its statement of case. Our final determinations allowed return on capital used data up to the end of September 2019 - predating the global Covid-19 epidemic. It is too early to draw definitive conclusions on how the allowed return for 2020-25 will be affected by the crisis. However, we set out in section 3 that the effects could plausibly result in downwards as well as upwards pressure on the components of the allowed return.
- 1.4 The majority of issues set out in this document were considered in our final determinations or through the price review process. Where relevant we refer to the analysis that was set out in our final determination¹ and in our initial submission to the CMA.

Balance of risk and return

- 1.5 Our aim in the final determinations was to set a stretching but achievable level of overall challenge for the companies. Our aim is to align the interests of companies and investors with those of customers, through the use of incentive mechanisms and the allocation of risk to the party best able to manage it.
- 1.6 By striking the right balance customers will pay an efficient cost and receive high quality services, investors receive a reasonable return and companies are able to finance their functions. Our approach is designed to satisfy our statutory duties taken in the round, in particular by ensuring that current and future

¹ The issues set out in this document were addressed in the [Aligning risk and return](#) and [Allowed return on capital](#) technical appendices that accompanied our final determination. We summarised the [Cross cutting issues](#) document in our initial submission to the CMA.

customers pay no more than efficient costs and receive high quality services from their water company. It aims to mimic the competitive market where business success builds on service excellence.

- 1.7 We set our determinations by reference to a **notional** capital structure. This is consistent with our long held policy that companies and their investors should bear the risks of their financing choices. An efficient company with the notional capital structure should be able to earn a return consistent with the base allowed return on equity, though companies can earn higher or lower returns depending on actual performance.
- 1.8 In their statements of case, some companies have requested that their allowed return should more closely reflect their previous financing decisions (particularly around the cost of debt). We consider some of these decisions seem risky even without the benefit of hindsight, or relate to large increases in gearing used to finance atypical shareholder distributions. We consider it would be a mistake to make customers pay for these decisions, undermining the efficiency incentives and risk protections of our notional framework.
- 1.9 At PR19 we increased the **incentives** on companies to focus on issues that matter for customers. We increased the incentive payments available through ODIs and marginally increased the incentives on companies to submit efficient and well justified plans through our totex cost sharing mechanism. We expect efficient companies should be able to earn their allowed return on regulatory equity, and there is scope for the better performing companies to achieve returns on regulatory equity above the base level where they outperform their performance commitments and cost allowances.
- 1.10 Companies claim the incentives in our determination are asymmetrically skewed to the downside. But this is in part to reflect that ODIs are intended to incentivise companies to follow through on their business plans, and only go further where this is what customers want. Companies are incentivised to make such claims in focusing on the potential for downside rather than opportunities for outperformance. Companies also benefit from the asymmetry of information and have claimed our determinations are asymmetrically skewed to the downside in past regulatory determinations, but outturn data proves this not to be the case as companies are strongly incentivised to outperform our determinations once set.
- 1.11 One claim put to the CMA is that downside skew in ODI rewards should be compensated for in a higher allowed cost of equity as under our framework for setting the allowed return, it is only systematic risks which require

compensation in the cost of equity because they cannot be diversified away. While we recognise ODIs are impacted to a degree by exogenous risk, company management has material influence over ODI performance – this is a company-specific risk and is thus to a large extent diversifiable.

- 1.12 The decisions the CMA may take in its redetermination could impact on the totex cost sharing rates that apply for disputing companies, altering the balance of risk and return. Our approach to totex cost sharing is to incentivise companies to deliver efficient plans and to incentivise cost efficiency once our determination is set. Companies also have a large degree of control over their costs and so should bear a considerable portion of risk where they overspend.
- 1.13 It is important to recognise any decisions the CMA takes that affect the totex cost sharing rates in our final determination could impact on the incentives for submission of efficient business plans in the future. We submit that the CMA should retain the cost sharing rates in our final determination for the disputing companies. We would welcome further engagement with the CMA on this issue.

Allowed return on capital

- 1.14 For final determinations we set an **allowed return** of 2.96% in CPIH terms (1.96% RPI). Our objective in setting this allowance was to provide a reasonable base level of return reflective of the sector's risks, sufficient to cover efficient debt and equity financing costs for an efficient company with a notional financial structure. The actual return on capital will vary depending on each company's performance against its cost allowance and performance commitments in 2020-25.
- 1.15 All four disputing companies have argued that our allowed return is too low when considering market evidence. These companies have been keen in their statements of case to portray our decision as selective, or based on subjective and unjustified methodological changes that impact on the predictability and stability of the regime.
- 1.16 We dispute this characterisation, considering that our approach is consistent with the established model of allowed return estimation in UK economic regulation, and is well-balanced in its approach to considering evidence. Furthermore, we consider that recent market evidence supports our view that our allowed return is reasonable for an efficiently-financed notional company.

- 1.17 The process by which we have reached our allowed return is consistent with previous price reviews and wider practice in UK economic regulation. Our allowed cost of equity has been calculated using the established capital asset pricing model (CAPM). Our allowed cost of debt was based on a benchmark index-based approach fundamentally similar to that used for PR14. We have consulted extensively on the changes (e.g. cost of new debt indexation) which mark clear departures from the framework used at PR14.
- 1.18 Uncertainty over prevailing financing conditions over 2020-25 has necessitated making judgments about allowed return parameters. In making these judgments, we have been mindful of the risks of setting an allowance that is either too high or too low. If the cost of capital is set too high, bills are likely to be higher than customers should reasonably expect, company profits may be seen as excessive and the legitimacy of the regulatory regime may be called into question. If the cost of capital is set too low, companies' ability to raise the finance necessary to deliver services that customers expect might be put at risk.
- 1.19 For less observable parameters (e.g. total market return, equity beta) we have reflected uncertainty and company views by considering a wide range of evidence and selecting from the middle of the plausible range. For more observable parameters (risk-free rate, cost of debt) we have been guided by more recent market data, on the grounds that evidence for mean-reversion or convergence to equilibria is weak.
- 1.20 We consider overall that **our allowed return on capital is sufficient to allow an efficient company to meet its debt and equity financing costs**. This conclusion is supported by data on listed company share prices following final determinations, which implies investors expect outperformance on the cost of capital as well as other elements. Recent evidence on the risk-free rate, cost of new debt, and equity beta supports our view that the allowed return is not understated. Indeed, market developments since our final determinations suggest that in some respects it may be too far in companies' favour.
- 1.21 Our final determination approach to estimating notional equity beta results in an allowed return that is strictly increasing with gearing. This is contrary to a widely-held view amongst finance practitioners that the relationship of the cost of capital to gearing is 'U-shaped'. It also runs contrary to the view expressed by all four disputing companies that the cost of capital is insensitive to changes in gearing. As we calculate that gearing for our listed comparators is lower than our notional gearing, the traditional regulatory procedure of de-levering and re-

levering equity beta may overstate the return required by investors in the notional company.

1.22 In addition, analysis we have carried out suggests a larger 'outperformance wedge' applied to the cost of new debt could be justified. Water companies who have issued debt following our final determinations have materially outperformed our cost of new debt allowance. The CMA, in coming to its own view on the parameters of the allowed return, could take this new information into account.

Financeability

1.23 Companies in the water sector must be able to finance their investment programmes and replace debt as it matures. It is important that companies are able to access finance on reasonable terms if they are to meet their obligations to customers.

1.24 Our financeability assessment considers whether the allowed returns, relative to efficient costs, are sufficient for an efficient company to finance its investment on reasonable terms and to carry out its functions in the long term, so protecting the interests of existing and future customers.

1.25 The approach we adopted at PR19 was consistent with the approach adopted at previous price reviews – that is to carry out our assessment on the basis of the notional capital structure, underpinned by our assessment that the allowed return is reasonable for an efficient company, and efficient companies are able to meet the costs and performance commitments set in our determination. **All companies are financeable on this basis under the terms of their final determinations.**

1.26 Each disputing company claims its final determination was not financeable on the basis of the notional and/or its actual capital structure, referencing concerns about the overall balance of risk and return. Each company raises concerns about our overall approach to assessing financeability, and the methodologies we have taken to resolving financeability constraints. They argue we have not fulfilled our financing duty amongst other statutory duties.

1.27 We disagree with company claims that revenue advancement, along with the alternative remedies set in the final determination, such as equity injection, faster transition to CPIH, and changes to the notional capital structure are not appropriate remedies to address a financeability constraint.

- 1.28 The companies argue that failing to satisfy a target level for an adjusted interest cover ratio referenced for guidance by credit rating agencies, on its own, is enough to indicate the allowed return is too low. They claim the only remedy available is an increase to the allowed return on equity above the rate indicated by market evidence.
- 1.29 Adopting such an approach would clearly not best meet our duties. The allowed return is set by reference to expectations observed in market data. Credit rating agencies take a range of factors into account when making their in the round assessment of credit quality and so aiming up the allowed return to meet certain financial ratios cannot be an approach that best satisfies our duties.
- 1.30 If, however, the CMA were to take an alternative approach to resolving a notional financeability constraint, it could do so by **reducing notional gearing** to a level that is more consistent with the gearing levels on which our beta observations are based (around 56%). This is an approach the CMA adopted in its provisional determination for NERL; reducing gearing levels would be consistent with the way in which companies could be expected to maintain financial resilience under their actual structures. The CMA could also choose to **assume lower dividend payments and an increased proportion of index linked debt** in its financeability assessment to improve headroom on the basis of the notional capital structure. We set out in section 3 of this document that such an approach would also have the advantage of not requiring un-levering or re-levering when estimating equity beta – steps which the CMA has expressed concerns about in its provisional decision on the NERL RP3.
- 1.31 Since the final determinations, rating actions by the credit rating agencies provide evidence that efficient companies with gearing levels close to the notional level can maintain a credit rating at least two notches above the minimum investment grade.² This supports our view that our determinations allow efficient companies with a notional structure to be financeable.
- 1.32 Three of the disputing companies have seen credit rating downgrades under their actual structures despite their determinations being subject to redetermination. These downgrades³ and the accompanying credit opinions, highlight that factors within the control of the companies, such as past choices

² Section 4, Table 4.2 Provides current credit ratings and gearing as at 31 March 2019 for the water companies

³ Fitch downgraded Anglian Water's class A debt from A to A-, and its class B debt from BBB+ to BBB. Moody's downgraded Bristol Water from Baa1 to Baa2 (neg). Moody's downgraded Yorkshire Water's class A notes from Baa1 to Baa2 (neg).

about financing arrangements and underperformance adjustments related to past performance, contribute to the rating actions alongside our determinations.

1.33 Finally, the disputing companies claim we have not sufficiently considered the headroom in final determinations for companies to withstand severe but plausible downside scenarios. We disagree. We performed headroom analysis to ensure companies would have sufficient revenue to cover debt interest payments in a downside scenario on the basis of the notional capital structure. Companies must remain responsible for maintaining the financial resilience of their actual structures and are strongly incentivised to outperform the final determination. In a downside scenario, companies have scope to manage costs and can be expected to focus on minimising any underperformance adjustments.

Putting the sector in balance

1.34 The public service nature of the water sector means that companies should be transparent about performance-related executive pay, dividends and financing arrangements, and show how these take account of delivery of services to customers.

1.35 Concerns are raised by the disputing companies that the **gearing outperformance sharing mechanism**, included in our final determination,⁴ represents an unprecedented intervention into company capital structures, is inconsistent with financial and economic theory and breaches the principle of maintaining a stable regulatory regime.

1.36 We recognise the introduction of the gearing outperformance sharing mechanism represents a change from the established set of regulatory incentives affecting company gearing decisions. However, the introduction of the gearing outperformance sharing mechanism stemmed from a challenge to the legitimacy of the regulatory regime that was linked, in part, to concerns raised about companies paying high dividends and adopting complicated and potentially risky financial structures.

1.37 The introduction of the mechanism is consistent with the application of economic and corporate finance theory in the water sector. The mechanism was introduced as we concluded that company decisions that increase gearing

⁴ We proposed that companies should adopt a mechanism in their business plans, in 2018 in our [Putting the sector in balance position statement](#) following consultation.

levels materially above the notional level are not appropriately aligned to the interests of customers. Where companies adopt high levels of gearing, they may increase risk to equity investors and reduce financial resilience. They may also transfer some risk to customers and/or potentially taxpayers, in the event that a company fails.

1.38 Through the price review process we encouraged companies to take steps to ensure their **dividend and performance related pay policies** in 2020-25 align with the customers' interests. The final determinations set out our understanding of each company's dividend and performance related executive pay policies for 2020-25 and identified areas where each company's policy continued to fall short. Companies need to implement their commitments and continue to develop best practice in their dividend and performance-related executive pay policies.

Document structure

1.39 The rest of this document is structured as follows:

- **Section 2 Balance of risk and return.** We comment on the application of our financing functions duty. We provide details on the actual financial structures of the disputing companies and comment on the reasons why it is important that determinations should continue to be set on the basis of the notional capital structure. We respond to claims by the disputing companies that the incentives in our determinations are skewed to the downside.
- **Section 3 Allowed return.** We respond to the claims made by the disputing companies on the parameters we used to determine the allowed return.
- **Section 4 Financeability.** We respond to the disputing companies claims that our determinations are not financeable. We respond to the claims the companies make about the approach to, and application of, our financeability assessment. We set out our views on the causes and solutions to a financeability constraint.
- **Section 5 Putting the sector in balance and the gearing outperformance sharing mechanism.** We respond to disputing companies' claims about the gearing outperformance sharing mechanism and summarise our assessment in the final determinations of the dividend and performance executive pay policies proposed by companies for 2020-25.

2. Balance of risk and return

Introduction

- 2.1 Our PR19 methodology aimed to align the interests of companies and their investors with their customers by setting the balance of risk and return to incentivise companies to improve cost efficiency and service.
- 2.2 Companies already benefit from a significant number of protections that help mitigate risk and uncertainty. We set out the protection mechanisms in our initial submission to the CMA,⁵ which in summary comprise:
- cost sharing and revenue reconciliation mechanisms that are similar in effect to those adopted at the PR14 determination;
 - risk sharing mechanisms that have been newly introduced at PR19 which comprise reconciliation mechanisms for changes in the cost of new debt and tax rates and risk sharing mechanisms for business rates, abstraction charges and the real price effects of labour costs; and,
 - re-opener mechanisms that allow our determinations to be re-opened in defined circumstances.
- 2.3 The key elements of our PR19 methodology which allocate risk between companies (and their investors) and customers are set out below. By altering the allocation of risk between customers and companies, these mechanisms can increase or decrease company focus on delivering what matters for customers.
- **Cost performance** – where we use benchmarking techniques and efficiency targets to set stretching, but achievable, cost allowances and companies share cost (total expenditure) out/underperformance with customers. At PR19 we marginally increased the focus on cost efficiency and stretch for companies in preparing their business plans by introducing an asymmetric cost sharing rate. The mechanism incentivised companies to submit efficient business plans and to outperform their cost allowance. Our approach was accompanied with the removal of the menu cost sharing incentive used at PR14, simplifying the overall cost sharing incentive; as mentioned above, it has also been accompanied by an increase in the number of reconciliation mechanisms that pass risk from companies to customers through bespoke

⁵ We set these out in paragraphs 4.2 to 4.4 of the cross cutting appendix that accompanied our initial submission to the CMA.

cost sharing rates for business rates, abstraction costs and the real price effect of labour costs.

- **Service performance** – companies bear risk of service delivery for their customers; they incur penalties if they do not deliver for customers and receive outperformance payments if they deliver improvements for customers via the ODIs, Customer Measure of Experience and Developer Measure of Experience mechanisms. At PR19 we aimed to increase the strength of ODIs, to increase the incentive on companies to focus more on improving service delivery over time and to focus on issues that matter for customers.
- **Financing** – our PR19 methodology allocated the risk of financing out/under performance to companies with the exception of the cost of new debt, which is subject to a new indexation mechanism. Financing and capital structure choices made by companies can endure over multiple determination periods. Therefore where a company makes a decision to raise a significant proportion of debt finance at a point in time, the company and its investors rather than customers must bear the consequences of that decision. This is a principle that has endured over many price control determination periods and underpins our adoption of the notional capital structure. The cost of new debt indexation mechanism means that, under the notional structure, companies no longer bear the risk of market movements in the cost of new debt.

2.4 At PR19 we expected company business plans to focus on the interests of customers and what matters to them, rather than being primarily focused on financial outperformance. We strengthened the incentives on companies to focus on what matters for customers with totex incentives and ODIs which was an evolution of the approach we adopted at PR14. We also reduced the incentive on companies to focus on financial outperformance by introducing a gearing outperformance sharing mechanism and an indexation mechanism for the cost of new debt.

2.5 We use an incentive based regime to encourage companies to deliver stretching performance at efficient cost for customers. This underpins our overall approach – where companies deliver stretching performance we can use that information to set stretching benchmarks at successive price reviews. Where companies provide business plans that incorporate stretch, they should be rewarded as this can benefit customers and we can use this information to support the level of challenge we put to other companies in the sector.

Financing duty

2.6 Each of the disputing companies argues that in making the final determination we did not satisfy our financing duty (amongst other duties).

- Anglian Water says that the final determination is incompatible with our duties and the determination is weighted towards our consumer duty.⁶
- Bristol Water argues that errors on the cost of capital and cost allowances is a reason why we have failed to meet our financing functions duty.⁷
- Northumbrian Water argues we have failed to appropriately discharge our duties. The company claims the outcomes package is unbalanced, revenues and allowed return are insufficient and, as such, the company will find it increasingly difficult to attract long term investment.⁸
- Yorkshire Water claims we have failed to meet our financing functions duty as the allowed return is too low and cost allowances and outcomes are beyond those an efficient firm would be expected to deliver. It argues the determination is not 'investable' and claims our determinations weaken cash flows such that credit metrics fall below the levels required to maintain investment grade.⁹

2.7 We set out our interpretation of our financing functions duty in our PR19 methodology:¹⁰

'Consistent with our long-held policies regarding our approach to regulation and setting price limits, we interpret the financing functions duty as applying to the ring fenced regulated activities of the appointee, such that an efficient company can:

- Earn a return at least equal to the cost of capital we have allowed for; and
- raise finance on reasonable terms.

Our approach will assess whether allowed revenues, relative to allowed costs (including the cost of debt embedded within the cost of capital), are sufficient for an efficient company to finance its investment

⁶ Anglian Water, 'Statement of case', April 2020, pp. 8-9, paragraph 38-42

⁷ Bristol Water, 'Statement of case', April 2020, p. 8, paragraph 40

⁸ Northumbrian Water, 'Statement of case', April 2020, pp. 4, paragraph 9

⁹ Yorkshire Water, 'Statement of case', April 2020 pp. 16-17, paragraphs 46-52

¹⁰ Ofwat, 'Delivering Water 2020: Our final methodology for the 2019 price review', December 2017, p. 189

and so deliver its activities, on reasonable terms, while protecting the interests of customers now and in the long term.'

- 2.8 Some of the companies raised issues relating to our interpretation of our financing duty, which we address in the 'Introduction and overall stretch' document. However, overall there is no disagreement between the companies and us that the allowed return, allowed costs and the incentive package must be set at a level that is reasonable for companies to be 'investable'.
- 2.9 Concerns raised focus on the levels of the allowed return, allowed costs, our decisions on the level of performance commitments, ODI incentive rates and our approach to financeability. We comment on the allowed return in section 3. Our comments on the overall balance of risk and return on costs and ODIs in the following sections should be considered alongside the 'Overall stretch on outcomes' and 'Overall stretch on costs' documents.
- 2.10 Disputing companies have asked for amendments to the notional capital structure to reflect their actual financial structures, which, if adopted by the CMA would alter the balance of risk in companies' favour, reducing the incentives on companies to bear the consequences of their financing and capital structure choices. We discuss these issues below.

Notional and actual structures

- 2.11 We assess our determinations on the basis of a notional capital structure. We consider an efficient company with the notional capital structure should be able to earn a return consistent with the base allowed return on equity, though companies can earn higher or lower returns depending on actual performance.
- 2.12 No disputing company has challenged the gearing level of the notional capital structure on which our determination is based. However, each of the disputing companies has commented on the notional financing costs adopted in our determination.
- Anglian Water states the actual cost of embedded debt should be accepted as long as it was incurred efficiently ex-ante and says its financial structure was ex-ante efficient.¹¹
 - Bristol Water argues that "Ofwat's notionally efficient company has a notional financing structure which bears little resemblance to that of a small

¹¹ Anglian Water, 'Statement of case', April 2020, pp. 287-288, 103 paragraphs 1184, 1195

water only company, contrary to the [approaches of the Competition Commission in 2010 and the CMA in 2015] ... it is not a reasonable estimate for a small water only company like Bristol Water).”

The company suggests a ratio of new:embedded debt calculated specifically for its circumstances, which it has calculated as 5%:95%.¹² It also supports an actual cost of debt approach for the cost of embedded debt.¹³

- Yorkshire Water asks the CMA to base its redetermined allowance on the company's estimate of its own cost of embedded debt (4.93%) and the estimated proportion of its new to embedded debt (12%:88%).¹⁴

2.13 Our long held view is that companies are responsible for their own choices around financing and capital structures, within the framework of the price review, company licenses and company law. Customers are not able to influence the financing choices made by the company that supplies them and so companies must bear the consequences of their choices which can prevail over many control periods. This approach has endured through all determinations we have set since privatisation – it incentivises companies to finance themselves efficiently and provides companies with opportunities to outperform our determination, but means that companies and their investors must bear the risks of underperformance. Efficient financing extends to company decisions on the timing and frequency of debt issuance and the tenor of debt issuance which impacts on the weighted average maturity.

2.14 As part of this approach, we expect companies to take responsibility for their own financial structures, including any covenants that underpin their actual financial structures. We understand that definitions of financial ratios may play a role in triggering creditor interventions or events of default under such covenants. In the current determination process, all of the companies have directed particular focus to the importance to them of particular financial ratios. The CMA may wish to consider the extent to which covenants entered into in the past provide the motivation that underlies these arguments. If so, we suggest it is not a valid consideration for the financeability assessment of the notional structure. Choices made by companies and their investors, including in defining financial ratios and their function within financial instruments are a matter for companies and their investors to manage. Where covenanted financial ratios are tight, that is not a reason on its own for customers to bear the responsibility of alleviating the consequences of that fact.

¹² Bristol Water, 'Statement of case', April 2020, pp. 4, 9 paragraphs 22, 44

¹³ Bristol Water, 'Statement of case', April 2020, p. 19, paragraph 30

¹⁴ Yorkshire Water, 'Statement of case', April 2020, pp. 72-73, paragraphs 229, 232

- 2.15 In figures 2.1 to 2.4 we present the historic profit, dividend and gearing profiles of the disputing companies. The past financing choices of Bristol Water in 2003 to 2005, Anglian Water in 2002 and Yorkshire Water in 2009 and 2011 facilitated step change increases in gearing to levels well above the notional level. Step change increases in gearing were accompanied by special dividend payments and/or inter-company loans to companies above the level of the regulated company. In the cases of Anglian Water and Yorkshire Water, financial restructuring arrangements have been accompanied by whole business securitisations. We have also seen a step increase in the level of dividends paid by Northumbrian Water since its acquisition by CKI in 2011.
- 2.16 Financing decisions made by these companies endure today. Where companies have issued long term debt instruments as part of these restructuring arrangements, those instruments impact on the cost and mix of debt and the credit rating each company achieves.
- 2.17 A consequence of the policy we have applied at successive price reviews is that companies are exposed to the risk of the reset of the cost of capital at future price reviews. This was known to the companies at the time they restructured. It is not reasonable therefore to expect interest costs relating to historic financing decisions to be passed to customers where debt costs are high relative to those used for the notional capital structure.
- 2.18 We comment on the arrangements put in place by each of these companies, and the factors relevant to the credit rating of the actual capital structure, below.

Anglian Water

- 2.19 Since 2002, Anglian Water has adopted a highly geared structure. It increased its gearing levels from 52% in 2001-02 to 82% in 2002-03, through debt issuance, an inter-company loan and the introduction of a whole business securitisation. As part of this financial restructuring the company made an inter-company loan to a holding company above the level of the regulated company. The inter-company loan was repaid in 2018, facilitated by a one off restructuring dividend of £1.6 billion paid for by the regulated business,¹⁵ Anglian Water references that over 15% of its current outstanding bonds are bonds issued at the time of this restructuring.¹⁶

¹⁵ Anglian Water, [Annual performance report](#), 2018, p. 52

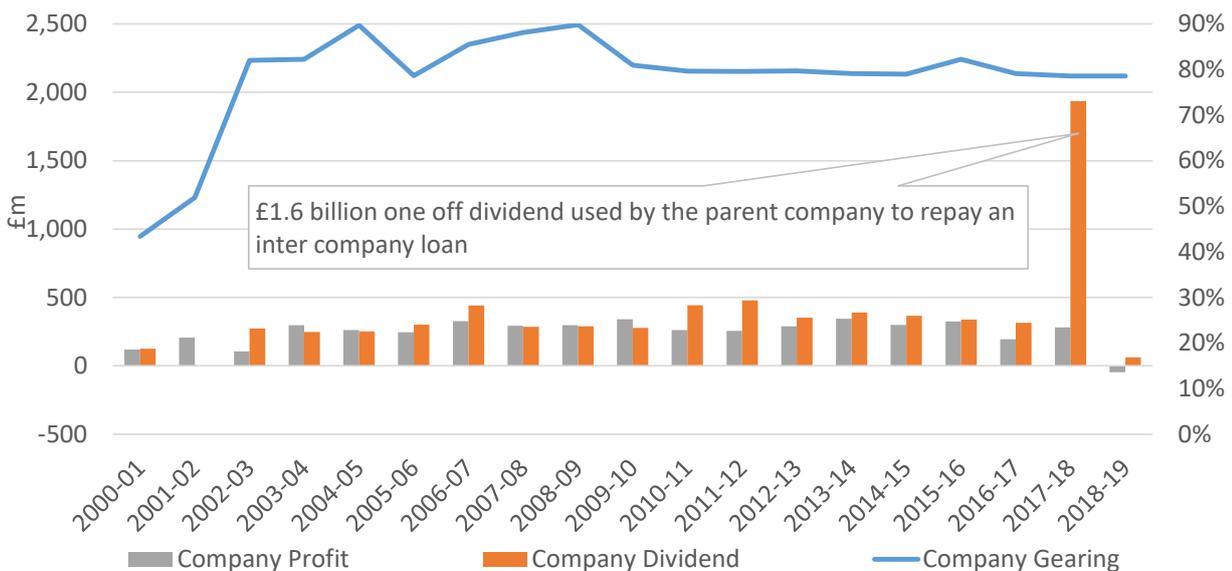
¹⁶ Anglian Water, [‘Statement of case’](#), April 2020, p. 286, Figure 86

2.20 In its representations on the draft determination Anglian Water indicated that it will aim to reduce gearing to 75% or below during 2020-25, to be achieved by a substantial reduction in dividends to shareholders. The company stated these plans were subject to the terms of the final determination.

2.21 Our final determination set out:

'Anglian Water is responsible for ensuring it delivers its obligations and commitments in the context of its choice of capital and financing structure. The company proposes to remain highly geared in 2020-25. Anglian Water may need to take further steps to improve its financial resilience. We will closely monitor changes in levels of the company's gearing, credit ratings, and other key financial metrics during 2020-25.'¹⁷

Figure 2.1: Anglian Water – Historic company profit, dividend and gearing



Source: Company annual performance reports and June returns

2.22 Since the final determination, the following actions have been taken on Anglian Water's credit ratings:

- In December 2020, Moody's placed Anglian Water's Baa1 corporate family credit rating on review for downgrade.¹⁸ Following completion of its rating

¹⁷ Ofwat, 'PR19 final determinations: Anglian Water final determination', December 2019, p.74

¹⁸ R001 - Moody's Investor Service, 'Moody's reviews 12 UK water groups for downgrade', 20 December 2019

review, on 26 February 2020 Moody's confirmed Anglian Water's Baa1 credit rating, with a negative outlook. Moody's commented:

"Today's rating action reflects Moody's expectation that, although the company will not have certainty over its revenues and investment programme for a further 6-12 months, the eventual determination is likely to support credit metrics that are weakly positioned but consistent with Anglian Water's assigned ratings. Confirmation of the ratings also incorporates Moody's expectation that management will seek to defend credit quality as may be necessary. The negative outlook reflects the risk that Anglian Water may be unable to perform in line with regulatory targets for AMP7, as they may be revised by the CMA."¹⁹

- On 17 March 2020, Fitch downgraded Anglian Water's class A debt rating from A to A-, and the class B rating from BBB+ to BBB. Fitch has stated it does not expect a favourable outcome from the CMA process to be sufficient to maintain Anglian Water's credit quality.²⁰
- On 25 February 2020, Standard & Poor's placed Anglian Water on CreditWatch negative reflecting that it would lower the ratings on its debt (senior secured Class A (A-) and subordinated Class B (BBB)) absent a significant improvement in operating conditions over the next regulatory period.²¹

2.23 Summary – Anglian Water maintains a gearing level that has been well above the notional level since its restructuring in 2002. The restructuring undertaken in 2002, was accompanied by the issuance of a material amounts of long-dated debt, which remains in place today. Comments from the credit rating agencies suggest it is possible that Anglian Water could maintain a credit rating within the investment grade band (and well within the investment grade for its corporate family and Class A debt ratings) taking account of our determination, despite its high level of gearing; in particular, the negative outlook referenced by Moody's does not appear to be because of the final determination, but because Anglian Water may be unable to perform in line with the regulatory targets if revised by the CMA.

¹⁹ R002 - Moody's Investor Service, 'Moody's confirms ratings of Anglian Water with negative outlook and downgrades Osprey', 26 February 2020, p. 1

²⁰ R003 - Fitch Ratings, 'Fitch Downgrades Anglian Water and Osprey', 17 March 2020

²¹ R004 - Standard & Poor's Global, 'Four U.K.-Based Water Utilities Downgraded On Tougher Regulations; Two Put On Watch Negative; Four Outlooks Negative', 25 February 2020, p. 3

Northumbrian Water

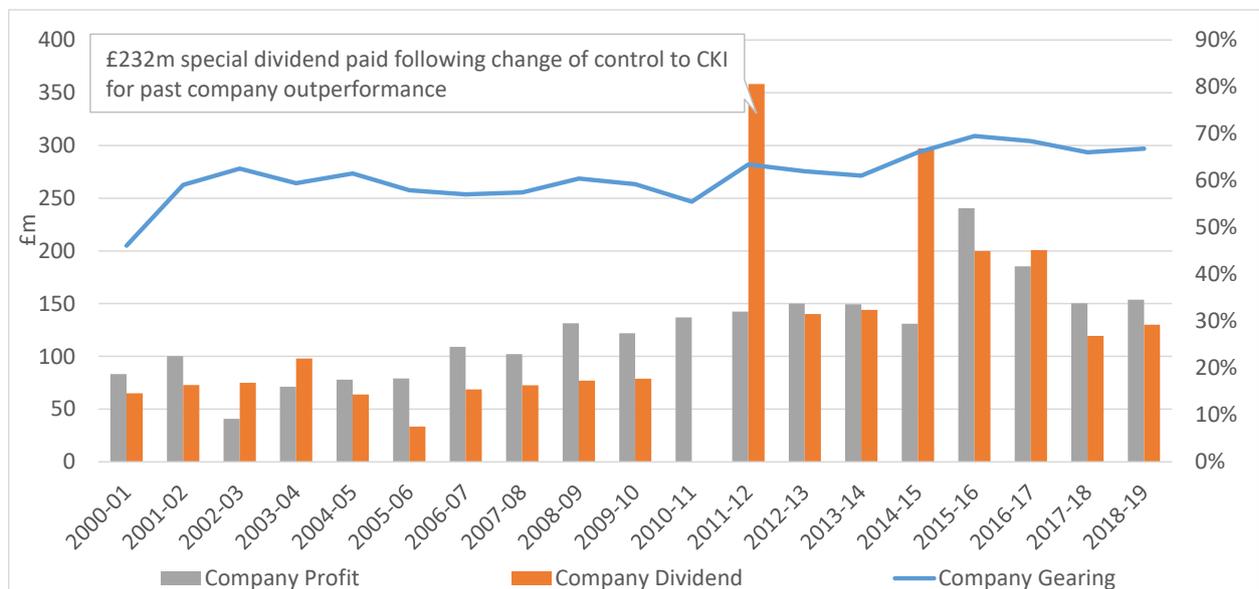
2.24 Before the ownership of Northumbrian Water passed to CKI in 2011, Northumbrian Water maintained gearing levels close to the notional level. Since its change of ownership, Northumbrian Water has maintained a high dividend payout ratio. In total, dividends have outstripped reported company profit since 2011; this has placed upward pressure on gearing, with gearing reported as 66.8% as at 31 March 2019.²²

2.25 In addition, Northumbrian Water has an existing intercompany loan outstanding of £159 million to its parent company, Northumbrian Water Group Limited, which required formal consent from us, but which the company had not obtained. The company has committed to repay the loan, but we have not yet seen evidence repayment has been made.

2.26 Our final determination set out:

'Northumbrian Water may need to take further steps to improve its financial resilience. We will closely monitor changes in levels of the company's gearing, credit ratings and other key financial metrics during 2020-25.'²³

Figure 2.2: Northumbrian Water – Historic company profit, dividend and gearing



Source: Company annual performance reports and June returns

²² Northumbrian Water, [Annual performance report](#), 2019, p.143

²³ Ofwat, '[PR19 final determinations: Northumbrian Water final determination](#)', December 2019, p. 69

2.27 Since the final determination, the following actions have been taken on Northumbrian Water's credit ratings:

- Moody's extended the review for downgrade for Northumbrian Water's credit rating on 9 March 2020 upon the CMA reference of the final determination.²⁴ Northumbrian Water's credit rating with Moody's is Baa1 (rating under review).
- Moody's credit opinion, updated in March 2020 following the extension of review for downgrade, lists strengths as the low business risk profile, the relatively stable and predictable cash flow generation under a well-established and transparent regulatory framework, and a below average net debt to regulatory capital value. However, offsetting these strengths it lists additional debt, including £1.0 billion shareholder loans at the Northumbrian Water Group level, alongside the weaker interest coverage over the 2020 to 2025 period. Moody's states the factors that could lead to a downgrade, in particular:

"The rating could be downgraded if the CMA's re-determination provides for a lower allowed return, lower cost allowances or greater operational penalties that are not adequately mitigated by management action. In particular, the rating could be downgraded if we concluded that the eventual regulatory settlement was likely to result in (1) NWG's consolidated leverage persistently above 100% (net debt/RCV); and (2) NWL's stand-alone net debt exceeding 72% of the company's RCV, excluding the net debt associated with the Kielder reservoir, or the high-seventies in percentage terms including it, and an Adjusted Interest Coverage Ratio (AICR) below 1.5x on a persistent basis."²⁵

- On 25 February 2020, Standard and Poor's placed Northumbrian Water's BBB+ credit rating on CreditWatch negative reflecting that it would lower the ratings for the company if there is no significant improvement in operating conditions over the next regulatory period. Standard and Poor's states that:

"We acknowledge the current strong support the group receives from its parent, CK Infrastructure Holdings Ltd. (A/Stable/--). We expect

²⁴ R005 - Moody's Investor Service, 'Moody's extends review for downgrade on Northumbrian Water', 9 March 2020

²⁵ R006 - Moody's Investor Service, 'Northumbrian Ltd – Credit Opinion - Update following extension of review for downgrade upon CMA referral of final determination', 13 March 2020, p. 2

this will be reflected in a reduction of dividend payments in AMP7 compared with AMP6. Nevertheless, we believe this support alone, with a favourable resolution of the CMA appeal, would not allow NWL and NWG's metrics to remain commensurate with the current ratings.”²⁶

2.28 Summary – Following acquisition by CKI, Northumbrian Water has maintained high dividends, placing upward pressure on gearing. Statements from the credit rating agencies suggest it is by no means clear that Northumbrian Water would be downgraded by Moody's solely due to our determination. Standard and Poor's states a clear expectation there would be lower future dividend payments.

Yorkshire Water

2.29 Yorkshire Water is a highly geared company. At 31 March 2019, it reported gearing of 75.8%.²⁷

2.30 The company took a number of steps in adopting its highly geared structure:

- In 2007, Yorkshire Water paid a special dividend to the Kelda Group to return approximately £717 million to shareholders, raising gearing to 60.6%.²⁸
- In 2009 Yorkshire Water undertook a whole business securitisation.²⁹
- In 2011, the company increased its gearing to levels to 73% - well above the notional level. It has remained highly geared ever since.

2.31 The company took out debt in the regulated company, which increased gearing and made use of intercompany loans to holding companies above the level of the regulated company to facilitate its financial restructuring; as at 31 March 2019 these totaled £967 million.³⁰ Interest costs on these loans are funded by dividend payments made by Yorkshire Water. The company could, in theory, settle these intercompany loans either through a dividend paid to the holding company (as was the case for Anglian Water) or by new equity injection.

²⁶ R004 - Standard & Poor's Global, 'Four U.K.-Based Water Utilities Downgraded On Tougher Regulations; Two Put On Watch Negative; Four Outlooks Negative', 25 February 2020, p. 7

²⁷ Yorkshire Water, [Annual performance report](#), 2019, p.174

²⁸ Kelda Group plc, '[Annual report and accounts 2007](#)', June 2007, p. 4 and p. 14

²⁹ Yorkshire Water Services Limited. '[Annual report and financial statements – an integrated report for the year ended 31 March 2019](#)', July 2019, p.47, Whole business securitisation

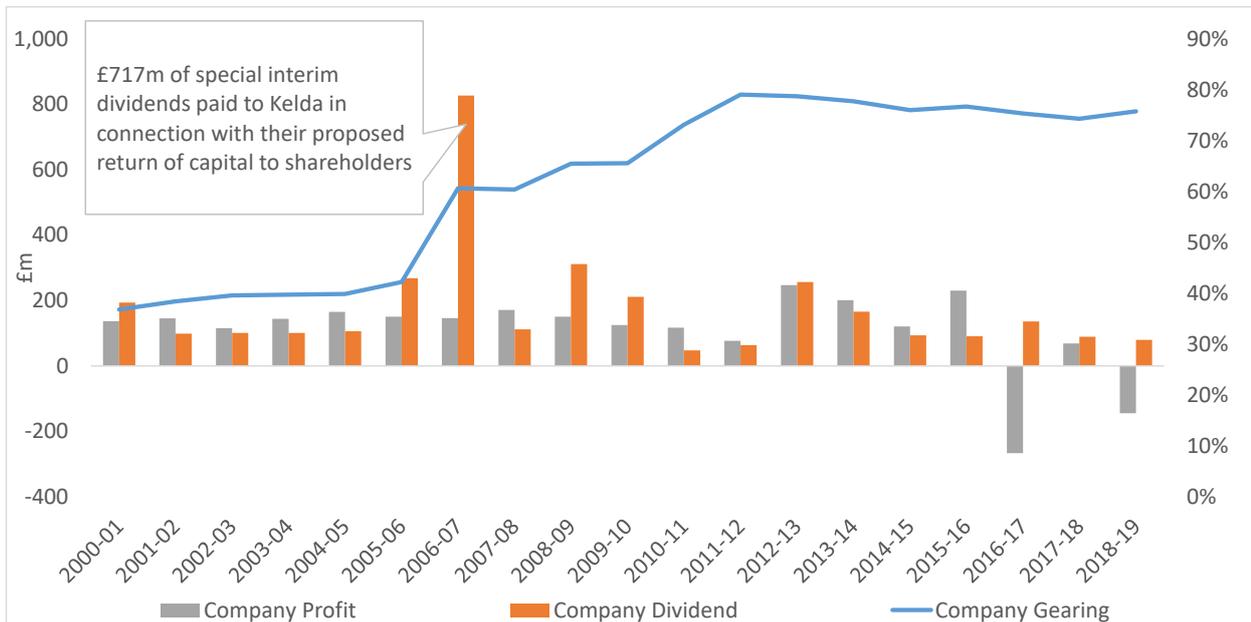
³⁰ Yorkshire Water Services Limited. '[Annual report and financial statements – an integrated report for the year ended 31 March 2019](#)', July 2019, p150

2.32 Yorkshire Water's September 2018 business plan aimed to reduce its gearing to 70% by 2021. However in its representation on the draft determination, Yorkshire Water set out it was committed to reducing gearing to 70%, but achieving it by 2025, depending on the outcome of the final determination. Yorkshire Water aimed to reduce gearing by retaining dividends. It proposed to fund the cash injections by a parent company above the level of the regulated company issuing debt.

2.33 Reflecting our concerns with the long term financial resilience of Yorkshire Water's actual financial structure, our final determination set out:

'Yorkshire Water is responsible for ensuring it delivers its obligations and commitments in the context of its choice of capital and financing structure. The company proposes to remain highly geared in 2020-25. Yorkshire Water may need to take further steps to improve its financial resilience. We will closely monitor changes in the levels of the company's gearing, credit ratings and other key financial metrics during 2020-25.'³¹

Figure 2.3: Yorkshire Water – Historic company profit, dividend and gearing



Source: Company annual performance reports and June returns

2.34 Since the final determination, the following actions have been taken on Yorkshire Water's credit ratings:

³¹ Ofwat, 'PR19 final determinations: Yorkshire Water final determination', December 2019, p.65

- On 13 March 2020, Moody's downgraded Yorkshire Water's Class A notes to Baa2 from Baa1 (rating under review for downgrade) and changed the outlook to negative.³² The corporate family rating for Yorkshire Water was improved slightly to Baa2 (negative) from Baa2 (rating under review for potential downgrade).³³ Moody's stated the downgrade on the Class A bonds to Baa2 from Baa1 was:

'reflecting the persistently high and growing [mark to market] on the derivatives portfolio, which would rank ahead of senior debt in a default scenario where creditors demand payment acceleration.'

Moody's set out that the credit ratings are constrained by interest coverage metrics and also the company's leverage. Moody's estimates gearing for Yorkshire Water of over 130% taking into account the fair value of existing borrowings as well as derivatives entered into at the time of its acquisition in 2008. Moody's has stated:

"Yorkshire Water has relatively high leverage, 77% of RCV, and a high average financing cost, which we estimate will be around 5.2% over AMP7 if the company maintains constant gearing, compared to a regulatory allowance of around 4.1%, both in nominal terms. ... The company's high borrowing costs are largely a result of inflation swaps entered into at the time of its acquisition in 2008, many of which extend to the mid-2040s or beyond. Under these swaps, Yorkshire Water receives an amount linked to Libor and pays a fixed coupon, while accruing an amount linked to the Retail Prices Index that must be paid to the counterparty at fixed intervals or at maturity of the swap, depending on the instrument.

As interest rates have fallen, current and anticipated receipts under these swaps have declined while payments have remained constant. As a result, current net financing costs are higher and the discounted value of expected future cash flow has become increasingly negative. As of January 2020 the mark-to-market loss on these swaps (MTM) is approximately £2.6 billion (37% of Regulatory Capital Value).

³² R007 - Moody's Investor Service, 'Yorkshire Water Services Limited, Credit Opinion - Update following CMA appeal and downgrade of Class A bonds to Baa2', 13 March 2020

³³ There is seen to be a higher risk of a downgrade in a shorter timeframe for 'rating under review for downgrade' than 'negative outlook'.

Taking into account the fair value of existing borrowings as well as derivatives, we estimate that Yorkshire Water had gearing of over 130% of RCV as of March 2019.”³⁴

2.35 On 25 February 2020, Standard and Poor's revised its outlook for the ratings on Yorkshire Water's senior secured Class A (A-) and subordinated Class B (BBB) debt to negative from stable reflecting its opinion that Yorkshire Water will have limited headroom in the 2020 to 2025 regulatory period above the funds from operations to net debt ratio. Standard and Poor's states:

“We could lower the ratings on YWS' class A debt and class B debt by one notch if YWS' credit quality deteriorates over AMP7 ... for instance if YWS cannot mitigate the gradual erosion of its credit metrics over the next regulatory period. We could also lower the ratings if the outcome from the CMA appeal implies more difficult operating conditions for YWS in AMP7.”³⁵

2.36 Standard and Poor's also set out that one of the factors that could lead to revising the outlook to stable is:

“a significant amount of capital injections from entities outside the regulatory ring fence”.³⁶

2.37 **Summary** - Yorkshire Water is a highly geared company; the company has deferred proposals to improve financial resilience and reduce gearing levels through the PR19 process. Moody's indicates that limited headroom in its actual structure is a consequence of its past financing choices, including a large derivatives portfolio with mark to market losses. The statement by Standard and Poor's suggests it is by no means clear that Yorkshire Water would be downgraded on the basis of the final determination; though it is clear the past financing choices made by Yorkshire Water weigh heavily on its credit ratings.

Bristol Water

2.38 A feature of Bristol Water's actual financial structure is the Artesian finance vehicle used by Bristol Water to draw down long term debt over 2003-2005.

³⁴ R007 - Moody's Investor Service, 'Yorkshire Water Services Limited, Credit Opinion - Update following CMA appeal and downgrade of Class A bonds to Baa2', 13 March 2020, p. 1

³⁵ R004 - Standard & Poor's Global, 'Four U.K.-Based Water Utilities Downgraded On Tougher Regulations; Two Put On Watch Negative; Four Outlooks Negative', 25 February 2020, p. 17

³⁶ R004 - Standard & Poor's Global, 'Four U.K.-Based Water Utilities Downgraded On Tougher Regulations; Two Put On Watch Negative; Four Outlooks Negative', 25 February 2020, p. 17

The company's borrowings in this period concentrated a significant proportion of its outstanding debt within a short issuance period, locking in the relatively high interest rates over the long term (30 years). The company's gearing was 41% at 31 March 2003 and had risen to 67% at 31 March 2004 in part due to a 'special dividend' of £10 million, reflecting the view of the Board that in conjunction with the new financing arrangements, an increase in gearing was appropriate. The company also issued two 'upstream loans', in 2003 and 2005 to its immediate parent. These loans remain in place today and parent company interest payments are funded by dividends from the regulated business.³⁷ At 31 March 2003 net debt was £74.8 million, of which £45 million consisted of Artesian financing during the year, 60% of total net borrowings.³⁸ At March 2006 net debt was £166.2 million³⁹ of which £148.5 million consisted of Artesian financing⁴⁰ which was 89% of total net borrowings.

2.39 Reflecting our concerns with the long term financial resilience of Bristol Water's actual financial structure, our final determination set out:

'Bristol Water is responsible for ensuring it delivers its obligations and commitments in the context of its choice of capital and financing structure. Bristol Water may need to take further steps to improve its financial resilience. We will closely monitor changes in levels of the company's gearing, credit ratings and other key financial metrics during 2020-25.'⁴¹

³⁷ Bristol Water, [Annual Report and Financial Statements for the year ended 31 March 2019, March 2019](#), p. 65

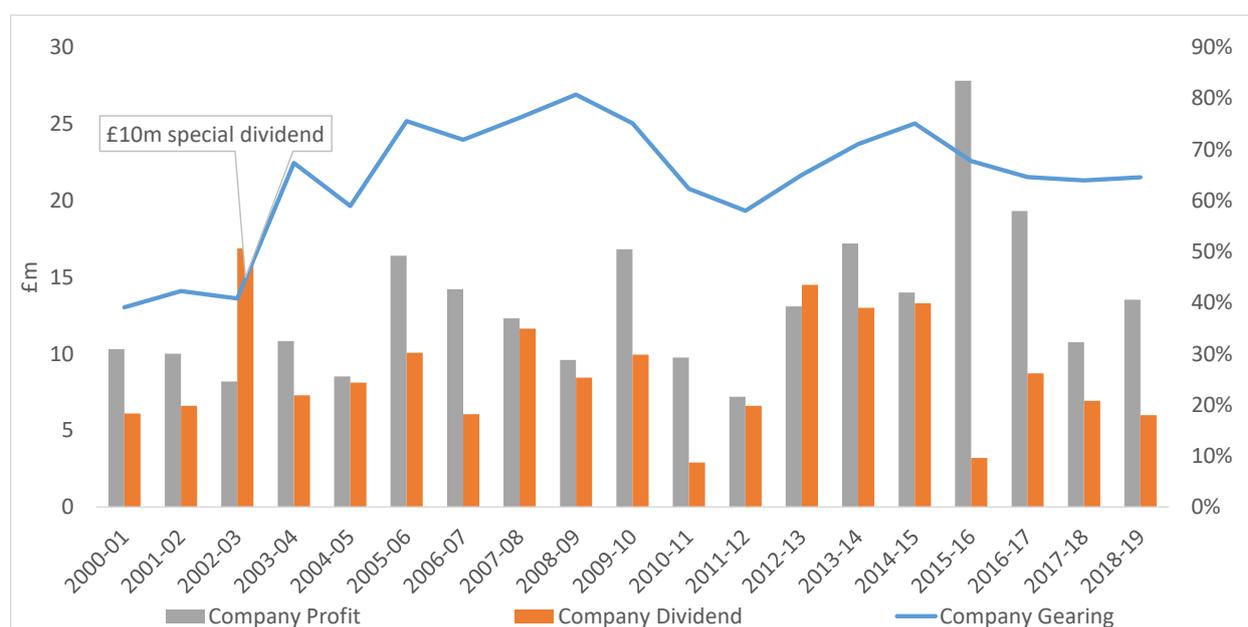
³⁸ R008 - Bristol Water, 'June Return 2003', p. 6, p. 12, paragraphs 8 and 38

³⁹ R009 - Bristol Water, 'June Return 2006', p. 6, paragraph 16

⁴⁰ Bristol Water, '[C6 – Financeability, Risk & Return, and Affordability](#)', September 2018, p. 57

⁴¹ Ofwat, '[PR19 final determinations: Bristol Water final determination](#)', December 2019, p.65

Figure 2.4: Bristol Water – Historic company profit, dividend and gearing



Source: Company annual performance reports and June returns

2.40 Bristol Water’s performance in 2015-20 has led to underperformance adjustments of a £10.9 million RCV adjustment and £5.6 million revenue adjustment.⁴² Bristol Water recognised that adjustments for past performance would impact on the financial ratios for Bristol Water under its actual capital structure in its business plan.⁴³

2.41 Since the final determination, the following actions have been taken on Bristol Water’s credit ratings:

- On 11 March 2020, Moody’s downgraded Bristol Water to Baa2 negative. The rating agency sets out that the rating action:

“reflects Moody’s view that Bristol Water will be unable to maintain financial ratios in line with guidance for the previous Baa1 rating. Ofwat’s final determination presents a range of challenges and whilst the CMA appeal may result in a more favourable settlement, the rating agency does not expect any increase in allowances will be enough to restore Bristol Water’s credit quality.”⁴⁴

⁴² Ofwat, ‘Bristol Water – Accounting for past delivery appendix’, December 2019, p. 3

⁴³ Bristol Water, ‘C6 – Financeability, Risk & Return, and Affordability’, September 2018, p. 182

⁴⁴ R010 - Moody’s Investor Service, ‘Rating Action: Moody’s downgrades Bristol Water to Baa2, negative outlook’, 11 March 2020, p. 1

- Moody's credit opinion referenced:

“Missed operational targets and other performance-related true-up adjustments for performance in AMP6 currently result in around £6 million of revenue reductions carried forward into AMP7, further reducing financial flexibility, although improved performance could soften the overall impact”.⁴⁵

2.42 **Summary** – A significant proportion of Bristol Water's debt costs relate to its debt issuance and financial restructuring carried out in 2003-05, which was also accompanied by a £10 million special dividend. Bristol Water is also impacted by past performance reconciliation adjustments. Comment from Moody's suggests it does not expect any increase in allowances arising from the redetermination will be enough to restore Bristol Water's credit rating to two notches above the minimum of investment grade.

The notional structure used in our determinations

2.43 It was clear at the point in time when each of the disputing companies made financing choices that companies would remain exposed to regulatory reset risk in future benchmark setting. Therefore no company could reasonably have had any expectation that we would pass through debt interest costs on loan instruments as a result of financing choices made by the company for its actual financial structures.

2.44 The notional capital structure set in our final determination was unchanged from the 60% gearing level we set out in our methodology. The gearing level is below the level reported by all but two companies as at 31 March 2019 (figure 2.5) and below our PR14 determination (62.5%).

2.45 We set out in our PR19 methodology that the 60% gearing level reflected:⁴⁶

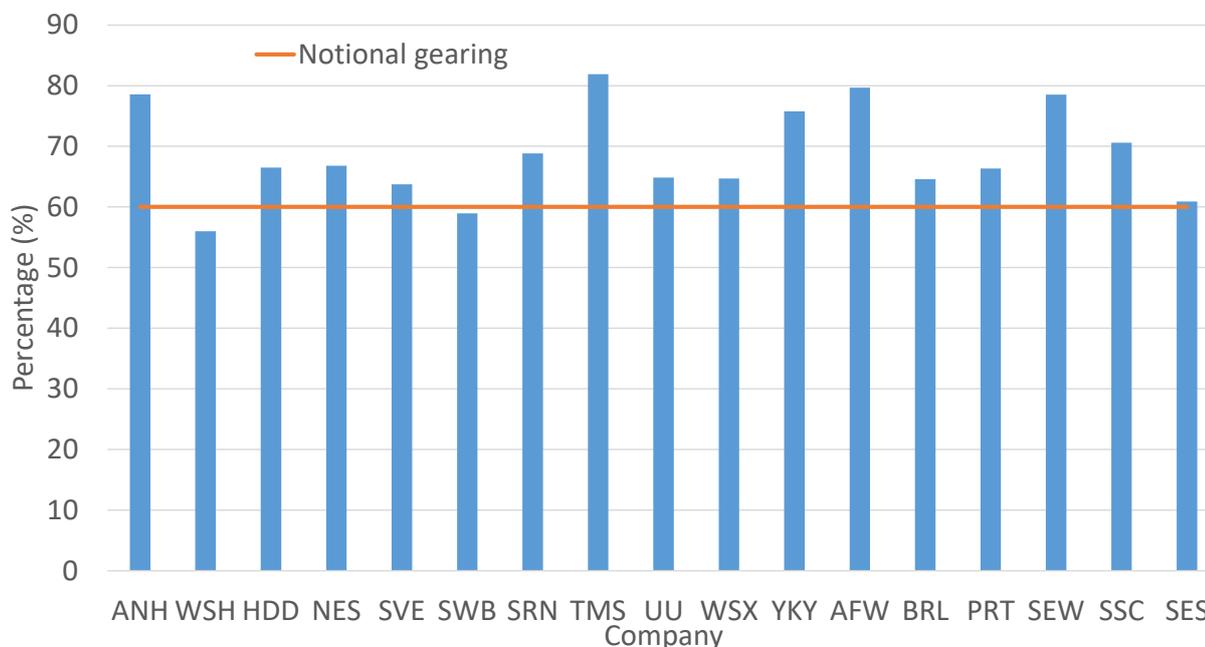
- 'evidence that some companies in the sector have reduced gearing from 2014 levels to some extent;
- the downward trend in debt to enterprise value observed for listed utility and non-financial corporates in the UK and Europe, over the last 4-5 years; and

⁴⁵ R011 - Moody's Investor Service, 'Bristol Water plc – Credit Opinion - Update following downgrade to Baa2, negative outlook', 24 March 2020, p. 2

⁴⁶ Ofwat, 'Delivering Water 2020: Our methodology for the 2019 price review'; 'Appendix 12: Aligning risk and return', December 2017, p. 21

- our proposals to make greater use of markets on a forward looking basis and to put more revenue at risk associated with service performance.'

Figure 2.5: Company reported gearing at 31 March 2019



Source: Company annual performance reports 2018-19

2.46 However, in making its redetermination, the CMA could opt for a lower level of gearing. There are a number of reasons for this:

- The **enterprise value** of gearing of the publically listed companies used for our assessment of beta is lower than our 60% notional level.
- **Financeability constraints can be mitigated** by reducing gearing levels, and in practice, where financial resilience is stretched under a company's actual financial structure, we would expect companies to take steps to mitigate a financeability constraint, which may include steps that reduce gearing.
- **Our approach to gearing at PR19** was itself informed by the gearing level of 62.5% at PR14⁴⁷. Gearing levels of 57.5% (PR09)⁴⁸ and 55% (PR04)⁴⁹, if adopted at PR19, would have helped mitigate financeability constraints,

⁴⁷ Ofwat, 'Final price control determination notice: policy chapter A7 – risk and reward', December 2014, p. 41

⁴⁸ Ofwat, 'Future water and sewerage charges 2010-15: Final determinations', November 2009, p. 128

⁴⁹ Ofwat, 'Periodic review 2004 – Future water and sewerage charges 2005-10 – Final determinations', December 2004, p. 222

offering increased financial resilience, even though below the levels reported by the disputing companies.

2.47 While we would support the CMA adopting a lower level of gearing for the notional capital structure in its financeability assessment of the notional company in its redeterminations, we would have significant concerns with an approach which makes adjustments to the notional capital structure based on some of the features requested by the disputing companies (which include for example reflecting actual gearing levels, actual cost of debt, actual mix and maturity of debt) for the following reasons:

- Setting a determination that takes account of some selected features of a company's actual financing costs would **materially dilute the incentive** on companies to raise debt efficiently and for management to be accountable for their actions over the long term, as it would have the effect of passing through the cost of long-dated embedded debt to customers.
- Such an approach could lead to a more **intrusive and burdensome regulatory approach** in the future where the regulator must consider the efficiency of each company's financing arrangements in setting company specific allowed cost of debt. The complexities of unpicking each companies' financing arrangements for such assessment should not be underestimated. It would also significantly undermine regulatory predictability, particularly for companies that are outperforming the current settlement and call into question the approach at future reviews.
- If a consequence of the CMA's redetermination is that the notional capital structure should be amended to reflect the **individual circumstances** of each company in future determinations, this could result in more companies requesting a reference for redetermination in the future to the CMA, potentially for regulated sectors beyond water where a notional approach is adopted.
- It could also result in a materially more **complex** and burdensome approach to the financeability assessment, reflecting more of the features of companies' actual financial structures, potentially increasing moral hazard where companies fail.
- **Some features of our determination could be adjusted to improve financeability** - Our decision to adopt 33% as the proportion of index linked debt that was used for our financeability assessment was below the average

for the sector (55%) and the proportion of index linked debt included in the balance sheet for all four of the disputing companies.^{50 51}

- It has been recognised that **companies have benefitted from financial outperformance** in previous reviews. For example, the NAO estimated companies had made windfall gains of at least £800 million between 2010 and 2015 from lower than expected tax rates and interest rates⁵² and Citizens Advice estimate financing benefits to water companies have been £13 billion over the period 2006 to 2019.⁵³ But there is no incentive on companies to request a redetermination where outperformance arises from past financing choices. If the CMA were to accept the arguments put forward by these companies that led the CMA to reflect financing choices under their actual structures, it would result in asymmetric impacts on customers.

2.48 We comment more generally on the issues companies raise about our assessment of the parameters for the notional cost of debt in section 3.

Totex and Outcome Delivery Incentives

2.49 Anglian Water, Northumbrian Water, Yorkshire Water and Bristol Water each raised concerns regarding a perceived asymmetric downward skew in their final determinations.

- Anglian Water argues that the risk and reward mechanisms in our final determination are skewed towards penalties, further reducing likely returns below the required level⁵⁴
- Northumbrian Water says that the combination of cost allowances, challenging and stretching performance targets, an asymmetric and downwardly skewed package and an unprecedentedly low cost of capital means that it cannot, on average, expect to earn a reasonable level of return in the base case.⁵⁵ The company also presents a chart that shows that roughly half of the companies have outperformed AMP6 cost allowances to date and half have underperformed⁵⁶

⁵⁰ Anglian Water 59%, Northumbrian Water 35%, Yorkshire Water 34% and Bristol Water 53%

⁵¹ Ofwat, '[Monitoring financial resilience](#)', January 2020, slide 14

Ofwat, '[FMR Report 2018-19 charts and underlying data](#)', January 2020, tab. 'S14.Composition of company'

⁵² National Audit Office, '[The economic regulation of the water sector](#)', October 2015

⁵³ Citizens Advice Monopoly Money, '[How consumers overpaid by billions](#)', May 2019 p. 44, table 1.

⁵⁴ Anglian Water, '[Statement of case](#)', April 2020, p. 18, paragraph 100

⁵⁵ Northumbrian Water, '[Statement of case](#)', April 2020, p. 4, paragraph 11

⁵⁶ Northumbrian Water, '[Statement of case](#)', April 2020, p. 104. paragraph 504

- Yorkshire Water claims that it has not been allowed the efficient costs necessary to deliver its business plan and faces a downside skew in its expected risk position.⁵⁷
- Bristol Water said that for each of costs, ODIs and financing, there is a larger downside skew (i.e. downside RoRE range less upside RoRE range) for Bristol Water than for listed companies.⁵⁸

2.50 In the following sections we comment first on the evidence of company performance from past price control determinations. We then set out how we have taken account of this information in setting our incentives approach for PR19. Issues related to the overall stretch on costs and outcomes, our assessment of efficient costs and our policy approach to outcomes are set out in separate documents that accompany this submission.

2.51 We comment separately on the views expressed by Economic Insight (on behalf of Anglian Water, Northumbrian Water and Yorkshire Water) in section 6 of our accompanying submission 'Overall stretch on costs and outcomes – common issues'.

Totex incentives

2.52 Analysis of companies' outturn historical performance against our assessment of efficient cost allowances, shows that overall, there has been a positive skew towards outperformance against the benchmarks of our past determinations (Figure 2.6). Companies have, on average, outperformed cost allowances at PR99, PR09 and PR14. Half of the occurrences of underperformance in the data we assessed relate to PR04, three relate to Dŵr Cymru, a company limited by guarantee that retains all financial surpluses for the benefit of customers and three relate to Thames Water.⁵⁹

2.53 Outperformance should therefore be expected, as information asymmetries mean companies have a more detailed understanding of the extent of stretch in requested costs than the regulator, and each of the determinations we have made include incentives for companies to outperform.

2.54 Historical performance of companies demonstrates we can set a downside skewed incentive regime in the expectation that companies will, on average, earn the base allowed return with the potential to outperform. This is consistent

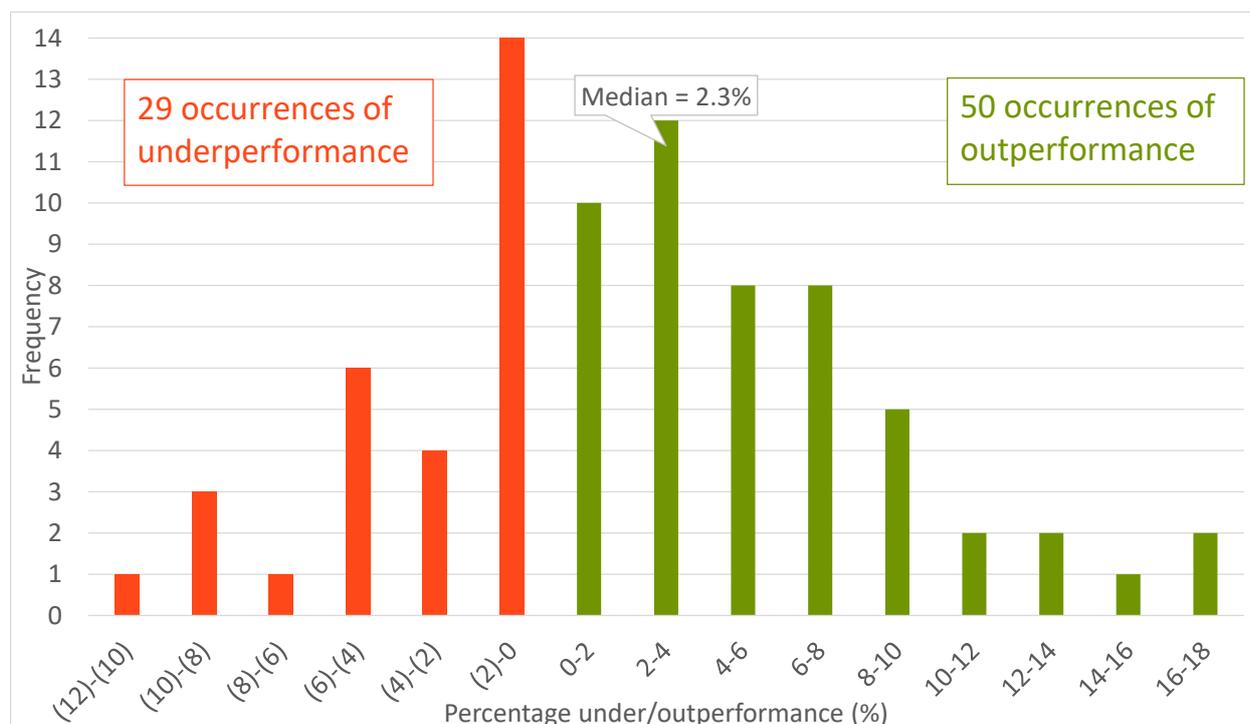
⁵⁷ Yorkshire Water, 'Statement of case', April 2020, p. 84, paragraph 283

⁵⁸ Bristol Water, 'Statement of case', April 2020, pp. 66-67, paragraph 255

⁵⁹ For PR14 we have assessed data for the first four years of the price control as outturn data for year five is not yet available.

with the findings of the National Infrastructure Commission who said 'regulators may need to 'aim off' in order to take the known information bias into account'.⁶⁰

Figure 2.6: Distribution of totex under/outperformance 2000-19



Sources: Financial performance and expenditure reports 2004-05 and 2009-10, PR99 final determination operating expenditure, PR04 final determination total operating expenditure, Capital Incentive Scheme (CIS) reconciliation models, 2011 June Return, 2012 Accounting separation submission, 2013-15 Accounting separation tables, PR14 Totex expenditure reconciliation model. PR14 excludes retail.

2.55 The data underpinning figure 2.6 is presented in table 2.1. Anglian Water and Yorkshire Water have outperformed their cost allowances in each of the previous four price control periods, Northumbrian Water has outperformed its cost allowances in three of the previous four price control periods, and Bristol Water has outperformed its cost allowance in two of the previous four price control periods.

⁶⁰ National Infrastructure Commission, [Strategic Investment and Public Confidence](#), October 2019, p. 48

Table 2.1: Actual totex compared to final determinations

| Company | 2000-05 | 2005-10 | 2010-15 | 2015-19 | Average |
|-------------------------------|----------------|----------------|----------------|----------------|----------------|
| Anglian Water | 3.5% | 1.7% | 8.3% | 9.2% | 5.7% |
| Dŵr Cymru | 2.5% | -4.1% | -10.6% | -4.0% | -4.0% |
| Northumbrian Water | 2.9% | -8.9% | 4.4% | 9.0% | 1.9% |
| Severn Trent Water | 7.6% | -2.5% | -0.2% | 4.8% | 2.4% |
| South West Water | 4.6% | -5.6% | 0.7% | 16.3% | 4.0% |
| Southern Water | 1.6% | 4.3% | -9.7% | 7.7% | 1.0% |
| Thames Water | 0.0% | -0.1% | -0.8% | -8.6% | -2.3% |
| United Utilities | 5.2% | -0.2% | 1.8% | -7.3% | -0.1% |
| Wessex Water | 13.2% | 12.5% | 15.2% | 10.0% | 12.7% |
| Yorkshire Water | 11.9% | 0.8% | 6.4% | 1.9% | 5.3% |
| Affinity | - | - | -5.5% | 0.3% | -2.6% |
| Bournemouth Water | 9.6% | 4.3% | -1.0% | 16.2% | 7.3% |
| Bristol Water | 3.7% | -0.6% | -5.2% | 4.2% | 0.5% |
| Cambridge Water | -5.4% | -2.7% | - | - | -4.0% |
| Dee Valley / Hafren Dyfrdwy | -2.0% | 0.5% | 0.3% | 3.9% | 0.7% |
| Mid Kent | 3.1% | - | - | - | 3.1% |
| Portsmouth Water | 11.8% | -4.8% | -4.0% | 3.9% | 1.7% |
| SES Water | 5.4% | -1.9% | 3.8% | 3.9% | 2.8% |
| South East | 7.6% | 7.0% | - | - | 7.3% |
| South East (Merged) | - | - | 2.3% | 6.3% | 4.3% |
| South Staffs Water | 6.8% | 1.3% | 3.1% | -0.4% | 2.7% |
| Veolia Water Central | 2.3% | -0.1% | - | - | 1.1% |
| Veolia Water East | -0.5% | -0.9% | - | - | -0.7% |
| Veolia Water South East | 6.8% | -0.4% | - | - | 3.2% |
| Control period average | 4.9% | -0.2% | 1.1% | 1.4% | 1.8% |

Sources: Financial performance and expenditure reports 2004-05 and 2009-10, PR99 final determination operating expenditure, PR04 final determination total operating expenditure, Capital Incentive Scheme (CIS) reconciliation models, 2011 June Return, 2012 Accounting separation submission, 2013-15 Accounting separation tables, PR14 Totex expenditure reconciliation model. PR14 excludes retail.

2.56 Prior to PR14, cost allowances were set separately for opex and capex. At PR14 we set costs on a total expenditure (totex) basis; an approach we retained for PR19.

2.57 The change to totex was introduced in PR14 to remove aspects of regulation that were too prescriptive. Our move to assessing costs on a total expenditure ('totex') basis mitigates potentially undesirable incentives for companies to seek

capital expenditure intensive solutions where there may be better alternatives. It allows companies to decide on the right investment solution to drive benefits for their consumers, rather than one that is influenced by the way the regulator assesses costs. It provides all companies more flexibility to manage changes in wholesale costs, and provides more opportunities to innovate and deliver value for money for customers over the longer term.⁶¹

2.58 Anglian Water, Bristol Water and Northumbrian Water raise concerns that the totex incentive mechanism has asymmetric cost sharing rates:

- Anglian Water says it would receive no more than 35% of the benefits of any outperformance but would pay at least 65% of the costs of any underperformance, against our baseline. Anglian Water argues that if the outturn position proves to be closer to that proposed in its plan than the final determination, it would be 'heavily' penalised.⁶²
- Bristol Water alleges that our determination contains an error by imposing an asymmetric totex cost sharing mechanism which means it must bear 60% of any cost over-runs but retain only around 40% of any underspend.⁶³
- Northumbrian Water asserts that our approach to setting cost sharing rates has the wrong incentive properties and does not take into account reasons for costs being disallowed. It says, a 34% outperformance cost sharing rate will significantly jeopardize any incentive that a company has to make efficiency improvements, especially towards the end of the 5-year review period.⁶⁴

2.59 Our approach to determining cost sharing rates in our PR19 determinations must be considered in the context of our broader objectives. Our approach to cost sharing was twofold, to:

- **Incentivise companies to submit efficient business plans** - Companies with stretching totex plans that are more efficient than our benchmark benefit from more favourable cost sharing rates, while receiving more protection from overspend. Companies with less efficient plans benefit from less favourable cost sharing rates, and less protection in overspend scenarios.

⁶¹ Ofwat, '[Delivering Water 2020: Our final methodology for the 2019 price review](#)', December 2017, p. 135

⁶² Anglian Water, '[Statement of case](#)', April 2020, p. 119, paragraph 507

⁶³ Bristol Water, '[Statement of case](#)', April 2020, pp. 1-2, paragraph 7

⁶⁴ Northumbrian Water, '[Statement of case](#)', April 2020, pp. 104 & 106, paragraphs 500 & 508

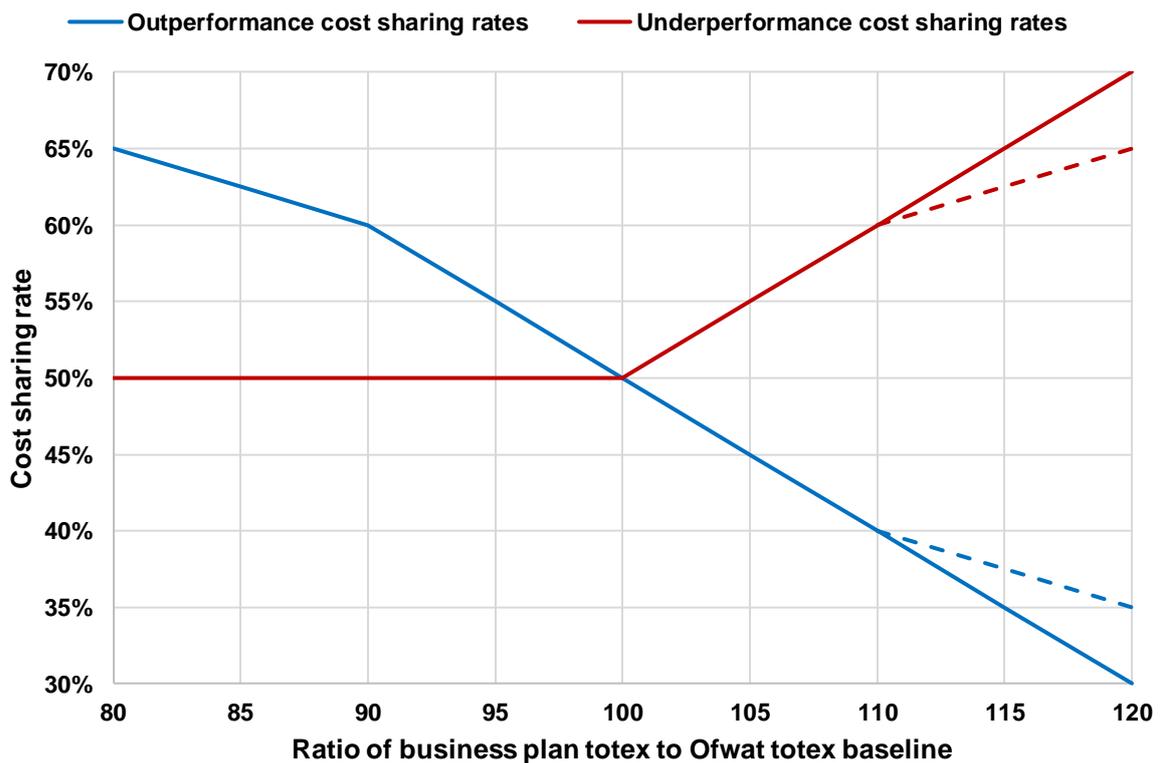
- **Incentivise ongoing cost efficiency** - All companies are incentivised to deliver cost efficiency in period; companies receive outperformance rewards where they outperform the determination and underperformance penalties incentivise companies to minimise overspend.
- 2.60 In addition to the points above, totex cost sharing rates mitigate exposure to companies where they overspend our determinations. Cost sharing rates are an important regulatory tool that allow us to meet our duties in the round.
- 2.61 Cost sharing is a mechanism by which the risk that we have set an allowance⁶⁵ too high or too low is shared between customers and shareholders. As a risk sharing mechanism, cost sharing works as follows: when a company over or underspends its cost allowance during the price control period, it will share the over or underspend with customers.
- 2.62 Cost sharing rates are the proportion of cost savings that shareholders get to keep, or the proportion of any cost overrun that shareholders will have to bear. Cost sharing ensures that customers get a share of the benefits when companies outperform their cost allowance. Where companies overrun their allowance, both customers and companies are protected since the overrun is shared according to the cost sharing rates set. Companies have significant control over their costs and so it is right they bear a considerable proportion of the risk of overspend rather than customers. We will take companies' cost performance against our allowance into account in the PR19 reconciliation for the next price control period.
- 2.63 Cost sharing rates are determined by the ratio of a company's view of totex in its business plan to our view of efficient totex. The approach is consistent with established regulatory practice (in water and in other sectors).
- 2.64 Given the asymmetry of information between companies and the regulator, for PR19 we increased focus on the company's view of totex in its business plan. The company's view of totex was calculated as the average of the September 2018 business plan totex and the revised view submitted in August 2019. Our view of totex is as in our final determinations. Our aim in doing so was to incentivise companies to submit plans with efficient costs. **Decisions the CMA may take in its redetermination could impact on the cost sharing rates that apply for disputing companies. It is important to recognise decisions the CMA takes that alter the cost sharing rates in our final determinations**

⁶⁵ The average of September 2018 business plan and August 2019 revised view was taken to preserve incentives to submit efficient plans in future price controls and efficient revised views during the PR19 price control process.

could impact on the incentives for submission of efficient business plans in the future. We submit that the CMA should retain the cost sharing rates in our final determination for the disputing companies. We would welcome further engagement with the CMA on this issue.

2.65 Each company has two cost sharing rates, one for outperformance, and another for underperformance. Figure 2.7 illustrates how we determine the sharing rates based on the ratio of business plan totex to our allowed totex. The slopes of the lines provide an incentive for companies to submit efficient plans, as a low ratio of business plan totex to our totex allowance provides more favorable cost sharing rates than a high ratio. The dashed lines show the part of the line where the sharing rates schedule was different at draft determinations.

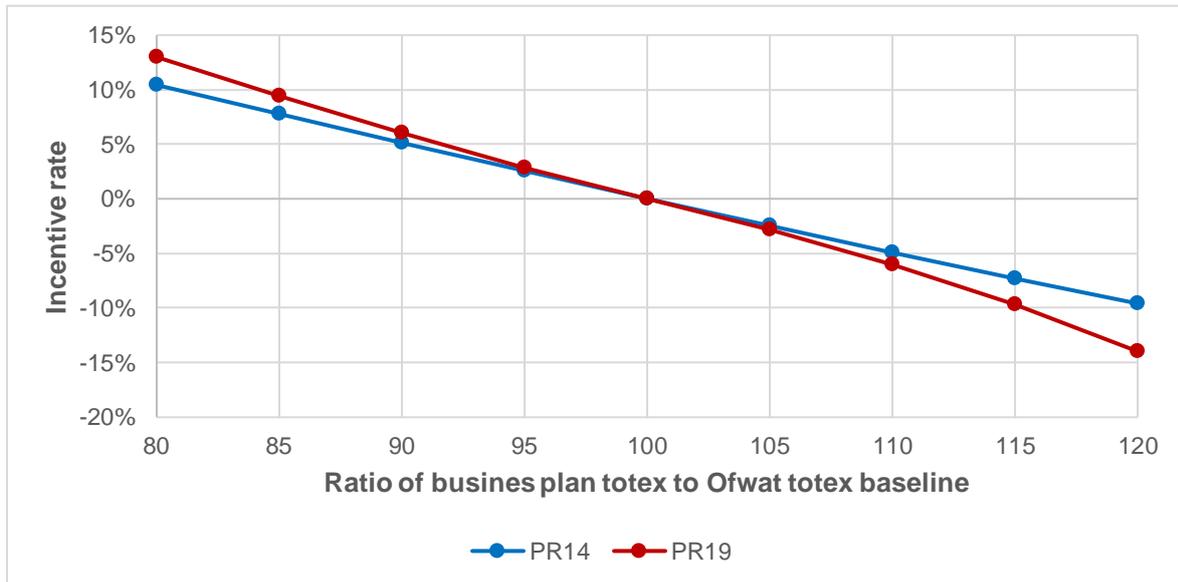
Figure 2.7: Determination of cost sharing rates at PR19



Source: PR19 final determination: Securing cost efficiency technical appendix, page 131. The dashed lines show the part of the line where the sharing rates schedule was different at draft determinations.

2.66 Figure 2.8 shows that the cost sharing rates represent a marginal increase in the totex incentive compared with PR14 where companies' actual performance is in line with our baseline.

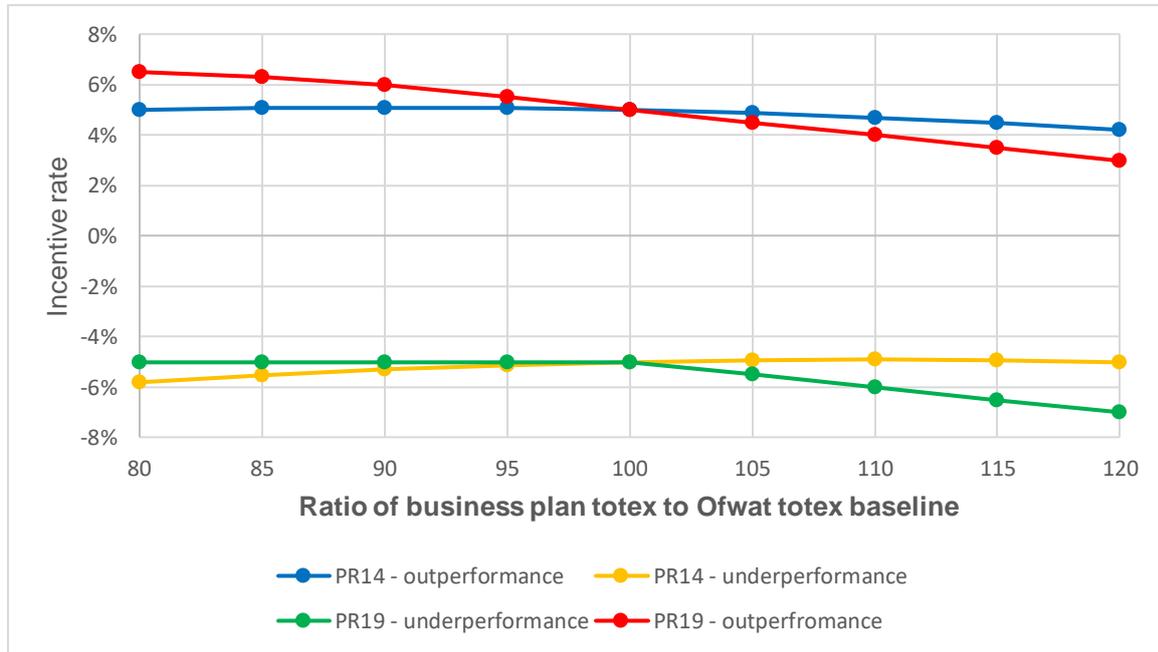
Figure 2.8: Comparison of PR19 and PR14 incentive rates actual expenditure in line with the baseline



Source: PR19 and PR14 cost sharing models

2.67 Where companies out- or underperform our baseline, the incentive rates also represent only a marginal change to PR14. In Figure 2.9 we present the overall value of the totex incentive as a percentage of our totex baseline for companies that outperform or underperform our baseline by 10%. Noting that only one of the 82 observations stated in table 2.1 underperformed by more than 10% of our baseline, such underperformance is unlikely to occur in 2020-25; conversely we note six observations of outperformance by greater than 10%.

Figure 2.9: Comparison of PR19 and PR14 incentive rates 10% outperformance and underperformance on baseline



Source: PR19 and PR14 cost sharing models

2.68 Figure 2.9 illustrates a small, but nevertheless increase in the incentive rates for companies submitting plans that are more efficient than, or close to our cost baseline. We also set slightly tougher incentive rates for those companies submitting business plans with less stretching costs.

2.69 In our PR19 Methodology we set the underperformance cost sharing line to be flat (that is, zero slope) for totex ratios of less than 100. This was a refinement of the incentive rates proposed in our draft methodology to address claims that companies might be incentivised to submit low cost plans, irrespective of their actual forecasts of costs, in order to gain access to better sharing rates. In addition to removing any such incentive, this change makes sure customers do not pay more than 50% of any underperformance in such cases, thereby protecting customers from poor or inefficient business planning.

2.70 Companies had full sight of the intention to set asymmetric cost sharing rates from the beginning of the review. We consulted on our approach to calculating cost sharing rates as part of our draft PR19 methodology in July 2017. None of the respondents to our consultation raised the concerns that the disputing companies have raised in their statements of case. Moreover, except for Bristol Water, the companies have not raised the same concerns during the price

review process (for example, in response to our draft determinations) as they raise in their statements of case.

2.71 We do not consider that the concerns raised by the companies are warranted. We are satisfied that our cost sharing mechanism provides a suitable incentive for companies to submit an efficient and well-justified plan. Our cost sharing mechanism includes a reasonable range of cost sharing rates, which provide significant protection for companies and customers against over- or under-spend. The mechanism also provides a strong incentive not to overrun our cost allowance for those companies that, in our view, have submitted inefficient cost forecasts in their business plans. The mechanism does not put any more weight on our view of costs than the mechanism that we used at PR14 or the mechanisms used by Ofgem. All mechanisms put a full weight on the regulator's view of costs.

2.72 The totex incentive mechanism incentivises companies to submit efficient business plans and ongoing cost efficiency. **It is important therefore that the CMA sets cost sharing rates for the disputing companies which are consistent with how these rates were set for the rest of the sector if the incentives to submit efficient business plans are to be maintained for future determinations.**

Outcome Delivery Incentives

2.73 Anglian Water, Bristol Water, Northumbrian Water and Yorkshire Water raise concerns that the ODI incentive mechanism has asymmetric rates:

- Anglian Water states that high penalties relative to low rewards and unattainable targets translate into a pronounced downside skew in returns where companies are likely to trigger penalties even if improving performance levels.⁶⁶
- Northumbrian Water states that there is asymmetry in ODIs, with potential penalties at the P10 level exceeding the reward at P90. The company claims we have not taken a stochastic approach to risk assessment.⁶⁷
- Yorkshire Water comments that there is a downside skew with it carrying a greater risk of ODI penalties and we have no meaningful understanding of the extent of that risk.⁶⁸

⁶⁶ Anglian Water, 'Statement of case', April 2020, pp. 18-19, paragraph 105

⁶⁷ Northumbrian Water, 'Statement of case', April 2020, pp. 189-191, paragraphs 1061-1067

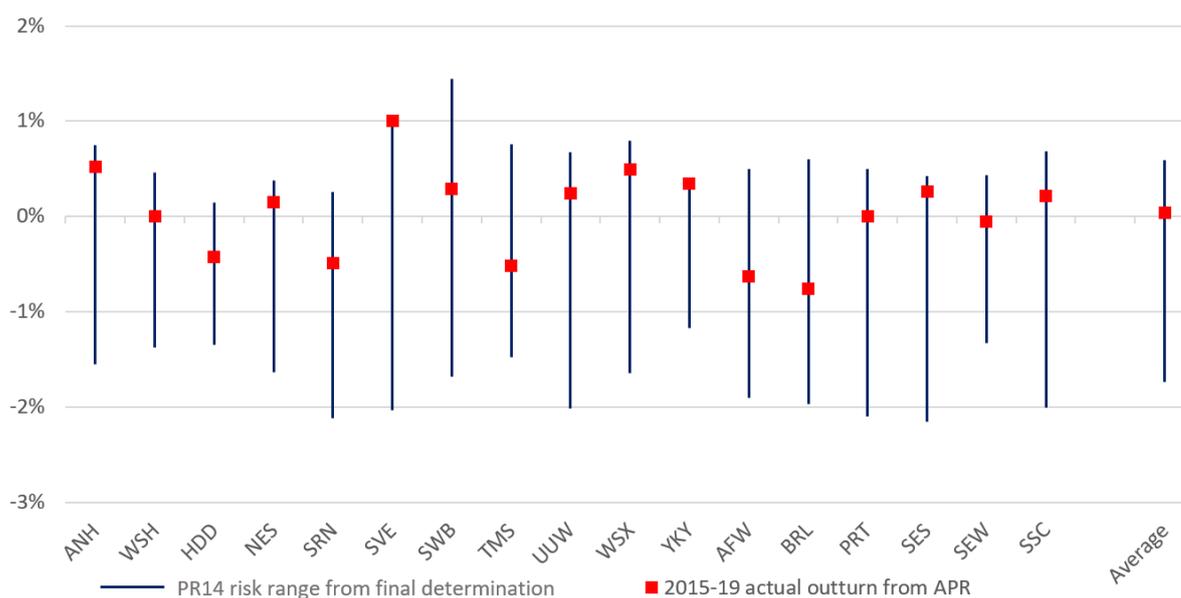
⁶⁸ Yorkshire Water, 'Statement of case', April 2020, p. 61, paragraph 187

- Bristol Water states that its analysis of the final determination indicates a much greater negative skew with P10/P90 RoRE range of -2.9% to +0.8%. This is significantly more asymmetric than its business plan submission of -2.3% to +1.1%.⁶⁹

- 2.74 Outcome Delivery Incentives (ODIs) were first introduced as part of the 2014 price control, as such there is a limited amount of historical data available to analyse past performance. However, this data is informative for assessing levels of future performance.
- 2.75 Our initial submission to the CMA set out evidence from the ODI risk ranges in the PR14 final determination. At the time of that determination, companies typically considered the associated performance commitments to be stretching, and, as shown in Figure 2.10, presented a negative skew in expected returns.
- 2.76 Following PR14, companies have responded to the ODI incentive challenges, with average performance for the sector equivalent to a 0.0% impact on base regulatory equity return in 2015-19.
- 2.77 Evidence from PR14 suggests companies will be incentivised to respond to the stretch we have included in our PR19 final determinations, meaning we do not expect there to be a negative impact on realised returns for efficient companies on average, but we acknowledge some companies may underperform.

⁶⁹ Bristol Water, 'Statement of case', April 2020, p. 151, paragraph 618

Figure 2.10: Reported performance of each company against the ODI risk ranges from the PR14 final determination



Source: PR14 final determination and company annual performance reports

2.78 Asymmetric performance incentives for service measures are not new.

2.79 Up to 2015 performance incentives were predominately “stick”. Apart from the Service Incentive Mechanism (SIM) used to incentivise customer service, and before this the Overall Performance Assessment (OPA),⁷⁰ there was no “carrot” to improve performance. While the SIM and the OPA included “carrot”, both had greater downside than upside. In the 2010-15 period the overall SIM reconciliation was a reduction in company revenues of £79.3m⁷¹. In addition to this we also clawed back £179.4m in the 2010-15 period from companies for failing to maintain assets.⁷²

2.80 At PR14, as at PR19, ODIs had more downside than upside. As shown in Table 2.2, 48 percent of performance commitments that had financial ODIs only had underperformance rates and so only had the potential for downside. This compares to 40 percent at PR19. Also for those ODIs that had the possibility of both upside and downside, at both PR14 and PR19, just over half had greater underperformance rates than outperformance rates.

⁷⁰ Ofwat, 'Setting price limits for 2010-15: Framework and approach', March 2008, p. 58

⁷¹ Ofwat, 'Policy chapter A4 –reconciling 2010-15 performance', December 2014, p. 5

⁷² Ofwat, 'Updated 2010-2015 reconciliation', December 2017, p. 21

2.81 For the disputing companies, Anglian Water, Bristol Water and Yorkshire Water all had at least as many underperformance only ODIs in PR14. Bristol Water, Northumbrian Water and Yorkshire Water also had significantly more ODIs with both out- and under-performance rates where the underperformance rate exceeded the outperformance rates.

Table 2.2: Comparison of ODI rates between PR14 and PR19 rates

| | Percentage of ODIs that are underperformance only | | Percentage of 'out and under' ODIs where the underperformance exceeds the outperformance rate | |
|-----------------|---|------------|---|------------|
| | PR14 | PR19 | PR14 | PR19 |
| ANH | 48% | 42% | 36% | 58% |
| BRL | 44% | 40% | 100% | 67% |
| NES | 33% | 39% | 71% | 60% |
| YKY | 31% | 31% | 78% | 35% |
| Industry | 48% | 40% | 53% | 54% |

2.82 We have also revised our approach at PR19 to improve incentives to companies in other ways. The Service Incentive Mechanism (which had out/underperformance adjustments equivalent to +6% to -12% of retail revenue) has been replaced by the Customer Measure of Experience Mechanism (C-MeX) at PR19, with scope for symmetrical maximum and minimum performance adjustments (equivalent to +12% to -12% of retail revenue).

2.83 Moreover, where a company is already performing at a level better than the performance commitment set in our determination, it can earn outperformance payments from the performance commitment, whereas at PR14 a deadband applied to historical performance for the five performance commitments set at the upper quartile. At PR14 companies could not earn outperformance until they had surpassed their historical performance. The net effect is that it is easier for better performing companies to earn ODI upside from the beginning of the price control period.

2.84 Northumbrian Water comments that the potential underperformance payments at P10 exceed the outperformance payments at P90. Figure 2.10 shows this was the case for Northumbrian Water at PR14, as indeed it was for all companies. The range for Northumbrian Water at PR14 was between -1.6%

and 0.4%.⁷³ Northumbrian Water has subsequently reported a position of net outperformance payments of 0.15% in 2015-19. We comment on our approach to the assessment of ODI ranges (and Northumbrian Water's challenge to assessing ODI ranges) in the Outcomes – common issues document.

2.85 Evidence from PR14 suggests that companies are strongly incentivised to maximise ODI rewards and minimise underperformance adjustments once the determination has been set. This is evident from figure 2.10 which shows that underperformance adjustments for 2015-19, where they occur, have not exceeded 50% of the indicative scope for downside stated at PR14. Yet 5 companies have achieved outperformance ODI adjustments that exceed over 50% of the indicative scope for upside.

2.86 One argument made by disputing companies is that the downside skew in ODI rewards should be compensated for in a higher allowed cost of equity. We have concerns that such an approach would likely be poorly-targeted, has limited grounding in the CAPM framework, and would in the long-run risk undermining the incentive properties of our regulatory regime.

- Firstly, forecast return on regulatory equity (RoRE) ranges are variable, reflecting company-specific factors (both company circumstances and calculation methods), while the allowed return is a sector-wide parameter. This implies that any uplift to correct for targets that are too stretching for some companies would represent a windfall gain to those which are unaffected.
- Secondly, we also note that company-specific (and therefore diversifiable) risks, such as those relating to management decisions, do not require a compensating return under the Capital Asset Pricing Model (CAPM) framework. While we recognise ODIs are impacted to a degree by exogenous risk (as referenced in the Outcomes – common issues document), company management has material influence over ODI performance.
- Finally, there is also a clear risk that, in intervening to set easier targets or increase returns to address a downside RoRE skew resulting from previous management decisions (e.g. underinvestment), this would significantly reduce incentives to improve performance and maintain investment at efficient levels.

⁷³ Ofwat, 'PR14 Final price control determination notice: company-specific appendix – Northumbrian Water', p. 9

3. Allowed return

Introduction

- 3.1 For PR19 final determinations we set an allowed real return of 2.96% in CPIH terms (1.96% RPI). Our objective in setting this allowance was to provide a reasonable base level of return reflective of the sector's risks, sufficient to cover efficient debt and equity financing costs for a company adopting our notional financial structure. The actual return on capital will vary depending on each company's performance against its cost allowance and performance commitments in 2020-25.
- 3.2 As set out in the 'Cross-cutting issues' document accompanying our initial submission to the CMA, we considered evidence on market-to-asset ratios for Severn Trent and United Utilities in the period immediately after final determinations. We found that the premium of enterprise value to RCV in February 2020 was 28% and 20% respectively - markedly higher than the 1993-2020 average premium for these two companies of 9%. Europe Economics' decompositional analysis of these cashflows indicated a residual market premium over RCV of 1.04 to 1.08 once outperformance from factors such as totex, debt finance and Outcome Delivery Incentives was reflected.⁷⁴ We consider that the most plausible explanation for this residual premium is an allowed return on equity which is above market return requirements.
- 3.3 Despite this, all four disputing companies argued that our allowed return was set too low in the context of available market evidence. With the exception of Yorkshire Water, all set out their view of what the sector allowed return should be. The range and point estimates proposed by companies were without exception higher than our final determination allowed return of 1.96% for the appointee, in RPI-deflated terms (Table 3.1). The returns proposed by Anglian Water and Northumbrian Water were also materially higher than the level proposed in their business plans:

⁷⁴ Ofwat, '[Reference of the PR19 final determinations: Cross-cutting issues](#)', March 2020, pp. 33-35, paragraphs 5.14-5.18

Table 3.1 – Sector appointee⁷⁵ allowed return – company proposals (RPI-deflated)

| | Anglian Water | Northumbrian Water | Yorkshire Water | Bristol Water* |
|---|----------------------|---------------------------|------------------------|-----------------------|
| April 2019 business plan | 2.40% | 2.40% | 2.40% | 2.40% |
| Aug 2019 draft determination representation | 2.5% - 2.8% | 2.40% | 2.40% - 2.64% | 2.31% |
| Statement of case | 2.5% – 2.9% | 2.49-2.75% | n/a | 2.32% |

Note: Where expressed in nominal terms, returns have been deflated assuming an RPI of 3.0%

* Bristol Water have proposed a company-specific adjustment to their sector allowed cost of equity and debt which brings their overall requested return to 3.03% in RPI terms.

Source: Ofwat analysis of company submissions

3.4 The remainder of this section discusses the specific objections raised by companies on the components of the allowed return.

Impact of Covid-19

3.5 Our allowed return was based on analysis of data up to 30 September 2019. It therefore predated the global Covid-19 epidemic, and so does not reflect the reaction by financial markets.

3.6 It is too early to draw firm conclusions on how the allowed return for 2020-25 will be affected by the crisis. We note scenarios prepared by PwC which envision a temporary period of economic disruption of up to 18 months, which would be shorter and/or less severe if interventions (e.g. treatment drugs, vaccines, social distancing) are more successful in allowing a return to normality.⁷⁶

3.7 We consider that the disruption over this period could plausibly result in downwards as well as upwards pressure on components of the allowed return from final determinations. Indeed, downwards pressure would be consistent with our experience following the global financial crisis of 2008/09, which was

⁷⁵ The appointee allowed return incorporates a return on the wholesale and retail controls, as distinguished from the wholesale allowed return which is just a return on the wholesale controls.

⁷⁶ PwC, 'Covid-19: UK Economic Update', 7 April 2020

followed by a large fall in the risk-free rate (RPI-linked gilt yields), and the cost of new debt (the iBoxx A/BBB). There is also evidence that the ensuing low interest rate environment has reduced the required return on equity.⁷⁷

- 3.8 We note that no disputing company made substantive comment on the impact of Covid-19 in its representation, although Northumbrian Water⁷⁸ and Anglian Water⁷⁹ raised the issue of volatility in the UK gilts rate, suggesting that this increased the risk that short-term yields would not prove to be representative of 2020-25. This is not readily apparent in the latest (April) data (See figure 3.1 in this section) where yields on 15 year RPI-linked gilts have returned to levels below our final determinations allowance of -2.35%, following an apparently temporary period of volatility. This is particularly noteworthy given the record £45 billion of gilts the UK Debt Management Office announced it would issue in April – three times the previously planned amount.⁸⁰
- 3.9 The impact of Covid-19 on expectations for the required return over 2020-25 may become clearer in the coming months, and so we would expect to comment on these issues further as the redetermination process progresses.

Allowed cost of equity

- 3.10 In table 3.2 we summarise the cost of equity issues raised by companies in their statements of case and our considered responses below. Where we consider the responses have not provided evidence over and above that supplied during the PR19 price review process, we have repeated our reasoning set out in the document [Reference of the PR19 final determinations: Cross-cutting issues](#) ('Cross-cutting issues appendix')

Table 3.2 – Cost of equity issues raised by disputing companies

| Issue raised | ANH | NES | YKY | BRL |
|--|-----|-----|-----|-----|
| TMR issue 1: Ofwat's use of the Bank of England's historical CPI series is not justified. | X | X | X | X |
| TMR issue 2: The role played by the JKM estimator in informing Ofwat's point estimate is unjustified. | X | X | - | X |

⁷⁷ PwC, 'Refining the balance of incentives for PR19', June 2017, p4

⁷⁸ Northumbrian Water, 'NWL response to NATS provisional findings', paragraph 23.

⁷⁹ Anglian Water, 'A reply to the CMA's approach to the cost of equity in the NATS Provisional Findings', p.35 paragraph 4.4.3

⁸⁰ Institute for Fiscal Studies, 'For sale: £45 billion of gilts', 1 April 2020

| | | | | |
|--|---|---|---|---|
| TMR issue 3: Ofwat has erred by not applying an upwards 'bias adjustment' to estimates of TMR from its dividend growth models | X | - | - | X |
| TMR issue 4: Ofwat's use of forward-looking dividend discount model (DDM) evidence is not balanced. | X | - | - | X |
| RFR issue 1: Ofwat's use of a short trailing average to inform its risk-free rate assumption is not justified. | X | X | - | X |
| RFR issue 2: A negative real-terms risk-free rate cannot be sustained for significant periods | - | - | X | - |
| RFR issue 3: Ofwat places sole weight on RPI-linked gilts but should draw on alternatives (e.g. nominal gilts, interbank rates) | - | - | X | X |
| Beta issue 1: Estimation windows of at least 5 years should be used. | X | X | X | X |
| Beta issue 2: Share price 'noise' should be excluded from the CMA's beta estimate | - | - | X | - |
| Beta issue 3: Most weight should be placed on monthly betas | X | X | - | X |
| Beta issue 4: A Vasicek adjustment should be applied to econometric estimates of beta | X | X | - | X |
| Beta issue 5: Ofwat's debt beta of 0.125 is too high | X | X | X | X |
| Beta issue 6: Reflecting gearing in the re-determined estimate of notional equity beta. | - | - | - | - |

Total Market Return issues

3.11 We derived our point estimate of the total market return (6.50% in CPIH terms) using the same framework as has been used in previous CMA cost of capital determinations:

- **'Ex-post'** approaches which assume that observed historical equity returns can be used to make inferences about investors' current expectations for TMR.
- **'Ex-ante'** approaches which aim to separate historical return expectations from realised returns, using an estimate of the former to infer investors' current expectations for TMR.
- **'Forward-looking'** approaches which use more recent market data and sentiment to infer investors' expectations for TMR – particularly via the pricing of financial assets considered against their predicted cashflows.

3.12 In their statements of case, all four disputing companies argued for a higher point estimate for TMR than our 6.50% in CPIH terms. Anglian Water,⁸¹ Bristol Water,⁸² and Northumbrian Water,⁸³ all proposed a figure of 7.29%, based on advice by consultants KPMG. Yorkshire Water did not propose a point estimate.

TMR issue 1: Ofwat's use of the Bank of England's historical CPI series is not justified.

3.13 As set out in paragraph 5.36 of our Cross-cutting issues appendix from our introduction to the CMA:

“We consider that changes in the composition and measurement of RPI over time have caused latter-day RPI to be structurally higher than in historical periods due to the higher RPI ‘formula effect’. This makes using unadjusted historical RPI-deflated returns an unreliable guide to prospective RPI-deflated returns required by investors. We therefore consider that our CPI series (which does not suffer from this problem) is a better index to use. The Bank’s CPI and RPI series use the same underlying series between 1914 and 1947 – the implied consumption expenditure deflator. This is justified as the only alternative series available for this period is clearly rated as lower quality by the Office for National Statistics”

3.14 All four disputing companies disagree with our decision to calculate real-terms historical equity returns using the Bank of England's historical CPI series:

- Anglian Water⁸⁴ and Bristol Water⁸⁵ note that the part of the CPI series between 1949-1988 is from an ONS modelled back series which the authors stated was not intended for official purposes and not an official statistic.⁸⁶

⁸¹ Anglian Water, ‘[Statement of case](#)’, April 2020, p. 28, paragraph 138. Adjusted from original figure of 6.25% (RPI) by applying a 100bps RPI-CPIH ‘wedge’

⁸² Bristol Water, ‘[Statement of case](#)’, April 2020, p. 5. Adjusted from original figure of 9.00% (nominal) by applying a 2.0% CPIH assumption.

⁸³ R012 - KPMG, ‘Estimating the cost of capital for PR19’, SOC416, April 2020, p. 31, paragraph 4.2.38

⁸⁴ Anglian Water, ‘[Statement of case](#)’, April 2020, p. 274, paragraph 1101

⁸⁵ Bristol Water, ‘[Statement of case](#)’, April 2020, p. 69, paragraph 266

⁸⁶ Office for National Statistics, ‘[Modelling a CPI Back Series](#)’, January 2013

- Yorkshire Water alleges that it is problematic to deflate using historical CPI due to the unavailability of CPI over the period 1900-2018, particularly over 1900 and 1948.⁸⁷
- Bristol Water alleges that the change to a CPI series from RPI reduces TMR by over 100 basis points, despite TMR not having changed – and that we have not advanced sufficient justification for such a large change.⁸⁸
- Northumbrian Water alleges that our decision to use a different inflation series is unrelated to our stated reasoning, as issues concerning changes to RPI in 2010 were already taken into account by regulators at the time of PR14 final determinations.⁸⁹
- Anglian Water cites calculations of the RPI-CPI wedge using composite series it uses to proxy for each of the inflation measures. The company argues that the wedge calculated using the Bank of England's RPI and CPI series over 1915-1949 is minus 123 basis points and nearly zero over the period 1900-2018. The company cites this as evidence that the Bank's CPI series is unreliable, as RPI is normally higher than CPI.⁹⁰
- Anglian Water notes that the approach used by ONS to model CPI over 1949-1988 did not reflect a subsequent ONS revision to CPI data for the period 1988-1996, arguing that the ONS back series is therefore unreliable and should not be used.⁹¹
- Anglian Water argues that it is more appropriate to use RPI, as this is the inflation measure in use for more of the 1900-2018 period, and that if another index was in use, investors could have made different decisions, which could have affected returns.⁹²
- Anglian Water uses an excerpt from a 2004 ONS working paper⁹³ to support the use of RPI as a historical series for the period 1947 to the present day.⁹⁴

3.15 Anglian Water proposes that TMR should be estimated using historical equity returns deflated using RPI with no adjustment for the 'formula effect'.⁹⁵ Bristol Water considers that the approach to estimating TMR should consider a range of inflation options.⁹⁶ Northumbrian Water proposes a review taking account of

⁸⁷ Yorkshire Water, 'Statement of case', April 2020, p. 71, paragraph 219

⁸⁸ Bristol Water, 'Statement of case', April 2020, p. 70, paragraph 267

⁸⁹ Northumbrian Water, 'Statement of case', April 2020, pp. 156-157, paragraphs 834-838

⁹⁰ Anglian Water, 'Statement of case', April 2020, pp. 275, paragraph 1107

⁹¹ Anglian Water, 'Statement of case', April 2020, pp. 274-275, paragraphs 1103-1105

⁹² Anglian Water, 'Statement of case', April 2020, p. 275, paragraph 1110

⁹³ O'Donoghue et al, 'Consumer price inflation since 1750', ONS Economic Trends, No. 604, March 2004, p. 39

⁹⁴ Anglian Water, 'Statement of case', April 2020, pp. 275-276, paragraph 1113

⁹⁵ Anglian Water, 'Statement of case', April 2020, p. 276, paragraph 1117

⁹⁶ Bristol Water, 'Statement of case', April 2020, p. 72, paragraph 278

the depth of data and methodology issues, considering the issue of regulatory instability.⁹⁷

- 3.16 We adopted the approach of using the Bank's historical CPI series in part based on the deep review of inflation indices carried out as part of the Wright et al (2018)⁹⁸ study's advice to regulators. This analysis confirmed to us that there was an issue with the comparability of RPI over time which was liable to lead to overstated estimates of TMR. Due to the structurally higher formula effect present in latter-day RPI, a real TMR estimate based on historical RPI-deflated returns and latter-day RPI indexation is liable to overcompensate investors through a higher nominal return than the historical average. At PR14 we partially addressed this issue by adjusting historical average returns downwards to account for the estimated 0.32 percentage point increase in the contribution of the 'formula effect' to the RPI-CPI 'wedge' over December 2009 to December 2010.⁹⁹ We note however that the contribution of the formula effect has increased since RPI's introduction in 1947, implying that a larger adjustment for the formula effect should apply to earlier years.
- 3.17 While it would in theory be possible to adjust pairwise for the differential in forward-looking formula effect and that which prevailed in each historic year, this does not carry clear advantages over simply using the historical CPI series (which is unaffected by the formula effect issue); particularly given that estimates of the historical formula effect do not exist in published form, and the ONS has raised more concerns about RPI as an inflation measure than the 'formula effect' alone.¹⁰⁰ Although official CPI is only available from 1988, a modelled back-series is available from 1949-1988,¹⁰¹ and prior to 1947 neither RPI nor CPI is available – alternative indices must be used as a proxy. We note that ONS is planning to release a historical CPIH series for the period 1947-1988 later in 2020; we would support TMR calculations being updated to reflect this evidence if there is sufficient time to do so.¹⁰²

⁹⁷ Northumbrian Water, '[Statement of case](#)', April 2020, p. 157, paragraph 842

⁹⁸ Wright et al. '[Estimating the cost of capital for implementation of price controls by UK regulators](#)', March 2018, Appendix D

⁹⁹ Office for National Statistics, '[CPI and RPI: Increased impact of the formula effect in 2010](#)', 2010

¹⁰⁰ Office for National Statistics, '[Shortcomings of the Retail Prices Index as a measure of inflation](#)', March 2018

¹⁰¹ Office for National Statistics, '[Modelling a Back Series for the Consumer Price Index](#)', January 2013, p. 9; and Ofwat calculations using [ONS monthly inflation data](#).

¹⁰² Office for National Statistics, '[Developing CPIH and CPI historical estimates between 1947 and 1987](#)', October 2019

- 3.18 While acknowledging ONS' statements about the non-official status of its modelled back series of CPI from 1949 to 1988, we do not see how this feature markedly distinguishes it from RPI, whose status as a national statistic was revoked in 2013. Concerns around RPI's continued use are so grave that in March, HM Treasury and the UK Statistics Authority launched a consultation effectively proposing to abolish the current methodology for calculating RPI and to replace it with that for CPIH as early as 2025.¹⁰³ This would make future inflation calculated by both inflation indices identical. While it is true that no officially calculated CPI data exists to validate the modelled CPI from 1949 to 1988, the model-implied RPI-CPI wedge seems accurate for the 1989-2011 period where modelled and actual CPI and RPI values are available – the model implied average wedge of 0.7 is the same to one decimal place as that implied by the official data over this period.¹⁰⁴
- 3.19 Anglian Water's calculations of the historical RPI-CPI wedge appear to be based on its consultant KPMG's analysis.¹⁰⁵ This compares a) RPI based on a non-Bank of England composite series using the Cost of Living Index (COLI) for the period 1914-1947, with b) the Bank of England 'original' CPI composite series we used in our final determinations. Our CPI series does not use the COLI, but rather an implied consumption expenditure deflator, over 1900-1947.¹⁰⁶ As the ONS has concluded, the COLI was based on a highly subjective assessment of the representative consumption basket, with weights which were not updated over this period, and it has openly stated a preference for the consumption expenditure deflator data over the period in question.¹⁰⁷ Instead of demonstrating the unreliability of the Bank of England's CPI series, we submit that these wedge calculations simply demonstrate the flaws of the COLI as a measure of historical inflation.
- 3.20 We note from ONS' description of the revision to CPI for 1988-1996 cited by Anglian Water that it is minor: 'The maximum absolute revision to the all-items 12-month growth rate is 0.2 percentage points in two periods. Of the 96 months affected, there are 10 revisions in total at this level. The average absolute revision is 0.01 percentage points.'¹⁰⁸ We consider that such a minor revision

¹⁰³ HM Treasury, UKSA, '[Consultation on the reform to Retail Prices Index Methodology](#)', 11 March 2020

¹⁰⁴ Office for National Statistics, '[Modelling a Back Series for the Consumer Price Index](#)', January 2013, p. 9; and Ofwat calculations using [ONS monthly inflation data](#).

¹⁰⁵ R012 - KPMG, 'Estimating the cost of capital for PR19', February 2020, p. 27

¹⁰⁶ Feinstein CH 'National income, expenditure and output of the United Kingdom, 1855-1965', Cambridge University Press, 1972

¹⁰⁷ Office for National Statistics, '[Consumer Price Indices Technical Manual, 2007 edition](#)', May 2007, p. 73

¹⁰⁸ Office for National Statistics, '[Consumer Prices Index including owner occupiers' housing costs \(CPIH\) historical series: 1988 to 2004](#)', December 2018

should not invalidate the series used, particularly given its small size, and low proportion of the data affected.

- 3.21 While agreeing with Anglian Water's point that RPI has been in use for longer than CPI, we do not consider this relevant to the question of which is a better measure of inflation. As the formula used in RPI's calculation is generally accepted to overstate inflation most of the time, we consider that latter-day investors would be more likely to consider CPI-deflated historic equity returns as a better guide to the real-terms returns they might expect if past returns are a good guide to the future.
- 3.22 Finally, we note that Anglian Water's citation of a 2004 ONS working paper's endorsement of RPI as the appropriate inflation series to use from 1947 onwards has the potential to be misleading. As it predates the 2013 exercise to back-cast CPI¹⁰⁹ and the de-designation of RPI as a national statistic in 2013, it should not be interpreted as a sign that the authors would continue endorse the use of RPI over CPI in this period.

TMR issue 2: The role played by the JKM estimator in informing Ofwat's point estimate is unjustified.

- 3.23 For our final determinations, one approach we adopted to calculate 'ex-post' estimates of TMR was averaging of long-run historical real equity returns. A substantial amount of literature exists on the appropriate approach to use when using historical data for forecasting purposes. We concluded for final determinations that this:
- supports the use of an investment horizon-weighted average of the geometric and arithmetic averages, as using either of these averages on their own is liable to generate biased estimates.
 - suggests different horizon-weighted estimators may be better at optimising different requirements. For instance, an estimator which maximises unbiasedness may not be the most efficient.
- 3.24 We accordingly compiled a table of TMR estimates using different estimators and measures of inflation,¹¹⁰ which we reproduce below.

¹⁰⁹ Office for National Statistics, 'Modelling a Back Series for the Consumer Price Index', January 2013

¹¹⁰ Ofwat, 'PR19 Draft determinations: Cost of capital technical appendix', p32

Table 3.3: 'Ex-post' estimates of future return requirement (UK data, 1900-2018)

| Holding period | Inflation series | Arithmetic average | Geometric average | Blume unbiased estimator | JKM efficient estimator |
|----------------|------------------|--------------------|-------------------|--------------------------|-------------------------|
| 1 year | DMS | 7.25% | 5.44% | 7.25% | 7.27% |
| | BoE | 6.89% | 5.14% | 6.89% | 6.89% |
| 5 years | DMS | 7.06% | 5.65% | 7.19% | 7.08% |
| | BoE | 6.77% | 5.34% | 6.83% | 6.71% |
| 10 years | DMS | 7.00% | 5.71% | 7.11% | 6.84% |
| | BoE | 6.72% | 5.39% | 6.75% | 6.48% |
| 15 years | DMS | 7.12% | 5.83% | 7.03% | 6.60% |
| | BoE | 6.85% | 5.48% | 6.68% | 6.26% |
| 20 years | DMS | 7.08% | 6.10% | 6.96% | 6.36% |
| | BoE | 6.81% | 5.71% | 6.61% | 6.03% |

Source: Ofwat analysis of 2019 Credit Suisse Equity Returns Yearbook and Bank of England data

3.25 We focused on the estimator we considered would give the most accurate estimate in constructing our 'ex-post' range. This was the 'JKM efficient estimator' as described by Jacquier et al (2005).¹¹¹

3.26 We identified three challenges in disputing companies' statements of case to our use of averaging:

- Anglian Water argues that the appropriate ex-post TMR should be at least as high as the arithmetic average, citing a paper by Cooper (1996), and arguing that (unspecified) finance textbooks recommend the arithmetic average.¹¹²
- Bristol Water argues that the focus on the JKM efficient estimator is inconsistent with previous CC and CMA decisions, which considered a range of estimators.¹¹³
- Northumbrian Water argues that our overall TMR point estimate of 6.5% in CPIH terms is difficult to reconcile with the results using the JKM efficient estimator.¹¹⁴

¹¹¹ Jacquier, Kane and Marcus 'Optimal estimation of the risk premium for the long run and asset allocation: a case of compounded estimation risk' Journal of Financial Econometrics, 2005

¹¹² Anglian Water, 'Statement of case', April 2020, p. 276, paragraph 1121

¹¹³ Bristol Water, 'Statement of case', April 2020, p. 70, paragraph 268

¹¹⁴ Northumbrian Water, 'Statement of case', April 2020, pp. 155-156, paragraph 826

- 3.27 Blume (1979),¹¹⁵ Indro & Lee (1997),¹¹⁶ and Jacquier, Kane and Marcus (2005), all find that the historical arithmetic average is an upwardly biased indicator of long-term returns. The upward bias of the arithmetic average for holding periods of more than one year can be demonstrated simply with the UK real returns data for 1900-2018. Compounding the 1900 index value using the single-period arithmetic average return over the period 1900-2018 overstates the actual 2018 value by a factor of 7.6.
- 3.28 We recognise that different choices of estimator exist and have been used in previous CMA redeterminations (e.g. the Blume estimator). However, we considered it appropriate to focus on an estimator for final determinations which was shown in simulations to be efficient (minimising the mean squared error). This was the JKM efficient estimator, from Jacquier et al. (2005). We agree with the authors of this paper that: “unbiasedness is not in itself an estimation goal.[...] estimators should be set to minimise a loss function, a measure of average distance to the true parameter.’ We also note that the assumption of lognormally distributed returns used by the paper is more appropriate than the assumption of normal returns used in e.g. the Blume paper. For this reason, we did not construct a range based on the contribution of different estimators.
- 3.29 KPMG’s analysis of ‘ex-post’ estimators for the three disputing companies employs the assumption of a 10-20 year holding period. As set out in table 3.2 above, the use of the JKM efficient estimator and historical CPI inflation results in a TMR range of 6.03% to 6.48% in CPIH-deflated terms.¹¹⁷ This clearly is consistent with our point estimate of 6.5%, even suggesting that a lower figure could be supported.
- 3.30 For its redetermination of NERL’s price control, we note that the CMA has recognised the upward bias imparted by use of the arithmetic average, and used a range of ‘ex-post’ estimators.¹¹⁸ We support the approach taken and consider that the resultant ‘ex-post’ TMR range of 6.1-6.9% in CPIH terms has read-across to the ongoing water redeterminations, given similarities in characteristics of the respective exercises (e.g. the 10-20 year holding period).

¹¹⁵ ‘Unbiased estimators of long-run expected rates of return’, Journal of the American Statistical Association, 1979

¹¹⁶ D. Indro, W. Lee, ‘Biases in Arithmetic and Geometric Averages as Estimates of Long-Run Expected Returns and Risk Premia’, 1997

¹¹⁷ Ofwat, ‘PR19 draft determinations: cost of capital technical appendix’, July 2019, p. 32, Table 3.5

¹¹⁸ CMA, ‘NATS (En Route) Plc / CAA Regulatory Appeal: Provisional findings report’, March 2020, p.183, Paragraph 12.198 and table 12-14

TMR issue 3 – Ofwat has erred by not applying an upwards 'bias adjustment' to estimates of TMR from its dividend growth models.

3.31 The need for a 'bias adjustment' is linked to a paper by Fama & French (2002)¹¹⁹ who argued for their one-period dividend growth model¹²⁰ for an adjustment due to the higher volatility of capital growth compared to dividend growth over the period 1951 to 2000. The authors proposed a bias adjustment of half the difference of the variances in the two series.

3.32 For our final determinations, we assessed that such an uplift was unnecessary. This drew on two strands of reasoning:

- PwC provided evidence that over 2006-2017, the relationship between equity price growth and dividend growth volatility had reversed, with the latter more volatile than the former, once share buybacks were reflected.¹²¹ This suggests that the rationale for a volatility uplift no longer exists.
- Europe Economics reasoned that for models using GDP growth as the proxy for dividend growth, there was no reason why GDP growth could not proxy directly for equity price growth as well as dividend growth, meaning that these models' estimates of TMR were not understated.¹²²

3.33 KPMG, cited by Anglian Water and Bristol Water, contends that our decision to not apply a 'bias adjustment' is inconsistent with theory, evidence and prior regulatory decisions.¹²³ It challenges PwC's reasoning that dividend yield will be more volatile than equity price growth in future, stating:

“a) Use of the DDM should, in theory, incorporate all cash flows between firms and shareholders, so at the market level if buybacks are to be included so should any new equity issuance (a negative dividend in effect) and any other net distributions to shareholders (such as cash acquisitions by foreign companies). So simply including buybacks is not a complete assessment of fund flows to and from firms to shareholders.

¹¹⁹ The Journal of Finance, Fama & French, 'The Equity Premium', 2002

¹²⁰ This estimated TMR as the expected value of the dividend yield plus the expected value of the annual simple dividend growth rate.

¹²¹ PwC, 'Updated analysis on cost of equity for PR19', December 2017, p. 16

¹²² Europe Economics, 'PR19 – Initial Assessment of the Cost of Capital', December 2017, p. 31

¹²³ R012 - KPMG, 'Estimating the cost of capital for PR19', February 2020, p. 37, paragraph 4.3.17

b) If buybacks are included, then the base dividend yield needs to be uplifted for the value of buybacks.”¹²⁴

3.34 The principle that a ‘bias adjustment’ is required is contentious. We note an earlier paper from one of the KPMG report’s authors, Gregory (2010),¹²⁵ which seems to advocate a view which is the opposite to the stated position in the KPMG report:

‘As we discuss below, it seems hard to argue that prices should ultimately be more volatile than the fundamentals that drive valuation. Such a view leads to the conclusion that a bias adjustment is inappropriate in the determination of rational discount rates and estimates of the cost of equity capital.[...] [...] unless one believes market prices are, on average, rational, then adjusting these historical observations for half the difference in variance between actual price growth and fundamental growth merely serves to give estimated costs of equity, or estimated risk premia, an upward bias.’

3.35 We also continue to endorse PwC’s reasoning. In assessing TMR we are interested in equity returns, and share buybacks have been increasingly used as a source of returns, hence the need to consider buybacks as well as dividends when using the DDM approach. The challenge with fully incorporating share buybacks in this approach is that it may include a return of equity investment (e.g. following a large transaction) rather than just the return on equity investment. PwC acknowledged this point in 2019 as one reason why the DDM may be providing answers which are too high (particularly when buybacks spike).¹²⁶ The proposed solution from KPMG to reflect new equity issuance further confuses the flows of investment with the returns on investment. It is better in our view to keep to assessing returns (while acknowledging that some buybacks may incorporate some are return of equity capital). PwC finds in its 2019 report that in practice most share buybacks are returns on capital rather than return of capital. PwC confirms that the dividend yield in its dividend growth model is uplifted for the effect of share buybacks.

3.36 We therefore consider the DDM, incorporating the yield from share buybacks, but with no additional ‘bias’ adjustment required, provides a helpful benchmark for understanding forward-looking return expectations.

¹²⁴ R012 - KPMG, ‘Estimating the cost of capital for PR19’, February 2020, p. 38, 4.3.21

¹²⁵ A. Gregory ‘Expected cost of equity and the expected risk premium in the UK’, October 2010, p. 23

¹²⁶ PwC, ‘[Updated DDM analysis for PR19](#)’, July 2019

TMR issue 4: Ofwat's use of forward-looking dividend discount model (DDM) evidence is not balanced.

3.37 For our final determinations, we focused on dividend discount models for our 'forward-looking' TMR range. We drew on dividend discount model outputs supplied by our cost of capital advisors Europe Economics and PwC through each entity's purpose-built models. We based our estimated range of 6.1% to 6.9% in CPIH-deflated terms on the minimum and maximum 5 year rolling average returned by the models.

3.38 Two disputing companies raised issues with this approach:

- Anglian Water noted that the latest spot output from PwC's model did not seem to indicate a reduction in TMR, and noted that two of the three models gave higher 5 year rolling averages than our overall estimate of 6.5%, at 6.6% and 6.9% in CPIH-deflated terms, respectively.¹²⁷
- Bristol Water cited an argument by advisors Economic Insight that at draft determinations we had presented ranges based on spot and 5-year rolling DDM outputs. It considered that the 'forward-looking' range should be based on the average of spot and 5-year rolling figures.¹²⁸

3.39 We have consistently focused on 5-year rolling averages of DDM outputs to inform our estimate of TMR. Europe Economics has found through statistical tests and academic research that 5-year rolling averages are a better predictor of future returns than spot values.¹²⁹ We consider that this supports our decision to base our 'forward-looking' range on 5 year rolling averages of DDM outputs. Based on September 2019 data, this indicated a range from 6.1% to 6.9% in CPIH terms, which we consider continues to support our 6.5% point estimate.

Risk-free rate issues

3.40 For our final determinations, we considered evidence on yields for nominal and RPI-linked gilts of maturity between 10 and 20 years over September 2019, to align with our assumed investment horizon of 15 years.

3.41 We used the average of daily 15 year RPI-linked gilt yields for the month of September 2019 to derive an estimate for the prevailing risk-free rate (-2.61%). We then uplifted this initial estimate by the average market-implied increase in

¹²⁷ Anglian Water, 'Statement of case', April 2020, p. 278, paragraph 1130

¹²⁸ Bristol Water, 'Statement of case', April 2020, p. 72, paragraph 276

¹²⁹ Europe Economics, 'PR19 – Initial Assessment of the Cost of Capital', December 2017, p. 30

yield implied by forward rates over the period 2020-25 (26 basis points). This gave a point estimate of -2.35% (-1.39% CPIH).

RFR issue 1: Ofwat's use of a short trailing average to inform its risk-free rate assumption is not justified.

3.42 Anglian Water, Northumbrian Water and Bristol Water raised issues with the averaging period we used to derive our point estimate:

- Anglian Water,¹³⁰ Bristol Water¹³¹ and Northumbrian Water¹³² all proposed that the point estimate for the risk-free rate should be set some way between current gilt rates and an equilibrium interest rate.
- Anglian Water¹³³ and Northumbrian Water¹³⁴ emphasised the volatility of the gilts rate, and argued there was a risk when using a short-term trailing average of yields that this would not be representative of the ensuing 5-year control period. If the allowance were to prove too low, these companies argued this would dampen incentives to invest.
- KPMG for Anglian Water, Bristol Water and Northumbrian Water, propose addressing the potentially unrepresentative level of, and volatility in, gilt yields by a) assuming some convergence towards an equilibrium interest rate, and b) using a 1 year trailing average of yields. Assuming a degree of convergence towards the Bank of England's 2018 estimate of the forward-looking equilibrium rate of 0.5%¹³⁵ in CPI terms, KPMG proposes an estimate of 0.2% in CPI terms. Using a midpoint of 1 year trailing averages for RPI-linked and nominal gilts at 15 year maturities, KPMG proposes a figure of -0.5% in CPI terms could be appropriate.¹³⁶
- Both Anglian Water¹³⁷ and Northumbrian Water¹³⁸ argued that it was inconsistent to index the allowed cost of new debt but not the risk-free rate, with the former company arguing an uplift to our point estimate was warranted to account for volatility and the risk that yields might rise above our assumption over 2020-25.

3.43 We are not convinced of the need to incorporate an assumption about the speed of convergence towards the 'equilibrium rate' in the risk-free rate

¹³⁰ Anglian Water, 'Statement of case', April 2020, p. 280, paragraph 1142

¹³¹ Bristol Water, 'Statement of case', April 2020, p. 74, paragraph 286

¹³² Northumbrian Water, 'Statement of case', April 2020, p. 159, paragraph 860

¹³³ Anglian Water, 'Statement of case', April 2020, p. 280, paragraph 1143

¹³⁴ Northumbrian Water, 'Statement of case', April 2020, p. 159, paragraph 853

¹³⁵ Bank of England, 'Inflation Report', August 2018, pp. 40

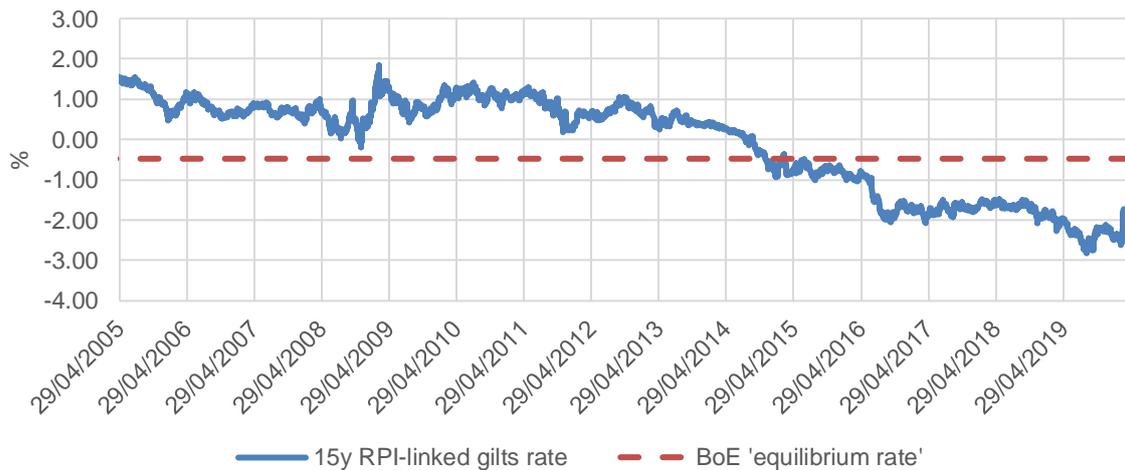
¹³⁶ KPMG, 'Estimating the cost of capital for PR19', SOC422, March 2020, pp. 46-47, paragraphs 4.5.25 – 4.5.30

¹³⁷ Anglian Water, 'Statement of case', April 2020, p. 281, paragraphs 1144-1146

¹³⁸ Northumbrian Water, 'Statement of case', April 2020, p. 159, paragraph 858

estimate. As set out in Figure 3.1, the trend since publication of the equilibrium real rate has been for the 15 year RPI-linked gilts rate to diverge from the Bank of England's 0.5% (in CPI terms) figure – equivalent to -0.38% in the chart below. This raises the question of when (and at what speed) convergence will occur.

Figure 3.1: 15 year RPI-linked gilt yields and the Bank of England's 'equilibrium real interest rate'

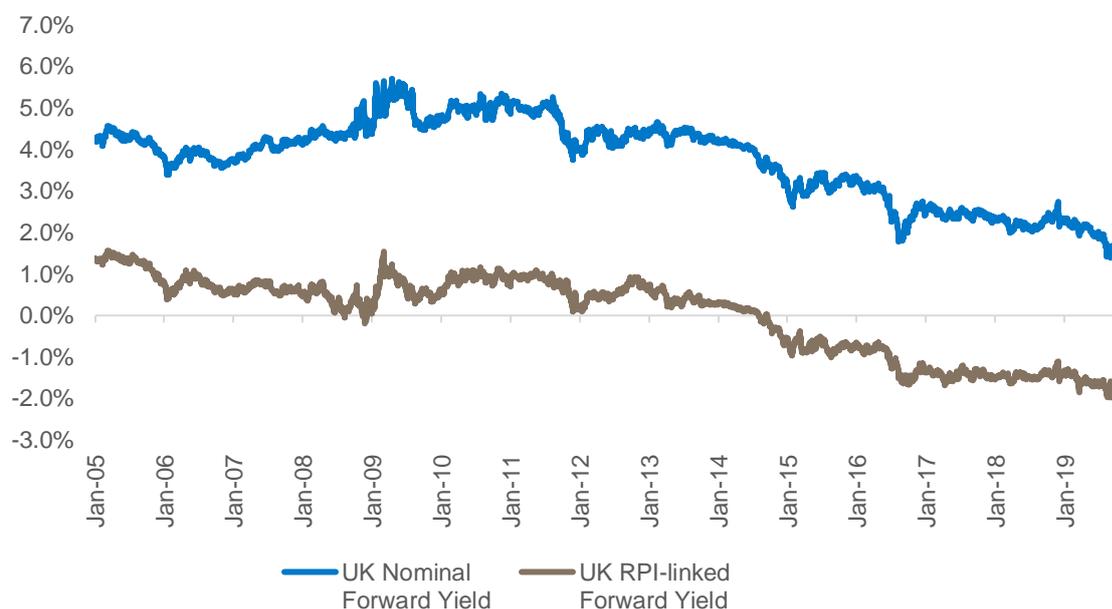


Note: Uses the Office for Budgetary Responsibility's most recent estimate of the long-term RPI-CPI 'wedge' of 0.9%

Source: Ofwat analysis of Bank of England data

3.44 We also note that our estimate of the risk-free rate contained a contribution from the market-implied view of the average rise in yields over the 2020-25 period, estimated using forward rates. Figure 3.2 sets out implied yields for 15 year gilts, ten years from each date plotted on the horizontal axis, drawing on yield curve data from 2019. The progression of these forward rates implies a market expectation that 15 year gilt yields in RPI-deflated (and by inference, CPIH-deflated) terms will be negative as far out as 2029. An assumption of faster convergence towards a more positive figure not observed in market data would be to adopt a position that the market is forecasting incorrectly or not incorporating some information. Such an assumption is contentious and would need careful justification, taking account of our regulatory duties.

Figure 3.2: Evolution of the 10 year forward 15 year gilt rate (2000-2019)



Source: Ofwat analysis of Bank of England data

3.45 We consulted extensively with the sector in developing our approach to the cost of capital at PR19. Neither Anglian Water¹³⁹ nor Northumbrian Water¹⁴⁰ raised concerns that it is inconsistent to index the cost of new debt but not the risk free rate at any point in the development of the PR19 methodology or in the process of setting determinations. Both companies stated broad agreement to the principal of indexing the cost of new debt in response to the PR19 methodology consultation; but neither raised concerns at the time that this was inconsistent with our approach to setting the risk free rate.¹⁴¹ While we note Ofgem will index the risk-free rate in its forthcoming RIIO-2 price controls,¹⁴² this matter has not previously been considered or consulted upon in the water sector.

RFR issue 2: A negative real-terms risk-free rate cannot be sustained for significant periods

3.46 Yorkshire Water said in its statement of case that it had difficulty understanding in economic terms how the CAPM risk-free rate could be negative in real terms for a sustained period of time.¹⁴³ The other disputing companies (Anglian

¹³⁹ Anglian Water, 'Cost of debt consultation response', 2016

¹⁴⁰ Northumbrian Water, 'Response to Water 2020: consultation on the approach to the cost of debt for PR19', October 2016

¹⁴¹ Northumbrian Water, 'Response to the PR19 methodology consultation', August 2017, p. 24.

Anglian Water, 'Draft Methodology for 2019 price review consultation response', August 2017, p. 46

¹⁴² Ofgem, 'RIIO2 Sector Specific Methodology – Core document', May 2019, p. 121

¹⁴³ Yorkshire Water, 'Statement of case', April 2020, p. 71, paragraph 219

Water, Northumbrian Water, and Bristol Water) did not appear to challenge the principle of a risk-free rate which is negative in real terms.

3.47 As set out in the Cross-cutting issues appendix to our introductory submission to the CMA:

“Our point estimate for final determinations of -1.39% in CPIH terms is negative. Negative 15 year rates¹⁴⁴ in CPIH terms have been a feature of the UK gilt markets since 2016. Our analysis of the 10 year forward 15 year rate also indicated a market expectation that the 15 year rate will remain negative as far out as 2029.¹⁴⁵ In common with recommendations from the UKRN Study and consultants Europe Economics, we considered that negative real risk-free rates were consistent with economic theory. If either (a) future consumption growth is expected to be negative; or (b) individuals experience and are averse to uncertainty about the future; or (c) there are financial market frictions which depress the risk-free rate, then a negative risk-free rate is plausible. In addition, savings imbalances induced by trends towards ageing populations in advanced economies may also result in this outcome. We therefore considered our use of a negative point estimate to be appropriate and consistent with both economic theory and market data.”¹⁴⁶

3.48 Our view is that the correct approach to estimating the risk-free rate is to use recent market data on RPI-linked gilt yields. Economic and financial theory clearly supports the possibility of a negative real-terms rate over the period 2020-25. We also note since publication of our final methodology a Bank of England working paper which reconstructs global real interest rates going back to the 14th century.¹⁴⁷ This paper concludes that negative interest rates have become more common in advanced economies over time, that currently negative government bond rates are not a historical aberration but a return to the historical trend; and that real rates on these bonds could soon enter permanently negative territory.

¹⁴⁴ We chose 15 years as our investment horizon for the CAPM.

¹⁴⁵ Ofwat, '[PR19 final determinations: Allowed return on capital technical appendix](#)', December 2019, p. 39.

¹⁴⁶ Ofwat, '[Reference of the PR19 final determinations: cross-cutting issues](#)', p. 39, paragraph 5.3.2

¹⁴⁷ P. Schmelzing, '[Eight centuries of global real interest rates, R-G, and the 'suprasecular' decline 1311-2018](#)', Staff Working Paper No. 845, January 2020

RFR issue 3: Ofwat places sole weight on RPI-linked gilts but should draw on alternatives (e.g. nominal gilts, interbank rates)

3.49 Our decision to base our risk-free rate estimate on RPI-linked gilts was challenged by several companies in their statements of case:

- KPMG for Bristol Water suggested that RPI-linked gilt yields were 'distorted' due to regulatory requirements obliging institutional investors to hold RPI-linked debt. The consultancy recommended that nominal gilt yields and interbank rates should also be used to inform the risk-free rate.¹⁴⁸
- Economic Insight for Bristol Water suggested that both RPI-linked gilts and nominal gilts were admissible proxies for the risk-free rate,¹⁴⁹ consistent with Yorkshire Water's view on this issue.¹⁵⁰ The consultancy argued that it was arbitrary to discount evidence from nominal gilts due to the embedded inflation risk premium, while overlooking distortions in the market for RPI-linked gilts. It recommends placing equal weight on evidence from nominal and RPI-linked gilts.

3.50 Using RPI-linked gilts to inform the risk-free rate is the consensus approach amongst UK economic regulators. The use of RPI-linked gilts as the most suitable source for estimating the risk-free rate has been endorsed by the CC (between 2000 and 2010),¹⁵¹ the CMA in 2015¹⁵² and the 2018 UKRN study¹⁵³ authors as the most suitable observable proxy, given the negligible default and inflation risk. Our analysis for final determinations indicated an inflation risk premium of around 40 basis points in nominal gilts, and a negligible liquidity risk premium in RPI-linked gilts.¹⁵⁴ By definition a risk-free rate should not be subject to a risk-premium, which points to RPI-linked gilts being a superior proxy to nominal gilts. Interbank rates do not seem to be more risk-free, as default risk is higher for banks than the government.

¹⁴⁸ R014 - KPMG, 'Cost of equity report', April 2020, pp. 45-46, paragraphs 4.5.36 – 4.5.37

¹⁴⁹ R013 - Economic Insight, 'Review of Ofwat's approach to the WACC at PR19 final determinations', March 2020, pp. 22-23

¹⁵⁰ Yorkshire Water, 'Statement of case', April 2020, p. 71, paragraph 219

¹⁵¹ Competition Commission, 'Bristol Water plc, A reference under section 12(3)(a) of the WIA 1991', August 2010, Final determination Appendix N, paragraphs 63, 65.

¹⁵² Competition and Markets Authority, 'Bristol Water plc, A reference under section 12(3)(a) of the WIA 1991', October 2015, Final determination Appendix 10, paragraph 152

¹⁵³ Wright et al. 'Estimating the cost of capital for implementation of price controls by UK regulators', March 2018, p. 8

¹⁵⁴ Ofwat, 'PR19 final determinations: Allowed return on capital technical appendix', December 2019, pp. 30-32

- 3.51 We see a category distinction between the issue of risk premia and the issue of alleged 'distortion'. It is clear by definition that a risk-free rate should not embed any risk premia. It is firstly not apparent (unlike inflation or liquidity risk) that any 'distortion' issue affects the riskiness of returns. Secondly, the involvement of defined benefit pension schemes in the RPI-linked gilt market is not a new phenomenon, and the share of funds open to new members and open to benefit accruals has been falling since 2006.¹⁵⁵
- 3.52 We submit more generally that caution should be exercised before giving 'distortion' arguments weight – particularly when these arguments are not accompanied by analysis setting out the magnitude of the effect on yields. In general the market price for a given financial asset will be a function of the respective motives of buyers and sellers who engage in trading over a given period. In the specific case of RPI-linked gilts, it is arbitrary to discount some motives (i.e. regulatory requirements, scarcity value) as 'distortions' without providing a clear rationale justifying why this is appropriate, and why the distortion is non-trivial.

¹⁵⁵ Pension Protection Fund, 'The Purple Book 2019', December 2019, p. 11

Beta issues

- 3.53 For our final determinations, we considered Europe Economics' evidence on daily, weekly and monthly betas, using estimation windows ranging from 1 to 5 years up to September 2019. We used OLS and GARCH estimators, finding both gave similar results, but the latter was less prone to volatility. We focused on beta evidence from our predominantly 'pure-play' listed water companies (Severn Trent Water and United Utilities)¹⁵⁶ excluding Pennon from our analysis due to the presence of significant non-water revenues from its waste management business which would otherwise add noise to our water beta estimate.
- 3.54 When abstracting from the impact of gearing on beta, we found it useful for final determinations to separately estimate an 'unlevered beta' and 'asset beta', where both estimates stripped out the impact of gearing, but the former assumed a debt beta of zero. Our 'unlevered beta' is comparable to our PR14 asset beta estimate (which also did not include a debt beta). We used enterprise value gearing (i.e. net debt divided by enterprise value) as our chosen definition of gearing. We also used a debt beta of 0.125 in our calculation of asset beta and notional equity beta. To estimate notional equity beta, we re-levered the asset beta to the notional assumption of 60% gearing.
- 3.55 All four disputing companies argue that our beta estimate from final determinations is too low. These arguments tended to be similar to those raised in representations to our draft determination.

Beta issue 1: Estimation windows of at least 5 years should be used.

- 3.56 Anglian Water, Bristol Water, Northumbrian Water, and Yorkshire Water all argued that an estimation window of at least 5 years should be used. The first three of these companies cite analysis and arguments set out by KPMG. The issues raised were as follows:
- KPMG argue, citing Indepen (2018) for Ofgem's RIIO-2 framework decision, that it is appropriate to use the longest run of data since the last structural break, citing Indepen beta report arguing this was the correct approach, and proposing 2008 or 2013 as breakpoints.¹⁵⁷ KPMG propose the end of the PR14 price review as the appropriate structural break.¹⁵⁸

¹⁵⁶ Specifically, our 'water beta' is a market capitalisation-weighted average of the betas from these two companies.

¹⁵⁷ Indepen, 'Ofgem Beta Study – RIIO-2, Main Report', December 2018, p. 12

¹⁵⁸ R012 - KPMG, 'Estimating the cost of capital for PR19', March 2020, p. 52, paragraphs 4.6.12

- KPMG argue that shorter-term (e.g. 2 year) estimation windows should not be used to derive beta estimates as they reflect market sentiment which may not persist over the longer run, citing a statement by some of the UKRN study authors¹⁵⁹ that there is evidence that short-term shifts in volatility and correlations do not persist indefinitely.¹⁶⁰
- Yorkshire Water argues for placing all weight on a 5 year estimation window by reference to previous CMA decisions.¹⁶¹

3.57 The appropriate length of estimation window is uncertain, principally because there is no authoritative research we are aware of concerning the length of window which investors in use to form their expectations of beta. Decisions over the length of estimation window therefore inevitably require a degree of regulatory judgment.

3.58 We note that the CMA in its most recent water redetermination based its sector beta range on 2 year and 5 year estimation windows.¹⁶² We agree with placing weight on both lengths of estimation window, considering this use of the data to broadly balance the desirability of placing weight on more recent data (so as to have a forward-looking estimate of beta), while allowing for some weight to be placed on a longer window – to mitigate the risk that the shorter window may be unduly influenced by transient factors. Our consideration of the issues around final determinations led us not to favour a 'rolling average' approach to estimating betas (in which e.g. a 5 year moving average of 2 year and 5 year betas is taken). We considered that such an approach would result in assigning weight to data as far back as 2009, which we did not consider to be especially relevant to informing investor expectations.

3.59 We do not consider that 2 year betas should be excluded from the scope of the re-determination. Our advisors, Europe Economics, firmly endorsed this length of trailing window, finding evidence that 2 year daily betas have more predictive power than other lengths of trailing window, when comparing levels at the time of a final determination and subsequent average level over the following 5 years.¹⁶³ The consultancy's proposed unlevered beta point estimate of 0.26, based largely on 2 year betas, is significantly below our final determinations

¹⁵⁹ Wright et al. '[Estimating the cost of capital for implementation of price controls by UK regulators](#)', March 2018, p. 52

¹⁶⁰ R012 - KPMG, '[Estimating the cost of capital for PR19](#)', March 2020, p. 52, paragraphs 4.6.13-14

¹⁶¹ Yorkshire Water, '[Statement of case](#)', April 2020, p. 72, paragraphs 226-227

¹⁶² Competition and Markets Authority, '[Bristol Water plc, A reference under section 12\(3\)\(a\) of the WIA 1991](#)', Final determination, June 2015, p. 325, Table 10.3 and paragraph 10.150

¹⁶³ Europe Economics, '[The Allowed Return on Capital for the Water Sector at PR19 – Final Advice](#)', December 2019, pp. 34-36

estimate of 0.29 (which reflected our response to company representations urging greater weight be placed on the 5 year betas).

3.60 Europe Economics has updated their analysis of water sector betas using a data cut-off of end February 2020. It concludes that applying an approach similar to that employed by the CMA in its provisional findings for the NERL RP3 redetermination would result in an unlevered beta range of 0.21 to 0.33 or (excluding outliers) 0.26 to 0.32, giving a midpoint of 0.27 and 0.29, respectively.¹⁶⁴

3.61 We consider therefore that our final determination point estimate of 0.29 for unlevered beta remains appropriate, adequately reflecting uncertainty over the appropriate length of estimation window.

Beta issue 2: Share price 'noise' should be excluded from the CMA's beta estimate

3.62 Yorkshire Water considers share price data to have been distorted by 'noise' due to our draft and final determinations as well as the threat of nationalisation, and proposes excluding this data – its proposed beta estimate uses data only up to February 2019.¹⁶⁵

3.63 Our final determinations point estimate for unlevered beta drew, inter alia, on a range of 0.18 to 0.26 for 2 year betas and 0.30 to 0.34 for 5 year betas estimated for September 2019 (Table 3.4). Our point estimate of 0.29 is not therefore skewed towards short-term (allegedly 'noisy') data, but rather places weight on a span of data from 2014-2019 which is much broader than the period alleged to be contaminated with 'noise' by Yorkshire Water.

Table 3.4: Comparison of OLS and GARCH unlevered beta (Severn Trent – United Utilities composite, September 2019)¹⁶⁶

| | Estimator | 1 year | 2 year | 5 year |
|--------|------------------|---------------|---------------|---------------|
| Daily | OLS | 0.20 | 0.25 | 0.32 |
| | GARCH | 0.21 | 0.26 | 0.31 |
| Weekly | OLS | n/a | 0.18 | 0.30 |

¹⁶⁴ R033 - Europe Economics, 'Further Advice on the Allowed Return on Capital for the Water Sector at PR19 – Betas and Gearing', May 2020, p4

¹⁶⁵ Yorkshire Water, 'Statement of case', April 2020, p. 72, paragraphs 226-227

¹⁶⁶ Ofwat, 'PR19 Final determinations: Allowed return on capital technical appendix', December 2019, pp. 65

| | | | | |
|---------|-------|-----|------|------|
| | GARCH | n/a | 0.23 | 0.30 |
| Monthly | OLS | n/a | n/a | 0.34 |
| | GARCH | n/a | n/a | 0.31 |

Source: Europe Economics analysis of Refinitiv data

3.64 While moving back the end of the 5 year estimation window could in principle avoid the period alleged by the company to contain PR19 'noise', it would then pick up more of the 'noise' from the PR14 price control determinations. We therefore consider that this approach does not seem consistent with the company's criterion, and in any case (by including data from a previous price control period) seems less relevant to investor expectations. We note that the sector unlevered beta range featured in the CMA's re-determination of Bristol's price control in 2015 was 0.27 to 0.30, suggesting that (depending on how far back one goes) this exercise might not even yield a particularly different answer.¹⁶⁷

Beta issue 3: Most weight should be placed on monthly betas

3.65 KPMG for Bristol Water, Anglian Water, and Northumbrian Water argued that a monthly sampling frequency was more liable to give more accurate estimates of beta than a daily one. This was due to the consultancy's view that high frequency betas are likely to suffer from a downward bias due to a delay in incorporating market information in the share price of the company concerned.¹⁶⁸

3.66 We commissioned Europe Economics to investigate whether such a bias might be affecting betas for listed firms United Utilities and Severn Trent Water. The consultancy concluded through their statistical analysis (the "Dimson test") that there was no evidence of this type of bias at the 1% significance level, when using daily data.¹⁶⁹ We note that this also appears to be the conclusion drawn by the CMA's provisional decision in the NERL RP3 redetermination.¹⁷⁰

3.67 KPMG argues that Europe Economics' analysis is not conclusive due to its view that the delay in incorporating information in the pricing of these water company

¹⁶⁷ Competition and Markets Authority, 'Bristol Water plc, A reference under section 12(3)(a) of the WIA 1991', October 2015, paragraph 10.150

¹⁶⁸ R012 - KPMG, 'Estimating the cost of capital for PR19', March 2020, p. 52, paragraphs 4.6.15 – 16

¹⁶⁹ Europe Economics, 'The Allowed Return on Capital for the Water Sector at PR19 – Final Advice', December 2019 p. 33

¹⁷⁰ CMA, 'NATS (En Route) Plc / CAA Regulatory Appeal: Provisional findings report', March 2020, p. 148 paragraph 12.81

shares might be more than one day, and that a significance level of 5% rather than 1% was appropriate.¹⁷¹

3.68 Given that United Utilities and Severn Trent are liquid and highly-traded FTSE 100 shares, we disagree with KPMG's assertion that it is plausible that delays of over one day could exist in reflecting market data in their share prices. This follows the observation of Mason et al. (2003) in advice to UK economic regulators: 'For large stocks it is very likely that any impact of general market conditions is reflected in transaction prices and quoted prices'.¹⁷² Using a 5% significance level would also not fundamentally change the conclusions of Europe Economics' analysis.

Beta issue 4: A Vasicek adjustment should be applied to econometric estimates of beta

3.69 KPMG for Bristol Water, Anglian Water, and Northumbrian Water argue that beta should be estimated with a 'Vasicek adjustment' (also called a 'Bayesian adjustment'). This adjustment shifts the OLS beta estimate toward a prior assumption, with the magnitude of shift greater when the standard error of the OLS estimate is higher. In other words, the OLS beta estimate is given more weight when it is more precise and less weight when it is less precise. KPMG explores two prior assumptions— one in which equity beta is the same as the market portfolio (i.e. 1), and another in which it is assumed to be 0.81, or the average monthly 5-year beta of all companies were members of the FTSE All Share and which had been for at least 60 months.¹⁷³

3.70 We consider that KPMG's proposed adjustment is not well-evidenced or necessary. KPMG provides no evidence supporting their prior assumption that water companies should have the same exposure to systematic risks as the market portfolio or average FTSE All Share constituent; in our view this is doubtful given numerous protections against systematic risk provided by the regulatory regime in water. Furthermore, KPMG's conclusion that the imprecision of the 5 year monthly beta estimate requires correcting with an assumption overlooks a much neater solution – which is to rely on daily betas. The application of a Vasicek adjustment to the 5-year daily beta does not have

¹⁷¹ R012 - KPMG, 'Estimating the cost of capital for PR19', March 2020, p. 55, 4.6.30

¹⁷² Mason et al, 'A study into certain aspects of the cost of capital for regulated utilities in the UK', February 2003

¹⁷³ R012 - KPMG, 'Estimating the cost of capital for PR19', March 2020, SOC422, p. 54, paragraph 4.6.21

an impact at the 2nd decimal place, while it causes the 5 year monthly beta to increase by 0.02 to 0.04, depending on the choice of prior assumption.

Beta issue 5: Ofwat's debt beta of 0.125 is too high

3.71 We used a debt beta of 0.125 in our final determinations, largely based on a 'decompositional approach' by Europe Economics, which inferred debt beta from estimates of the debt premium and equity risk premium. Europe Economics' recommended range was 0.10 to 0.17.¹⁷⁴

3.72 Two companies argued that our debt beta assumption was too high:

- Northumbrian Water accepts that a non-zero beta is appropriate, but considers a value lower than 0.1 is appropriate, due to lender protections built into the ring fence and special administration regimes.¹⁷⁵
- Bristol Water contends that a debt beta of 0.1 is more appropriate and in line with previous regulatory decisions, noting that at PR14, the debt beta assumption was zero, and citing arguments from consultants Economic Insight that our point estimate was at the top end of debt beta assumptions from previous regulatory decisions, that some input parameters seemed too general, and a 2019 exercise using direct econometric approaches to estimate debt beta¹⁷⁶ for the NATS price control supported a debt beta of 0.1.
- KPMG's cost of equity advice to Anglian Water, Bristol Water and Northumbrian Water reflects a debt beta assumption of 0.1, largely informed by previous regulatory decisions.¹⁷⁷

3.73 As set out by CEPA (2019), the use of a positive debt beta has gained currency in UK regulation, supported by its grounding in financial theory:

'Financial economic theory would suggest that debt beta should typically be (strictly) positive for regulated businesses and recent trends in UK regulatory reviews has increasingly been to use a positive debt beta assumption. There is also a potential practical reason that

¹⁷⁴ Europe Economics, 'The Allowed Return on Capital for the Water Sector at PR19 – Final Advice', December 2019 p. 40

¹⁷⁵ Northumbrian Water, 'Statement of case', April 2020, pp. 158-159, paragraphs 861-862

¹⁷⁶ NERA, 'Cost of equity for RP3', April 2019; Professor Zalewska, 'Estimation of the debt beta of the bond issued by Nats (En-Route) plc,' April 2019

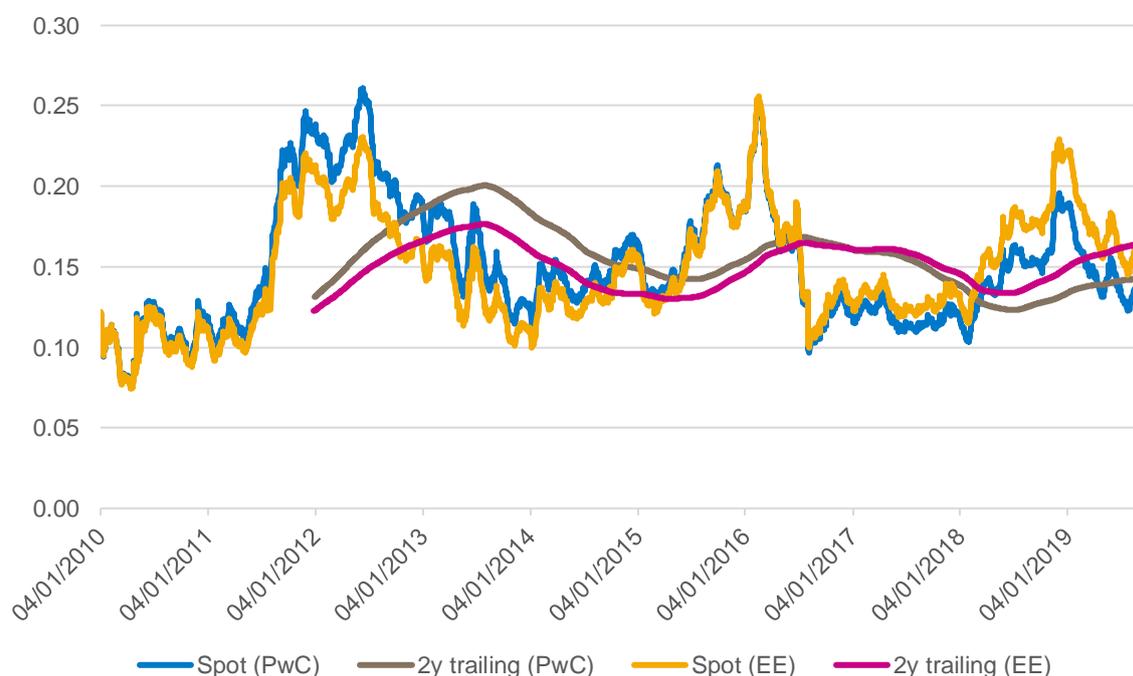
¹⁷⁷ R012 - KPMG, 'Estimating the cost of capital for PR19', March 2020, SOC422, p. 69, paragraph 6.3.5

differences between the gearing of comparator companies and notional gearing may be increasing for the sample of comparator companies typically used by UK regulators to estimate beta, thus increasingly the materiality of the debt beta in the overall calculation of the WACC.¹⁷⁸

3.74 As alluded to by the CEPA paper, if the gearing of the listed company comparator and the notional company are similar, the addition of a debt beta has a very small effect on the final notional equity beta estimate. At PR14 we used book value (i.e. net debt / RCV) gearing to unlever and re-lever beta, which resulted in the respective gearing estimates being similar. As we stated at the time, we did not use a debt beta - not because we argued the principle was not sound - but because in practice it made minimal difference to the allowed return on equity.¹⁷⁹

3.75 As set out in figure 3.3, our final determinations assumption of 0.125 is a conservative reading of recent evidence from the decompositional approach, which could support a higher figure.

Figure 3.3: Debt beta estimated through the calibrated decompositional approach



Note: 'PwC' and 'EE' relate to the originator of the DDM used to supply the ERP figure used to conduct the decomposition.

Source: Europe Economics analysis of Refinitiv and PwC data

¹⁷⁸ CEPA, 'Considerations for UK regulators setting the value of debt beta', December 2019, p. 6

¹⁷⁹ Ofwat, 'Setting price controls for 2015-20 – risk and reward guidance', January 2014, p. 18

3.76 We did not place weight on direct econometric estimates for our final determinations, due to the inconclusive results returned by that approach at draft determinations (i.e. positive as well as negative estimates, wide confidence intervals). The Competition Commission in its 2007 redetermination of Heathrow's price control also preferred the decompositional approach, citing 'poor statistical properties of recessions' and 'thin trading' in the direct econometric approach.¹⁸⁰ We observed however, that the use of monthly data (which can be justified for debt beta due to the thinner trading of debt instruments) also supports figures towards the higher end of the Europe Economics 0.10-0.17 range.¹⁸¹

Beta issue 6: Reflecting gearing in the re-determined estimate of notional equity beta.

3.77 For our final determinations, we used enterprise value gearing to adjust the raw equity beta to an unlevered equity beta and asset beta, before re-levering to our notional gearing of 60%. Although none of the disputing companies raised concerns with this approach in their statements of case, the CMA's provisional findings for the NERL RP3 redetermination have raised important questions around whether this approach is the right one. This merits a critical re-examination of our final determination decision, hence we provide our initial considerations below.

3.78 We observed in our draft determination that the definition of gearing when unlevering and re-levering beta had an important impact on the ultimate level of re-levered equity beta. For our chosen approach of using enterprise value gearing, it was notable that the estimate of re-levered beta was significantly higher than the raw equity beta, despite the relatively similar book value gearing between Severn Trent Water and the notional 60%.¹⁸² This concern has been highlighted by Wright et al. (2018).¹⁸³ Ofgem (2019) also identify that the greater the difference between notional gearing and the gearing of listed comparators, the greater the impact of changes in notional gearing on re-levered beta.¹⁸⁴

¹⁸⁰ Competition Commission, '[Heathrow Airport Ltd and Gatwick Airport Ltd price control review, Appendix F, Cost of capital](#)', October 2007, pp. F24, paragraph 92

¹⁸¹ Ofwat, '[PR19 Final determinations: Allowed return on capital technical appendix](#)', December 2019, p.62

¹⁸² Ofwat, '[PR19 Draft determinations: Cost of capital technical appendix](#)', July 2018, p. 51, Table 3.11

¹⁸³ Wright et al '[Estimating the cost of capital for implementation of price controls by UK regulators](#)', pp. 56-57

¹⁸⁴

3.79 In its provisional findings for the NERL RP3 redetermination, the CMA also raises this issue in a different form, by noting that the standard model used by regulators (including the CAA and ourselves) calculates an allowed return which is strictly increasing with gearing. This is at odds with the Modigliani-Miller theorem which states that, under certain conditions, gearing changes should leave the WACC broadly unchanged, and also the prevailing concept in financial theory that firms' cost of capital is a 'U-shaped' function of their gearing.¹⁸⁵

3.80 We suggest that there are several potential responses to this issue:

- **The 'do nothing' approach:** This option would simply retain the existing regulatory model.
- **Use of a positive debt beta:** The Competition Commission in its 2007 redetermination of Heathrow's price control noted that a positive debt beta could achieve a constant WACC with increased gearing.¹⁸⁶ This approach is also advocated by Europe Economics (2020).¹⁸⁷
- **Use of a non-constant asset beta:** The CMA's provisional decision for its redetermination of NERL RP3 suggested that an asset beta that changed with gearing could achieve a constant WACC (although the CMA did not use this approach in setting the cost of equity for NERL).¹⁸⁸

3.81 In our estimation, none of these options are perfect. Using the existing regulatory model produces a WACC which strictly increases with gearing at a constant rate, contradicting a large body of financial theory which suggests otherwise. There is a risk therefore of overcompensating investors for the actual risk implied by changes in gearing. As noted by the CMA in its provisional decision, a positive debt beta would need to be improbably high to achieve a constant WACC.¹⁸⁹ Finally, while noting the CMA's finding that an asset beta which varies with gearing may achieve a WACC which is constant, we have concerns that a gearing-invariant WACC may not be a good approximation for the circumstances of the water sector, due to the presence of important features of the regulatory framework which are not captured in the

Ofgem, 'RIIO-2 Sector Specific Methodology Decision – Finance', May 2019, p. 49

¹⁸⁵ CMA, 'NATS (En Route) PLC / CAA Regulatory Appeal, Provisional Findings report', March 2020 p. 157, Paragraph 12.105

¹⁸⁶ Competition Commission, 'Heathrow Airport Ltd and Gatwick Airport Ltd price control review, Appendix F, Cost of capital', pp. F23, figure 5

¹⁸⁷ R033 - Europe Economics, 'Further Advice on the Allowed Return on Capital for the Water Sector at PR19 – Betas and Gearing', May 2020, pp. 4-7

¹⁸⁸ CMA, 'NATS (En Route) PLC / CAA Regulatory Appeal, Appendices', March 2020 p. D5, Paragraph 22

¹⁸⁹ CMA, 'NATS (En Route) PLC / CAA Regulatory Appeal, Appendices', March 2020 p. D5, Paragraph 13

Modigliani-Miller theorem. For instance, as noted by Europe Economics (2020), embedded debt is outside the Modigliani-Miller framework; its inclusion could be expected to result in an upwards-sloping WACC function as gearing increases.

3.82 In the context of these complex and unresolved issues, a pragmatic solution may be to adopt the gearing of the listed water companies United Utilities and Severn Trent as the notional gearing for the purposes of estimating the allowed return. This would have the following advantages:

- Avoiding the controversies around de-levering and re-levering altogether – the raw equity beta would be the same as the notional equity beta.
- No requirement to impose the constraint of a WACC which is constant with gearing.
- It is a relatively minor parameter change, moving from the final determination notional gearing of 60% to the new level of around 56%.¹⁹⁰

3.83 This approach would be consistent with arguments put forward by the four disputing companies. Anglian Water,¹⁹¹ Bristol Water,¹⁹² Northumbrian Water,¹⁹³ and Yorkshire Water¹⁹⁴ have all argued that the WACC is not affected by gearing changes. This suggests that to these companies a WACC derived from market parameters at 56% gearing would be unchanged if the notional company was to adopt the old notional gearing of 60%.

Allowed cost of debt

3.84 For final determinations we set an allowed cost of debt based on an efficient company under our notional financial structure, at 60% gearing. As at PR14, our final determinations allowance was based on our benchmark index; a synthetic index calculated as the average yield of the 'A' and 'BBB' –rated iBoxx Corporates GBP non-financial 10yrs+ indices ('the iBoxx A/BBB'). There were four components to our allowance, which we estimated separately

¹⁹⁰ R033 - Europe Economics give the figure as 56.4% in 'Further Advice on the Allowed Return on Capital for the Water Sector at PR19 – Betas and Gearing', May 2020, p.1

¹⁹¹ Anglian Water, 'Statement of case', April 2020, p. 30, paragraph 156

¹⁹² Bristol Water, 'Statement of case', April 2020, p. 163, paragraphs 688

¹⁹³ Northumbrian Water, 'Statement of case', April 2020, p. 163, paragraph 898

¹⁹⁴ Yorkshire Water, "Statement of case", April 2020, p. 77, paragraph 253

- **Share of new debt:** We calculated an average share of new debt which companies would hold on their balance sheet, where 'new debt' is defined as debt issued over the period 2020-25.
- **Cost of new debt:** We set an initial allowance for the 2020-25 period informed by an initial forecast of the iBoxx A/BBB. Following extensive consultation we introduced an indexation mechanism for the cost of new debt. The reconciliation model for the mechanism has been published and will be applied at PR24. We applied an 'outperformance wedge' – using analysis of historic bond data to set an allowance 15 basis points lower than the level of the iBoxx A/BBB.
- **Cost of embedded debt:** We define embedded debt as debt on the notional company's balance sheet at the start of the 2020-25 control period. We calculated the allowed cost of embedded debt based on the 15 year trailing average of the iBoxx A/BBB adjusted for an 'outperformance wedge'. The outperformance wedge was calculated at 25 basis points based on analysis of historic water bond spreads to the iBoxx A/BBB. We cross-checked the allowance this analysis implied (4.47% in nominal terms) against analysis of companies' standard debt instruments, concluding that our allowance was between the instrument-level weighted average (4.25%) and company-level median (4.65%), and so represented an appropriate benchmark for the sector.
- **Issuance and liquidity costs:** We set an allowance of 10 basis points, following Europe Economics' analysis of issuance costs from a sample of bonds and an estimate of the cost of maintaining a representative share of borrowings as a liquidity facility.

3.85 In table 3.5 we summarise the cost of debt issues raised by companies in their statements of case. We set out our considered response below.

Table 3.5 – Cost of debt issues raised by disputing companies

| Issue raised | ANH | NES | YKY | BRL |
|---|------------|------------|------------|------------|
| New debt: Ofwat's allowance is inconsistent with the credit rating of the notional company | X | - | X | - |
| New debt: Ofwat's cost of new debt allowance should be consistent with the level of the risk-free rate. | - | - | - | X |
| Embedded debt: The CMA should base its allowance on companies' actual debt costs if these are efficiently incurred. | X | - | X | X |
| Embedded debt: Ofwat has not adequately justified its decision to remove swaps from its 'balance sheet' cross-check. | X | - | X | - |

| | | | | |
|--|---|---|---|---|
| Other issues: Ofwat's estimate of an average of 20% new debt over 2020-25 for the notional company is too high. | - | - | X | X |
| Other issues: Ofwat's 'outperformance wedge' is inaccurately estimated. | X | X | X | X |
| Other issues: Ofwat's allowance of 0.1% for issuance and liquidity fees is insufficient | - | - | X | - |

New debt issues

New debt issue 1: Ofwat's cost of new debt allowance is inconsistent with the credit rating of the notional company

3.86 Both Anglian Water and Yorkshire Water disagreed with our cost of new debt allowance, arguing that it ought to reflect the credit rating of the notional company:

- Anglian Water argued that an allowance based on the unadjusted level of the iBoxx A/BBB was consistent with its targeted credit rating of Baa1 (Moody's), and that our allowance (which applied an 'outperformance wedge') therefore underfunded its notional cost of new debt.¹⁹⁵
- Yorkshire Water considers that the cost of new debt allowance should be set in conjunction with financial metrics generated by our financial modelling (particularly interest cover). The company argues that calculated interest cover from final determinations was not compatible with an 'A' rating. The company proposes that our cost of new debt allowance should be set with reference to only the iBoxx 'BBB' index, and assuming no outperformance.¹⁹⁶

3.87 We consider that the above company arguments that our allowance for the cost of new debt is incorrect, to be simplistic and misleading for the following reasons:

- It is the overall rating grid score rather than the guidance for a single metric (e.g. interest cover) which determines a company's credit rating – and interest cover is just one of several inputs to the rating grid score. It follows from this that interest cover cannot on its own be used to accurately infer overall credit rating.

¹⁹⁵ Anglian Water, 'Statement of case', April 2020, p. 291, paragraphs 1211 - 1214

¹⁹⁶ Yorkshire Water, "Statement of case", April 2020, pp. 74-75, paragraphs 235-240

- We observed following final determinations that several companies whose gearing is close to our notional assumption of 60% received a credit rating of Baa1 or better.¹⁹⁷
- A lower company credit rating than the average for the iBoxx A/BBB is not sufficient to infer that the company cannot outperform that index. Tenor is another determinant of yield – issuing at lower tenors than the weighted average 21 years-to-maturity of the iBoXX A/BBB may offset any impact of credit rating on yield.
- We found that November 2019 analysis of yield-to-maturity on nominal debt instruments issued by Baa3-rated Southern Water showed that its yields were lower than our cost of new debt benchmark (the iBoxx A/BBB minus 25 basis points) up to tenors of 30 years.¹⁹⁸ This contradicts the view that outperformance of the index is not possible at credit ratings below Baa1.

3.88 Overall we consider that our approach of using a benchmark index calibrated with an 'outperformance wedge' means that the precise index chosen is not of great significance (a higher-yielding index would be associated with a larger 'outperformance wedge'). We continue to consider that our approach remains valid, and supported by company feedback in historic engagement on the issue.

3.89 We do not consider it appropriate to use notional credit metrics to calibrate the composition of index on the basis of credit rating, as set out above. However, were the CMA to consider doing so, we consider it would be consistent to also revise the synthetic index used in any iBoxx-based trailing average for embedded debt. This would use the corresponding rating for the notional company's credit metrics in each historical control period to choose the appropriately rated iBoxx index.

New debt issue 2: Ofwat's cost of new debt allowance should be consistent with the level of the risk-free rate.

3.90 In its statement of case, Bristol Water argued for a risk-free rate assumption of 1.0% in nominal terms instead the 0.58% we used in our final determination – an increase of 42 basis points. The company argues the cost of new debt

¹⁹⁷ As of 14 Feb 2020 Moody's rated: Dŵr Cymru (56.0% gearing) as A3, Severn Trent (63.7% gearing) as Baa1, United Utilities (64.8%) as A3. (Company-reported gearing for March 2019)

¹⁹⁸ Ofwat, '[PR19 Final Determinations: Allowed return on capital technical appendix](#)', December 2019, p. 81, Figure 6.2

should also be increased by around 42 basis points on grounds of consistency, increasing our final determination estimate from 2.54% to 3.00%.¹⁹⁹

3.91 While we recognise that 'bottom-up' approaches involving adding the historical corporate borrowing spread to gilts to the current risk-free rate may serve as a helpful cross-check, we disagree that these approaches are suitable as the primary method for setting the allowed cost of new debt. We submit that the spread itself may change over time, making the historical value inaccurate. This means that using iBoxx yields directly (which capture the current value of both the risk-free rate and spread) to inform the allowed cost of new debt estimate provides a more robust answer.

Embedded debt issues

Embedded debt issue 1: The CMA should base its allowance on companies' actual debt costs if these are efficiently incurred.

3.92 We set an embedded cost of debt allowance in our final determinations of 4.47% in nominal terms, which was based on a 15 year trailing average of the iBoxx A/BBB, with a downward adjustment for expected outperformance of 25 basis points.

3.93 Anglian Water, Bristol Water and Yorkshire Water disagreed with this approach in their statements of case. Issues raised were as follows:

- Anglian Water states that its embedded cost of debt is 4.97% in nominal terms, and that KPMG's analysis supports its request to pass through the cost to its customers. Anglian Water presents KPMG's review of its embedded debt²⁰⁰, which finds that its debt instruments do not seem to be mispriced, that it was reasonable to issue 20yr+ debt, and that its non-operational debt issuance should be funded²⁰¹.
- Anglian Water proposes that its embedded cost of debt allowance should be set using a 20 year trailing average of the iBoxx A/BBB, which would result in an allowed cost of embedded debt (2.05% in RPI terms) higher than the company's estimate of its actual debt costs (1.91%).²⁰²
- Yorkshire Water cites the CMA's approach to the 2015 redetermination of Bristol Water's price control (which placed some weight on the company's

¹⁹⁹ Bristol Water, 'Statement of case', April 2020, p. 80, paragraphs 323-324

²⁰⁰ R015 - KPMG, 'Embedded debt report', SOC441, March 2020

²⁰¹ Anglian Water, 'Statement of case' April 2020, p. 287, paragraphs 1186-1189

²⁰² Anglian Water, 'Statement of case' April 2020, p. 290, paragraph 1207

actual cost of debt) as a reason for why it should be allowed to pass through its 'all-in' allowed cost of embedded debt (4.93%) to its customers.²⁰³

- Bristol Water argues that there is a case to be funded for its actual cost of embedded debt (5.09% in nominal terms). However, the company actually seeks a lower figure of 4.85%, representing its view of a notionally efficient benchmark for a small company,²⁰⁴ and its view that the high-cost Artesian debt which dominates its embedded debt's cost structure was efficiently incurred.²⁰⁵

3.94 We consider that an allowance based on the 15 year trailing average of the iBoxx A/BBB remains appropriate for the following reasons:

- Our notional approach to setting the cost of debt has been transparent and well-signalled over multiple price reviews. We have never set an allowance for embedded debt based on passing through actual debt costs, or allowed costs for particular debt instruments based on verifying their status as 'efficiently incurred'.
- Setting the cost of embedded debt allowance based on actual debt costs would greatly dilute incentives to issue debt efficiently. This is as there would effectively be no long-term financial reward to companies for doing so, and no penalty for failing to do so.
- Our nominal allowance of 4.47% is similar to the water and sewerage and large water only company²⁰⁶ median (4.45%) actual cost of debt from our balance sheet approach. Our use of the median stands in contrast to the upper quartile 'catch-up' assumed for cost assessment and for various performance commitments.
- Our use of a 15 year trailing average is a conservative assumption, representing an increase on the 10 year trailing average used at the 2014 price review. We estimate around 80% of the sector's outstanding listed bonds were issued in the period encompassed by this trailing average.
- The use of a trailing average longer than 15 years would increase the risk that an efficiently-financed company might experience financial stress if new debt costs were to rise quickly. With a longer trailing average, these higher costs would feed through to the cost of embedded debt allowance more slowly.
- Considering the remaining issuance, which mainly pertains to 2000-05, Anglian Water and Bristol Water both issued long-dated debt and markedly increased gearing in this period (see figures 2.1. and 2.4. in Section 2 of this

²⁰³ Yorkshire Water, 'Statement of case', April 2020, pp. 72-73, paragraphs 229 and 232

²⁰⁴ Bristol Water, 'Statement of case' April 2020, p. 61, paragraph 227

²⁰⁵ Bristol Water, 'Statement of case' April 2020, p. 4, paragraph 19

²⁰⁶ The large water only companies are South East Water and Affinity Water

document). In the former case, this gearing funded an intercompany loan to a holding company. In the latter case, this borrowing partially related to a dividend payment. It would be wholly inappropriate to expect customers of these companies to pay more than the notional allowance due to this non-operational financing, and note that the CMA previously made an adjustment for these costs in its 2015 redetermination of Bristol Water's price control.²⁰⁷

Embedded debt issue 2: Ofwat has not adequately justified its decision to remove swaps from its 'balance sheet' cross-check.

3.95 We set our allowance for the cost of embedded debt by reference to a market benchmark. This was as we considered that using a trailing average of our benchmark index has the best incentive properties. We nevertheless used a 'balance sheet' approach to cross check that our allowance was reasonable.

3.96 Companies raised concerns that our 'balance sheet' approach incorrectly excluded the financial impact of swaps (other than currency swaps), thereby leading to an understated allowed return on embedded debt:

- Anglian Water argued that swaps were highly standardised instruments, that they were at times the only way to achieve inflation-linked exposure, and that benchmarking to check efficiency was therefore straightforward. It also suggested that swaps benefit customers by de-risking the company.²⁰⁸
- Yorkshire Water argued that RPI-linked swaps were in widespread use by efficient companies in the 2000s, and that it arranged its own swaps intended to align interest cashflows with revenues from the allowed return and RCV indexation. It also seemed to suggest that we had in past price reviews relied on RPI-linked swap issuance to assume that the notional company had a certain share of index-linked debt in its capital structure.²⁰⁹

3.97 The critique of our decision to not include swaps in our allowance is not new. We stand by our original statement from our document, '[PR19 final determinations: Allowed return on capital technical appendix](#)', which set out our view on swaps as follows:

"In line with standard practice in UK economic regulation, we do not include swap costs in our PR19 cost of debt allowance, and we maintain our position that this would be inappropriate. We consider the main function of swaps is

²⁰⁷ Competition and Markets Authority, '[Bristol Water plc, A reference under section 12\(3\)\(a\) of the WIA 1991](#)', June 2015, p. 315, paragraph 10.96

²⁰⁸ Anglian Water, '[Statement of case](#)', April 2020, pp. 286-287, paragraphs 1180 - 1183

²⁰⁹ Yorkshire Water, '[Statement of case](#)', April 2020, p. 73, paragraphs 230-231

company-specific risk management. This risk mitigation may provide more stability to cashflows, thus benefiting shareholders. It is however unclear that there are also benefits to customers which might justify including swaps in our allowance. Moreover, the more bespoke nature of swaps makes it difficult to make comparisons and assess if they have been efficiently incurred. There is also a risk that swaps might be used by companies to mitigate risks arising from high risk financial arrangements unrelated to the notional financial structure.”

- 3.98 Our decision to exclude swaps is consistent with previous price controls and wider practice in UK regulation.²¹⁰ Companies issuing swaps therefore had no reason to believe that they would be taken into account in future price controls, and we did not assume swap issuance in the notional company for previous price reviews. Our notional assumption of 33% index-linked debt is not dependent on swap issuance – our assessment of pre-swap debt instruments suggests that index-linked debt makes up 39% of sector ‘pure debt’.
- 3.99 Contrary to Anglian Water’s arguments, swaps can present a misleading view of actual borrowing costs, because their net interest cost is a function of the paying and receiving legs, and so is not directly comparable to the cost of raising finance via an ordinary debt instrument. The pricing of swaps is also often on a bilateral basis, rather than the outcome of market interactions.
- 3.100 Swaps have also been used for reasons relating to the actual financial structure, and their use has in several cases increased financial risks. As referenced in section 2, Moody’s state that Yorkshire Water’s high borrowing costs are largely the result of inflation swaps entered into at the time of its acquisition in 2008 and that as of January 2020 the mark-to-market loss on Yorkshire Water’s swaps accounts for 37% of its RCV. Moodys note that any swap termination payment would materially reduce senior debt recovery.²¹¹ In other words, Yorkshire’s swap portfolio has increased its risk and likely its cost of debt, due to the likelihood of a higher risk premium demanded by new debt investors.
- 3.101 For these reasons, we are concerned that including swaps in our allowance will asymmetrically benefit companies at the expense of customers. This is because customers would under this arrangement bear higher costs over 2020-25 despite not sharing in the benefits of swaps historically (and being exposed

²¹⁰ See CEPA, ‘[Alternative approaches to setting the cost of debt for PR19 and H7](#)’, August 2016, p. 124

²¹¹ R022 - Moody’s Investors Service, ‘Update following CMA appeal and downgrade of Class A bonds to Baa2’, March 2020

to greater risk of failure). We also strongly doubt given the bespoke nature of many swaps (and the abundance of datapoints on ordinary debt) that including swap costs is liable to give a better estimate of the cost of raising embedded debt for the notional company.

3.102 Were the CMA to include swap costs in its allowance, we consider that it would be consistent to also use the actual assumption for index-linked debt in companies' structure when assessing financeability (because swaps effectively increase the share of debt which behaves as if it is RPI-linked). At an industry level, this would be 55% of all debt,²¹² rather than the 33% assumed in our notional financeability testing.

Other issues

Other issues 1: Ofwat's estimate of an average of 20% new debt over 2020-25 for the notional company is too high.

3.103 For our final determinations we calculated that the notional company would on average have a share of new debt in total debt of 20%. This calculation was based on an analysis of various sources: business plan forecasts concerning debt issuance and paydown over 2020-25, the weighted average years to maturity of the sector's debt, and our assessment of RCV growth.

3.104 Yorkshire Water and Bristol Water have asked the CMA to consider alternative shares of new debt to use in the calculation based on their own actual circumstances:

- Yorkshire proposes that the CMA factor into its cost of debt allowance the company's view of its forecast share of new debt over the 2020-25 period (12%).²¹³
- Bristol Water raises concerns that we assumed a sector share of 20% debt despite one of our approaches suggesting 17% was the true figure. It also notes that smaller companies reported a much lower requirement for new debt. The company similarly proposes that the CMA use an assumption of 5% new debt, based on the company's view of the appropriate notional assumption for small companies.²¹⁴

²¹² Source: Ofwat analysis of 2019 Annual Performance reports.

²¹³ Yorkshire Water, 'Statement of case', April 2020, p. 73, paragraph 232

²¹⁴ Bristol Water, 'Statement of case', April 2020, p.61, paragraphs 228, 238

- 3.105 The water sector's issuance-weighted years to maturity was 13.9 years on March 2019.²¹⁵ Assuming this debt falls due at a constant rate, this suggests that at the end of 2020-25, the share of new debt due to refinancing will be around 36%.²¹⁶ Including real RCV growth financed 60% by debt increases this figure to around 40% by the end of the period, or 20% on average. We therefore consider that our assumption of 20% from final determinations is appropriate.
- 3.106 Companies' actual share of new debt will tend to fluctuate based on historic and current investment patterns, representing a source of out- or underperformance against our notional assumption. We are not convinced that this necessitates a bespoke approach to setting this allowance for each company, however.
- 3.107 Firstly, the move to an allowance set using company forecasts could drive inefficient behaviour. For example, as the allowed cost of embedded debt is currently higher than that for new debt, such a policy could incentivise companies to issue most of their debt towards the end of a price control (to ensure it is remunerated as 'embedded'), outweighing considerations of whether the price achieved for such issuance is efficient. Our notional approach avoids these types of issues, as individual companies exert little influence over the notional assumption for new debt share.
- 3.108 Secondly, over time we would expect deviations to broadly balance out, with underperforming positions becoming outperforming positions and vice versa. This is because, for example, an atypically high share of embedded debt attributable to issuance concentrated over a few years will tend to become an atypically high share of new debt when this debt is refinanced. Over the long term therefore, we consider our approach reasonable, and that making more company specific assumptions on share of new debt is not required to ensure equal treatment of companies.

Other issues 2: Ofwat's 'outperformance wedge' is inaccurately estimated.

- 3.109 It is a finding of CEPA (2016)²¹⁷ and Europe Economics (2019),²¹⁸ as well as our own research, that water companies have demonstrated sustained outperformance of the iBoxx A/BBB over many years. For our final determinations, we assumed that the notional company would be able to

²¹⁵ Source: Ofwat analysis of company APRs (Table 1E)

²¹⁶ Based on the calculation $(1/13.9) * 5$.

²¹⁷ CEPA, '[Alternative approaches to setting the cost of debt for PR19 and H7](#)', August 2016, p. 24

²¹⁸ Europe Economics, '[The Cost of Capital for the Water Sector at PR19](#)', July 2019, pp. 70-73

outperform the level of the iBoxx A/BBB by 25 basis points for embedded debt and 15 basis points for new debt. Our assumptions drew on analysis of the spread-at-issuance to the iBoxx A/BBB for historically issued listed bonds over the period 2000-2019. These assumptions are cautious, as in each case, assumed outperformance for the notional company was significantly lower than the 49 basis point weighted average outperformance we calculated for the entire period.²¹⁹

3.110 All four disputing companies argued that our outperformance wedge was inaccurately estimated and should not be applied:

- Anglian Water argue that analysis by NERA and KPMG shows that once credit rating and tenor of water company bonds is controlled for, there is no outperformance.²²⁰
- Bristol Water notes that its advisors Economics Insight criticise the approach for not controlling for credit rating and tenor, and argue that any 'outperformance wedge' is not applicable to its circumstances as it is prohibitively expensive for the company to issue debt at lower tenors than the average 20 years of the iBoxx A/BBB²²¹
- Northumbrian Water cites KPMG's analysis that once tenor is corrected for, outperformance converges to zero.²²²
- Yorkshire Water argues that the credit rating implied by interest cover for the notional company is inconsistent with any outperformance of the iBoxx A/BBB.²²³

3.111 While in principle controlling for tenor and credit rating would be appropriate if our aim was to isolate the debt pricing benefit of being a regulated water utility (sometimes referred to as the 'halo effect'), this is not relevant to the current exercise of setting an allowed return on capital. Our approach, in line with our statutory duties, is to set an allowance for the cost of new debt which is reflective of efficient borrowing costs and which does not materially overcompensate companies for these costs. Our analysis of nominal debt of at least 10 years to maturity at issuance indicates material and sustained outperformance relative to our benchmark iBoxx A/BBB over the period 2000-2018.²²⁴ We therefore consider it appropriate to calibrate the allowed cost of debt off the level of the index for the observed 'outperformance wedge' to make

²¹⁹ Ofwat, 'Draft determinations: Cost of capital technical appendix', July 2019, p66

²²⁰ Anglian Water, 'Statement of case', April 2020, p. 284, paragraph 1173

²²¹ Bristol Water, 'Statement of case', April 2020, pp. 57-58, paragraphs 218-220

²²² Northumbrian Water, 'Statement of case', April 2020, p. 161, paragraphs 876

²²³ Yorkshire Water, 'Statement of case', April 2020, p. 74, paragraph 235

²²⁴ Ofwat, 'Draft determinations: Cost of capital technical appendix', July 2019, p68, Table 4.2

it a better estimate for the debt costs the sector has achieved in the case of embedded debt and is likely to achieve in the case of new debt.

3.112 We observe that the CMA's historic decisions support both the approach used, and the particular estimate of sector outperformance. In the 2015 British Gas Trading appeal, its calculation of the 'outperformance wedge' (which it referred to as the 'halo') was also based on spread to iBoxx A/BBB, with no adjustments for tenor of bond or credit rating.²²⁵ In its redetermination of Bristol Water's price control in 2015,²²⁶ the CMA's efficient sector benchmark for embedded debt was the iBoxx A/BBB minus 26 basis points. In this case too, the CMA did not control for tenor or credit rating.

3.113 While we adjusted down the level of the 'wedge' for new debt from 25 basis points at draft determinations to 15 basis points in our final determinations, we now set out in Table 3.6 evidence that bonds issued following our final determination have achieved much lower coupons than our new debt benchmark of the iBoxx minus 15 basis points. United Utilities – a company whose gearing of 64.8% is close to our notional 60% - has also stated that it typically outperforms our final determinations cost of new debt benchmark by 50-100 basis points.²²⁷ This suggests that our final determinations allowance may have been too high. We submit that, in light of this evidence, it would be appropriate for the CMA to carry out its own review of the appropriate level of the 'outperformance wedge' to apply in determining the allowance for new debt.

Table 3.6: Fixed-rate nominal water bonds issued Jan-Mar 2020 and the iBoxx A/BBB

| Company | Date issued | Principal | Tenor at issuance (years) | Coupon | iBoxx A/BBB on day of issue | Spread to iBoXX A/BBB |
|------------------|-------------|-----------|---------------------------|-----------------|-----------------------------|-----------------------|
| United Utilities | 10 Feb | £250m | 18.0 | 1.75% (nominal) | 2.25% | -50bp |

²²⁵ Competition and Markets Authority, 'British Gas Trading Limited v the Gas and Electricity Markets Authority, final determination', September 2015, pp. 147-150, Figure 15.

²²⁶ CMA, 'Bristol Water plc - A reference under section 12(3)(a) of the Water Industry Act 1991', October 2015, p. 308, paragraph 10.68

²²⁷ United Utilities, 'Capital Markets Day', 2 March 2020, slide 26

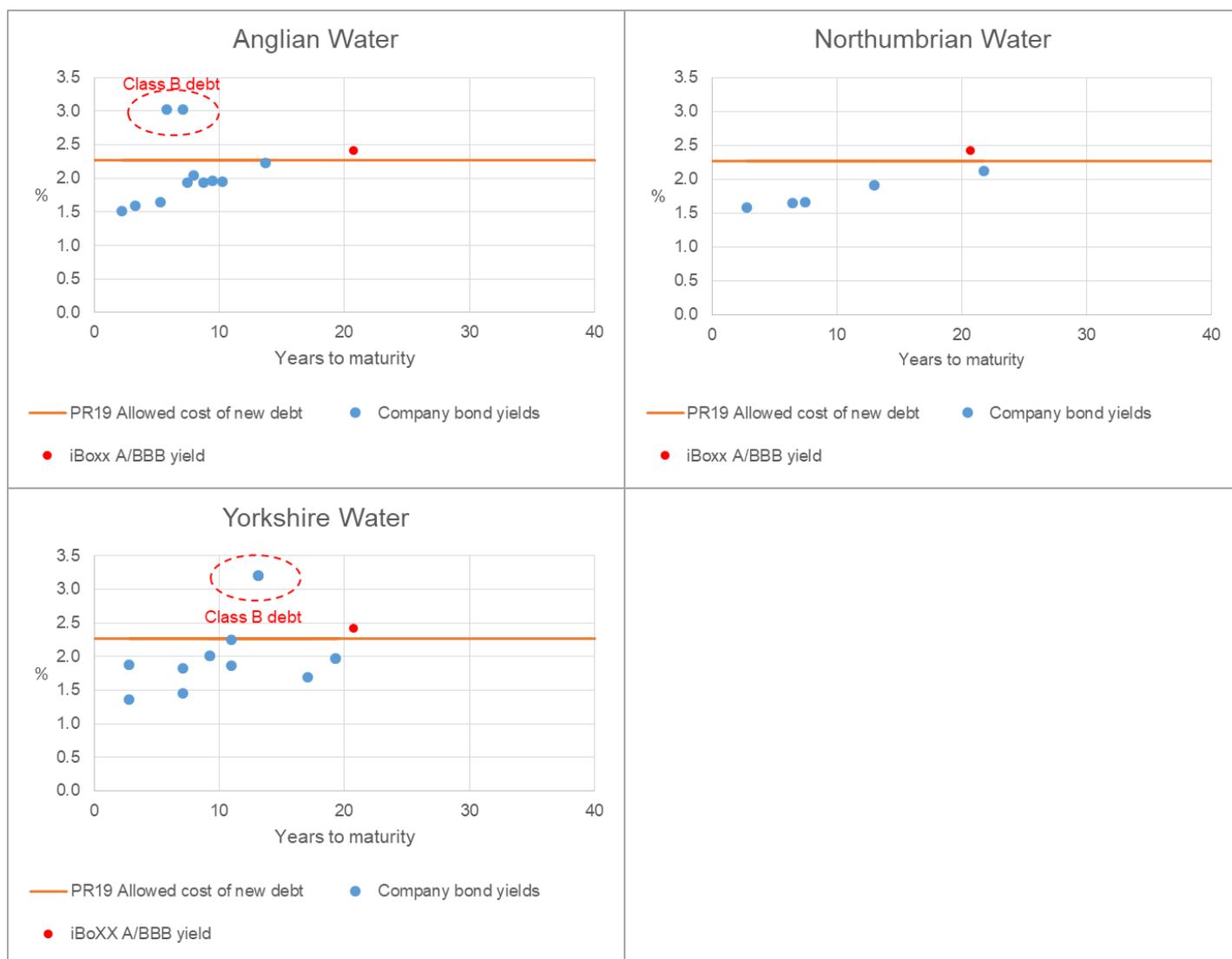
| | | | | | | |
|-----------|--------|-------|------|-----------------|-------|-------|
| Dŵr Cymru | 24 Feb | £200m | 6.1 | 1.63% (nominal) | 2.21% | -59bp |
| Dŵr Cymru | 24 Feb | £300m | 13.1 | 1.38% (nominal) | 2.21% | -84bp |

Source: Ofwat analysis of Refinitiv data

3.114 We also provide evidence on secondary market traded yields for outstanding listed fixed-rate nominal bonds for three of the four disputing companies against the level of our allowance in figure 3.4 below. This suggests that these companies are currently likely to be able to issue senior debt at or below the level of our final determinations cost of new debt benchmark (the iBoxx A/BBB minus 15 basis points) without having to resort to very short-dated issuance. Although analysis for Bristol Water on the same basis as figure 3.4 is not possible, we consider a similar conclusion applies. We set out in Section 6 of our response to Bristol Water's statement of case our analysis that over the past year, the inflation-adjusted²²⁸ yield on this bond has been 2.37% in nominal terms - 25 basis points lower than the 2.62% average value of the iBoxx A/BBB.

²²⁸ We adjust the RPI-based yield for our long-term estimate of RPI of 2.9%, which reflects the Office for Budgetary responsibility's latest estimate of the RPI-CPI 'wedge' of 0.9%.

Figure 3.4 – Disputing company traded yields and our PR19 benchmarks (Nominal fixed-rate bonds, 29 April 2020)



Note: Bristol Water is not featured on account of having no listed fixed-rate nominal bonds

Source: Ofwat analysis of Refinitiv data

3.115 On the basis of a range of debt market evidence, reinforced from recent issuance data and traded yields, we consider our cost of debt allowance with outperformance wedge is achievable by an efficient notional water company.

Other issues 3) Ofwat’s allowance of 0.1% for issuance and liquidity costs is insufficient

3.116 For our final determinations, we allowed companies an increment of 0.1% on their cost of new and embedded debt to reflect issuance and liquidity costs. This was based on analysis by Europe Economics, which in 2017 calculated

that a plausible range for issuance costs was 3-6 basis points, and a plausible range for liquidity costs was 3.5-4.5 basis points. The consultancy proposed 10 basis points as its assumption, noting that this was conservative as it involved a degree of rounding up.²²⁹

3.117 Yorkshire Water states this allowance is likely to be insufficient, citing Economic Insight's (2019) review of decisions made by other regulators.²³⁰ We are not convinced of the relevance of these estimates to the water sector. Our allowance drew on issuance costs for water bonds and an estimate of liquidity requirements tied to water sector characteristics. Our allowance was not controversial during the PR19 process and companies have not submitted bottom-up evidence supporting a different figure.

²²⁹ Europe Economics, , December 2017, pp. 72-73

²³⁰ Yorkshire Water, '[Statement of case](#)', April 2020, p. 75, paragraph 241

Other parameters

3.118 We summarise issues raised by the four disputing companies which related to other areas in table 3.7.

Table 3.7 – Issues with other parameters raised by disputing companies

| Issue raised | ANH | NES | YKY | BRL |
|--|-----|-----|-----|-----|
| The retail margin adjustment should not be applied | - | X | X | - |
| The CMA should use the latest economic outlook to set its inflation assumption | - | X | X | - |

The retail margin adjustment should not be applied

3.119 For final determinations we made a downwards adjustment to the allowed return we calculated for the appointee of 4 basis points in order to derive the return which would apply to the wholesale controls. Our intention was to avoid any double-counting of the return from the retail margin in the wholesale allowed return. Two companies raise concerns with this approach in their statements of case:

- Yorkshire Water argues that it considers this deduction to be an unnecessary legacy from PR14.²³¹ The company argues that the original rationale for the adjustment (a transfer of retail assets to the wholesale RCV) has no relevance as these assets have fully depreciated. The company also argues that we have not provided evidence that the risk profile of the retail control is higher than that of the wholesale control. Finally, the company argues that the retail margin does not overcompensate companies for the risks faced.
- Northumbrian Water disputes that there is any double counting of the return, arguing that the risks in the retail control are different to the risks being compensated via the appointee allowed return.²³²

3.120 We continue to consider that there is a double count, which results from the allowed return being estimated at the aggregate level for the company (i.e. including wholesale and retail controls). As the 1.0% retail margin separately provides the allowed return for the retail control, there would be double

²³¹ Yorkshire Water, 'Statement of case', April 2020, p. 76, paragraph 245, and 'Annex 12 – Retail Margin Deduction'

²³² Northumbrian Water, 'Statement of case', April 2020, p. 162, paragraph 884

recovery without adjusting for this via a deduction from the appointee allowed return.

- 3.121 This is because the beta used for setting the appointee allowed return is estimated from listed comparators which are integrated across wholesale and (household) retail activities. So where the retail margin fully compensates investors for the risks in the retail business, this could include a margin allowance greater than the allowance inferred by using the integrated cost of capital. This therefore requires a deduction to the appointee allowed return to calculate the correct wholesale allowed return and avoid double counting.
- 3.122 While the erosion of retail assets included in the wholesale RCV since PR14 has reduced the size of the retail margin adjustment, the logic above still requires an adjustment where the systematic risk of retail activities is different to wholesale activities.
- 3.123 There are reasons why retail activities may face higher systematic risk than wholesale activities. For example, bad debts in the retail business are more exposed to wider economic risks than infrastructure spending in the wholesale business. Furthermore, movements in metered household consumption demand directly impact the retail business, but are protected as part of the revenue forecasting incentive in the wholesale business.
- 3.124 There are two ways of making a retail adjustment to the appointee allowed return. The first method relies on estimating a water retail beta and then disaggregating the integrated beta into two component parts (wholesale and retail). The wholesale beta can then be used to estimate the allowed return for the wholesale controls. The second method isolates the component of the retail margin which needs to be deducted from the appointee allowed return to avoid double counting. As Northumbrian Water notes, the first method is problematic due to the inherent challenges of beta estimation, made harder by the requirement to estimate both appointee and retail betas for the water sector. Because the retail assets are substantially smaller than the wholesale RCV, any disaggregation impact on the wholesale beta will be small and difficult to discern.
- 3.125 For this reason we used the second method in order to assess the retail margin adjustment to the appointee allowed return in setting the final determinations.
- 3.126 Our approach starts with assumption that the 1% retail margin is an appropriate benchmark for the margin required to provide household retail

services. Companies did not raise our choice of 1% as the retail margin as an issue over the PR19 process.

3.127 We then built up the retail margin from its component parts including the cost of capital employed and working capital financing. This bottom-up approach uses an appointee allowed return, so that any difference between the 1% household retail margin and the bottom-up components can be attributed to the additional risks relating to retail activities. This second method is also preferable as the amount of the double count adjustment is bounded by the size of the retail household margin, whereas the first method is potentially unbounded. Because of the relative size of the wholesale business in comparison to the retail business, the adjustment of 4 basis points is relatively small.

The CMA should use the latest economic outlook to set its inflation assumption

3.128 For our final determinations we used a long-term inflation assumption of 2.0% CPIH and 3.0% RPI. The first of these parameters was based on the assumption that the Bank of England will on average over the longer term hit its 2.0% CPI target, as well as analysis we performed which suggests that CPI and CPIH are generally close to one another, with little tendency for one to be systematically higher or lower.²³³

3.129 We used the Office for Budgetary Responsibility (OBR)'s 2015 estimate of the long-term RPI-CPI 'wedge' (100 basis points) to infer a long-term RPI figure of 3.0% from our 2.0% CPIH figure.²³⁴ We used these two long-term assumptions to convert between nominal and inflation-stripped components of the allowed return on capital.

3.130 In its statement of case, Yorkshire Water supplied the Office for Budgetary Responsibility's 2020-25 inflation forecasts, indicating an average of 1.88% CPI and 2.77% RPI over the period. The company noted this profile implied a lower return from indexation of bills and the RCV, suggesting there would need to be a commensurate increase in the AMP7 real rate of return.²³⁵ Northumbrian Water's statement of case also proposed the use of updated inflation forecasts for inflation when deflating nominal cost of debt benchmarks.²³⁶

²³³ Ofwat, '[PR19 draft determinations: Cost of capital technical appendix](#)', July 2019, p. 9

²³⁴ Office for Budget Responsibility, '[Revised assumption for the long-run wedge between RPI and CPI inflation](#)', March 2015

²³⁵ Yorkshire Water, '[Statement of case](#)', April 2020, p. 75, paragraphs 242-244

²³⁶ Northumbrian Water, '[Statement of case](#)', April 2020, p. 162, paragraphs 880, 882

3.131 We agree that the CMA's redetermination of the allowed return should consider up-to-date evidence on inflation. However, given that we assumed a 15 year investment horizon in our final determinations allowed return (and that this was not contested by companies), we consider that the relevant inflation assumption is the average for the 15 year outlook, rather than the average over the shorter (2020-25) period covered by the OBR's publication. This points to the OBR long-term assumptions being preferable. We note that the OBR has updated its estimate of the long-term RPI-CPI 'wedge' to 0.9%.²³⁷ This implies a long-run CPIH estimate of 2.0% and long-run RPI of 2.9%.

²³⁷ Office for Budget Responsibility, '[Forecast evaluation report](#)', December 2019, p. 21, Box 2.3

4. Financeability

- 4.1 We must set our determinations in the manner which we consider is best calculated to satisfy our duties. In summary our principal duties are to protect the interests of consumers, secure that water company functions are properly carried out, secure that companies are able to finance the proper carrying out of those functions, and further the resilience objective.
- 4.2 We interpret our financing duty as a duty to secure that an efficient company with the notional capital structure can finance its functions, in particular by securing reasonable returns on its capital. In doing so, it will be able to raise finance on reasonable terms while protecting the interests of current and future customers.
- 4.3 Our financeability assessment considers whether, when all of the individual components of our determination are taken together (including totex, allowed return and retail margin, pay-as-you-go (“PAYG”) and RCV run-off levers), an efficient company with the notional capital structure will be able to generate cashflows sufficient to meet its financing needs.
- 4.4 Our approach is to assess financeability on the basis of the **notional capital** structure. We also assume an efficient company is able to deliver a level of performance that is consistent with our efficient cost allowances and that there is no ODI out/underperformance. As referenced in section 2, we use a notional capital structure because it is not appropriate for customers to bear the costs or risks associated with a company’s capital and financing choices which may depart from the notional structure. Actual structures reflect for example, individual financing choices companies have made in the past on capital structure and frequency and tenor of debt issuance.
- 4.5 Our financeability assessment is carried out **before reconciliation adjustments** for incentive mechanisms for previous control periods. This ensures that customers do not pay more to address financeability constraints arising either from poor performance, or as a result of an adjustment being made to allowed revenue as a result of the company’s performance in the previous period. Similarly, it ensures that the value of outperformance payments earned through regulatory incentive mechanisms are not eroded as a result of adjustments made following the financeability assessment.
- 4.6 This is a **continuation** of policy from previous determinations and means that actual financial ratios for a company even with a notional capital structure could

be higher or lower than those assessed in our financeability assessment depending on its performance. This should therefore be entirely in line with companies expectations.

4.7 Having carried out this assessment, **the final determinations for all of the disputing companies were financeable on the notional structure, taking account of allowed revenues, allowed costs which include a reasonable allowed return on capital, performance commitments and the resulting cash flow profiles in our determination.** The final determinations were sufficient to ensure companies would be in a position to deliver their obligations and commitments to customers.

4.8 We summarise the common issues raised by disputing companies in arguing that their final determinations are not financeable in table 4.1. These issues relate to:

- securing a reasonable return on capital;
- our approach to assessing financeability;
- the application of our approach; and
- solutions to address financeability constraints

Table 4.1 Issues raised by companies in relation to financeability

| Issue raised | Anglian Water | Bristol Water | Northumbrian Water | Yorkshire Water |
|--|----------------------|----------------------|---------------------------|------------------------|
| Securing a reasonable return on capital | | | | |
| Ofwat is not meeting its statutory financing duty because: | | | | |
| Securing a reasonable return on capital The final determination does not represent an appropriate balance of risk and return and companies cannot earn their allowed return. | X | X | X | X |
| Rating actions since the final determinations | | | | |
| i) The final determinations are credit negative and will lead to rating downgrades. Companies cannot raise funds on reasonable terms and the debt interest costs are underfunded in the allowed return | X | X | X | X |
| ii) Ofwat has misidentified the notional structure | X | X | X | X |

| | | | | |
|--|---|---|---|---|
| Our approach to assessing financeability | | | | |
| The notional capital structure as a basis for our financeability assessment | | | | |
| i) Ofwat has misidentified the notional structure | X | X | X | X |
| ii) The financeability assessment should form part of the allowed return on capital determination. Weak financial ratios is reason enough to increase the allowed return. | X | X | X | X |
| Financial ratios used in our financeability assessment. | | | | |
| Ofwat should replicate rating agency methodologies to assess financeability. | X | X | X | X |
| Application of our approach | | | | |
| The PR19 financeability constraint | | | | |
| The final determination falls below the threshold for the financial metrics required to achieve a Baa1/BBB+ credit rating | X | X | X | X |
| Financial headroom under the final determinations | | | | |
| There is insufficient headroom in financial metrics in order to maintain an investment grade credit rating, particularly given the downward skew of the final determination | X | X | X | X |
| Solutions to address financeability constraints | | | | |
| Revenue advancement through PAYG and RCV run-off levers is not an appropriate solution because: | | | | |
| PAYG and RCV run-off adversely impacts the long-term financial viability of the water sector | | | | |
| Revenue advancement using PAYG and RCV run-off rates it is a short-term solution to a long-term financeability issue and adversely impacts the long term financial viability of the water sector and intergenerational fairness. | X | X | X | X |
| Credit Rating agencies approach to advanced revenue | | | | |
| Revenue advanced is disregarded by credit rating agencies in their assessments | X | X | X | X |
| Alternative solutions to address a financeability constraint | | | | |
| | X | X | X | X |

| | | | | |
|---|--|--|--|--|
| Other options presented by Ofwat in the final determination, such as restricting dividends and equity injections, changes to the notional structure and full CPIH transition are not appropriate. | | | | |
|---|--|--|--|--|

4.9 This section sets out our approach to financeability and the measures we have taken to ensure final determinations are financeable, and our response to these common issues. We respond to specific issues raised by individual companies in each our response to each company's statement of case document.

Considerations for the CMA

4.10 Each disputing company claims its final determination was not financeable on the basis of the notional and/or its actual capital structure, referencing concerns about the overall balance of risk and return. Each company raises concerns about our **overall approach** to assessing financeability, and the **methodologies** we have taken to resolving financeability constraints. They argue we have not fulfilled our financing duty amongst other statutory duties.

4.11 The **disputing companies do not in principle dispute the use of the notional company structure to assess financeability**. However, the companies ask the CMA to take account of features of their actual structures such as actual embedded debt costs, proportions of new and embedded debt and swap portfolio positions in the determination of the allowed return on capital.²³⁸ As referenced in section 2, we do not consider that amending the financeability assessment to account for company financing choices is an approach that maintains the best incentives on companies to raise finance efficiently.

4.12 The companies argue that failing to satisfy a target level for an **adjusted interest cover ratio** referenced for guidance by credit rating agencies, on its own, is enough to indicate the allowed return is too low. They claim the only remedy available is an increase to the allowed return on equity above the rate indicated by market evidence.

4.13 Adopting such an approach would clearly not best meet our duties. The allowed return is set by reference to expectations observed in market data. Credit rating agencies take a range of factors into account when making their in the round

²³⁸ We discuss issues raised by disputing companies in relation to the notional structure in Section 2, The notional structure used in our determinations.

assessment of credit quality and so aiming up the allowed return to meet certain financial ratios cannot be an approach that best satisfies our duties; it would call into question the legitimacy of our determinations because it would facilitate companies earning returns that exceed the level required as evidenced by market data.

- 4.14 The disputing companies argue that the **remedies** we have applied in the final determinations do not address the financeability constraint and the alternatives we set out are not appropriate. The companies claim the only viable solution is an increase to the allowed return on capital. We disagree.
- 4.15 The financeability challenge that arises for some companies in final determinations is the result of an imbalance between the timing that companies earn their allowed return on capital and the payment of the cash element of debt costs; it is driven by the profile of cash returns to shareholders in the short term, compared with the nominal return that is received over the long term.
- 4.16 As such, solutions we applied, a **cash flow profiling** adjustment that is NPV neutral over the long term through the use of PAYG and RCV run-off levers, along with restriction of the modelled notional dividend for companies with high RCV growth, more fairly balances customer interests than uplifting the allowed returns to equity.
- 4.17 In the following sections we respond to the company claims. We set out why we consider cash flow profiling is the most appropriate mechanism given the nature of the financeability constraint. **The approach is consistent with all of our statutory duties** taken in the round as it is in the best interests of customers. It is also consistent with the approach taken at previous price reviews.
- 4.18 We also disagree with company claims that revenue advancement, along with the alternative remedies set in the final determination, such as equity injection, faster transition to CPIH, and changes to the notional capital structure are not appropriate remedies to address a financeability constraint.
- 4.19 **We set out alternative mechanisms that the CMA may consider** if the CMA disagrees that using financial levers is an appropriate solution. It could consider changes to the notional structure to improve the financeability of the determinations, such as a lower level of gearing or increasing our conservative assumption for the proportion of index linked debt, as discussed in Section 2, 'The notional structure used in our determinations'. Alternatively, the CMA

could consider alternative methods of re-profiling the cash flows such as a faster transition to CPIH.

Securing a reasonable return on capital

4.20 Each disputing company asserted in its statement of case that its final determination was not financeable on the basis of the notional and/or its actual capital structure. The companies set out their arguments as follows:

- Anglian Water argues it is not financeable on the basis of the notional capital structure as it considers allowed revenues and costs are insufficient.²³⁹
- Bristol Water argues “Ofwat was obliged to set a final determination which allowed us to earn a reasonable rate of return on debt and equity, given efficient performance on costs and high quality services. It has failed to do so, contrary to its finance duty, as a result of the cost of capital errors, the cost allowance errors and the balance of risk errors”.²⁴⁰
- Northumbrian Water argues “Ofwat’s settlement in the round is not financeable, in the way in which financeability is understood by the industry and, notably, by independent rating agencies”²⁴¹
- Yorkshire Water argues “Ofwat has (a) set the WACC too low; (b) failed to ensure that the notionally efficient firm can raise finance on reasonable terms; (c) failed to ensure that the notionally efficient firm is investable; and (d) failed correctly to calibrate key incentives such that the notionally efficient firm would be expected to earn the allowed return; and (e) introduced an inappropriate gearing outperformance sharing mechanism.”²⁴²

4.21 We discuss our financing duty in section 2 and in further detail in our ‘Introduction and overall stretch’ document.²⁴³ We interpret our financing duty as a duty to secure that an efficient company with the notional capital structure can finance its functions, in particular by securing reasonable returns on its capital. In doing so, it will be able to raise finance on reasonable terms while protecting the interests of current and future customers. This issue does not appear to be in dispute. However, in their statements of cases, the disputing

²³⁹ Anglian Water, ‘Statement of case’, April 2020, pp. 31-32, paragraphs 164-165

²⁴⁰ Bristol Waters, ‘Statement of case’, April 2020, Section 5.1, pp. 9-10, paragraphs 42 to 48

²⁴¹ Northumbrian Water, ‘Statement of case’, April 2020, pp. 36-37, paragraph 151

²⁴² Yorkshire Water, ‘Statement of case’, April 2020, pp.4, paragraph 16

²⁴³ Ofwat, ‘Reference of the PR19 final determinations: Introduction, overall stretch on costs and outcomes – response to cross-cutting issues in companies’ statements of case, May 2020, Section 3

companies argue that they are unable to secure a reasonable return on capital due to a cost of capital that is too low, the underfunding of investment through the totex gap in the final determination, and stretching performance targets leading to expected losses.

- Anglian Water says that our approach to its cost allowances, allowed return and financeability are inconsistent with our financing functions duty.²⁴⁴
- Bristol Water argues the return on capital and cost allowances are too low and the balance of risk and return exposes it to downside financial risk.²⁴⁵
- Northumbrian Water argues the outcomes package is unbalanced, revenues and allowed return are insufficient and as such the company will find it increasingly difficult to attract long term investment.²⁴⁶
- Yorkshire Water argues the allowed return is too low and cost allowances and outcomes are beyond those an efficient firm would be expected to deliver and argues the determination is not 'investible',²⁴⁷

4.22 As we set out in our final determinations²⁴⁸, the allowed return on capital has reduced compared with PR14. The allowed return reflects market expectations; we do not consider this alters the overall level of stretch for the notional company.

4.23 In carrying out our financeability assessment, we assume that an efficient company is able to deliver a level of performance that is consistent with our efficient cost allowances and that there is no out/underperformance with respect to the levels of service provided to customers. Our approach protects the interests of customers as it ensures companies and their investors bear the consequences of inefficiency and underperformance in delivery of their obligations and commitments to customers. This is consistent with the approach we and other regulators have taken in previous reviews and is consistent with all of our duties.

4.24 Our determinations provide efficient companies with a reasonable allowed return which is in line with market expectations, as discussed in section 3. We

²⁴⁴ Anglian Water, [Statement of case](#), April 2020, introduction, paragraph 171

²⁴⁵ Bristol Water, [Statement of case](#), April 2020, Introduction, pp. 1-2, paragraph 7

²⁴⁶ Northumbrian Water, [Statement of case](#), April 2020, Section 10.1, pp. 179, paragraph 984

²⁴⁷ Yorkshire Water, [Statement of case](#), April 2020 pp. 16, 43, paragraphs 46-49, 130-31; Yorkshire Water, [Statement of case](#), April 2020, pp. 16-17, paragraphs 50

²⁴⁸ [PR19 Final determinations: Aligning risk and return technical appendix](#), December 2019, Section 6.3 page 75

discuss the overall stretch in our final determinations in the 'Introduction and overall stretch' document that accompanies this submission.²⁴⁹

Rating actions since the final determinations

- 4.25 The disputing companies point to actions taken by credit rating agencies before and following publication of the final determinations as evidence that the final determinations are not consistent with the credit ratings targeted for the notional company structure. This includes some rating downgrades and companies remaining on review for downgrade or negative outlook.²⁵⁰
- 4.26 The companies claim the credit ratings are not consistent with the iBoXX A/BBB index used in the determination of the allowed cost of new debt meaning companies will not achieve the allowed cost of new debt and so be underfunded for their debt interest costs. The companies also argue that a lower credit rating will restrict access to the level of debt finance required and maintaining a higher credit rating is in the long-term interests of customers.
- 4.27 Credit rating agencies provide credit assessments which take account of a company's actual circumstances. This will include its operational and financial performance as well as its actual capital structure. The credit rating agencies refer to the challenge of the final determination in their recent publications and rating opinions.
- 4.28 **We disagree that efficient companies cannot maintain a credit rating with two notches headroom to the minimum investment grade.** We presented evidence in our introduction to the CMA which suggests that companies with capital structures that are similar to our notional level are capable of maintaining a credit rating that is at least two notches above the minimum of the investment grade, which is consistent with the view that we expressed in our final determinations.²⁵¹ This is supported by many water companies retaining credit ratings at this level with at least one credit rating agency.
- 4.29 Table 4.2 lists the current credit ratings for the rated water companies along with the gearing as at 31 March 2019 reported in annual performance reports.

²⁴⁹ Ofwat, 'Reference of the PR19 final determinations: Introduction, overall stretch on costs and outcomes – response to cross-cutting issues in companies' statements of case', May 2020, Section 4

²⁵⁰ Anglian Water, 'Statement of Case', April 2020, p.22, paragraph 22 and p.26, paragraph 131; Bristol Water, 'Statement of Case', April 2020, p. 10, paragraph 45; Northumbrian Water, 'Statement of Case', April 2020, p. 179, Section 10.1 paragraph 985; Yorkshire Water, 'Statement of Case', April 2020, p. 74, paragraphs 236-237

²⁵¹ 'Reference of the determination of price controls for the period from 1 April 2020: Cross-cutting issues', March 2020, pages 73 to 75, paragraphs 7.6 to 7.10

Where companies have credit ratings below this level, rating agencies have typically cited other factors contributing to the credit rating such as high gearing, poor performance or regulatory action.

Table 4.2: Current credit ratings for the rated water companies

| Company | Moody's | Standard & Poor's | Fitch | Gearing as at 31 March 2019 |
|---------------------------|---------------|-------------------|-------------|-----------------------------|
| Anglian Water | Baa1 ↓ | A- W↓ | A- → | 78.6% |
| Dŵr Cymru | A3 → | A- → | A → | 56.0% |
| Northumbrian Water | Baa1 R | BBB+ W↓ | NR | 66.8% |
| Severn Trent Water | Baa1 → | BBB+ → | NR | 63.7% |
| Southern Water | Baa3 → | BBB+ ↓ | BBB+ ↓ | 68.8% |
| Thames Water | Baa2 → | BBB+ ↓ | NR | 81.9% |
| United Utilities | A3 → | BBB+ → | BBB+ → | 64.8% |
| Wessex Water | Baa1 → | BBB → | BBB → | 64.7% |
| Yorkshire Water | Baa2 ↓ | A- ↓ | A ↓ | 75.8% |
| Affinity Water | Baa1 ↓ | BBB+ → | NR | 79.7% |
| Bristol Water | Baa2 ↓ | NR | NR | 64.6% |
| Portsmouth Water | Baa1 ↓ | BBB ↓ | NR | 66.3% |
| SES Water | Baa2 ↓ | BBB → | NR | 60.9% |
| South East Water | Baa2 → | BBB → | NR | 78.5% |
| South Staffs Water | Baa2 → | BBB+ ↓ | NR | 70.6% |

Note: The licences of South West Water and Hafren Dyfrdwy contain a provision that allows Ofwat to agree an exemption to the requirement to maintain or to use reasonable endeavours to maintain an investment grade credit rating. Ofwat has currently agreed to the exemption and instead there is a requirement for their Boards to certify on an annual basis that in the Board's opinion, they "would be able to maintain an issuer credit rating which is an investment grade rating" and provide a statement of the main factors which the Board has taken into account.

Credit ratings are based on the corporate family rating for Moody's or where this is not available, the senior secured credit rating. For Standard & Poor's credit ratings are based on the long-term issuer credit rating or where this is not available the senior debt instrument. Fitch ratings are based on the senior secured rating.

→ signifies a stable outlook, ↓ signifies the rating has a negative outlook or is under review for downgrade. W↓ signifies rating watch negative. R signifies under review. NR signifies the company is not rated by that credit rating agency.

Source: Gearing figures from the company annual performance reports 2018-19

R031 - Moody's 'Outlook remains negative as price review leads to unprecedented number of appeals', 30 April 2020

R004 - Standard & Poor's 'Four UK based water utilities downgraded on tougher regulations; two put on negative watch; four outlooks negative', 25 February 2020

Fitch ratings taken from 'www.fitchratings.com' – individual company reports

4.30 Recent rating opinions by Moody's for Anglian Water and Bristol Water and Fitch for Anglian Water suggest favourable outcomes from the CMA may not be sufficient to maintain current ratings.²⁵²

4.31 We comment on the credit rating agencies recent announcements on the disputing companies in section 2. We summarise below the rating actions and comments by the credit rating agencies following the publication of the final determinations.

4.32 Since the publication of the final determinations, **Fitch** has:

- downgraded Wessex Water to BBB with a stable outlook. The action reflects financial profile pressure from the next price control as well as the company's choice of financial policy, with the company's target pension-adjusted net debt to regulated capital value at 72%. Fitch sets out that it expects some outperformance against the regulatory targets, although the additional cash flow would not be sufficient to reduce gearing sufficiently;²⁵³ and
- downgraded Anglian Water's senior secured class A debt rating to A- from A and its class B debt to BBB from BBB+ with stable outlook on both debt ratings. Fitch sets out that

“Despite uncertainty around the outcome of the Competition Markets Authority (CMA) appeal, Fitch does not expect a potential increase in price settlement to be sufficient to maintain AWS's credit quality. The Stable Outlooks reflect a fair amount of headroom at the new rating levels.”

²⁵² R002 - Moody's Investor Service, 'Moody's confirms ratings of Anglian Water with negative outlook and downgrades Osprey', February 2020, Moody's commented, "Today's rating action reflects Moody's expectation that, although the company will not have certainty over its revenues and investment programme for a further 6-12 months, the eventual determination is likely to support credit metrics that are weakly positioned but consistent with Anglian Water's assigned ratings."

R010 - Moody's Investor Service, 'Rating Action: Moody's downgrades Bristol Water to Baa2, negative outlook', March 2020. Moody's comment "whilst the CMA appeal may result in a more favourable settlement, the rating agency does not expect any increase in allowances will be enough to restore Bristol Water's credit quality."

R003 - Fitch Ratings, '[Fitch Downgrades Anglian Water and Osprey](#)', March 2020 Fitch stated it does not expect a favourable outcome from the CMA process to be sufficient to maintain Anglian Water's credit quality.

²⁵³ Fitch Ratings, '[Fitch downgrades Wessex Water to 'BBB'; Outlook stable](#)', March 2020

- Fitch assumes £40 million of net incentive payments alongside no totex underperformance in its rating case, stating:

“AWS's upper quartile ranking regulatory performance is likely to lead to meaningful outcome delivery incentives (ODI) outperformance in AMP7”²⁵⁴

4.33 All companies rated by Fitch except Wessex Water retain credit ratings at least two notches above the minimum investment grade.

4.34 Since the final determinations were published, Moody's has downgraded seven of the 15 water companies that it rates.²⁵⁵ This includes Bristol Water and Yorkshire Water of the disputing companies. Eight companies retain credit ratings at least two notches above the minimum investment grade. Four of the companies at Baa1 have a negative outlook or are under review for possible downgrade, including Anglian Water and Northumbrian Water of the disputing companies. We discuss the rating actions relating to the disputing companies in section 2.

4.35 **Standard & Poor's** has provided updates on all of the 14 companies it rates in the sector. Following the final determinations, it has lowered the ratings by one notch for five water companies with stable outlooks. Three of these companies, Affinity Water, Dŵr Cymru and United Utilities remain at least two notches above the minimum investment grade. In total, 10 of the water companies rated by Standard & Poor's retain credit ratings at least two notches above the minimum investment grade.

4.36 Standard & Poor's states that:

“Despite the tighter regulation, we continue to assess the U.K. regulatory framework for water utilities as strong, supporting our view that these utility companies have excellent business risk profiles.”

It goes on to state:

²⁵⁴ R003 - Fitch Ratings, “[Fitch downgrades Anglian Water and Osprey](#)”, March 2020

²⁵⁵ Since the final determinations were published on 16 December 2019, Moody's has downgraded Dŵr Cymru (A3 stable), Severn Trent Water (Baa1 stable), Thames Water (Baa2 stable), Wessex Water (Baa1 stable), Yorkshire Water Baa2 negative outlook), Bristol Water (Baa2 negative outlook), and SES Water (Baa2 negative outlook)

“we think the sector will generally retain good access to capital”.²⁵⁶

4.37 Seven of the 11 companies that Standard & Poor's rates that have accepted the final determinations maintain an issuer or senior secured debt credit rating of at least two notches above the minimum investment grade.

Our approach to assessing financeability

4.38 We set out our approach to assessing financeability in the PR19 final methodology. We summarised our approach in our introduction to the CMA, restated below.²⁵⁷

Summary of approach to assessing financeability of the final determinations set out in 'Reference of the determination of price controls for the period from 1 April 2020: Cross-cutting issues'

In carrying out our financeability assessment, we assume that an efficient company will be able to meet its obligations and commitments to customers within our cost allowances, such that there are no outperformance or underperformance adjustments with respect to the levels of service provided to customers.

We carry out our financeability assessment on the basis of the notional capital structure which underpins our allowed return on capital. This approach is consistent with meeting all of our regulatory duties, as well as with the approach that we and other regulators have used in previous determinations. We use a notional capital structure because we do not consider it is appropriate for customers to bear the costs or risks associated with a company's choice of actual capital structure, for example, in the event that a company is in financial distress.

The basis for our financeability assessment is our financial model that was developed for PR19 and which is also used to set revenue allowances. The PR19 financial model was subject to considerable consultation ahead of our draft and final determinations, and we required companies to submit a populated version of the financial model, together with Board assurance that their business plans were financeable on a notional basis. We used the financial ratios included in the financial model submitted by each company and the stated target credit ratings to inform the financeability assessment of our determinations.

Our approach to assessing financeability is to set opening gearing for the regulatory period at the notional level, and, reflecting expectations of an investor in a company

²⁵⁶ R004 - Standard & Poor's Global Ratings, "Four U.K.-based water utilities downgraded on tougher regulations; two put on watch negative; four outlooks negative", February 2020

²⁵⁷ [Reference of the determination of price controls for the period from 1 April 2020: Cross-cutting issues](#), March 2020, pp. 58-59, Section 6, paragraphs 6.7 to 6.13

with a notional capital structure, we set a dividend yield and growth assumption for the notional company.

Reflecting recent trends where almost all new investment has been funded by debt and retained earnings, our financial model initially assumes all new investment is debt financed. However, we set out in the PR19 methodology that where companies are required to fund significant new investment (measured by RCV growth), it is reasonable to assume that equity has a role to play in financing that RCV growth. Therefore, where a financeability constraint (as measured by the level of cash flow and debt service financial ratios) is driven by significant RCV growth, our methodology allows us to restrict dividend yields, or assume injection of equity before considering alternative methods to address the constraint.

Taking account of the allowed return of equity, our final determinations used a base notional dividend yield of 3.00% with real growth of 1.18% as the basis of our financeability assessment. We based the dividend yield on observations of the ratio of dividend payments to total returns from equity markets. Where RCV growth exceeded 10% in real terms, we adopted an approach which assumed a lower base dividend yield before considering alternative methods to address a financeability constraint. Overall we restricted dividends in our financeability assessment for eight companies in the final determinations (including Anglian Water).

The PR19 methodology set out additional options that can be used to address a financeability constraint. These relate to the advancement of funds that would otherwise be remunerated in the RCV through the use of adjustments to the PAYG and RCV run-off building blocks of allowed revenue. The PAYG and RCV run-off rates can be used to alter the profile of cash flows between regulatory control periods on a basis that is NPV-neutral to customers and companies over the long term. We consider this approach to be appropriate, balancing all of our duties, where a financeability constraint arises because of cash flow timing issues.

The notional capital structure as a basis for our financeability assessment

4.39 Broadly the companies do not dispute our approach to assessing financeability on the basis of the notional capital structure and in particular the level of gearing assumed. However companies set out disagreement with the approach in the following areas:

- the cost of debt and the mix of new and embedded debt within the notional structure;
- a disconnect between the allowed return on capital and the assessment of financeability;
- the assessment of whether companies can make the allowed return on capital;
- the financial metrics used to assess financeability; and
- the assessment of headroom in financial metrics.

4.40 The approach to assess financeability on the basis of the notional capital structure is consistent with long-standing regulatory practice in the water sector and other UK regulated sectors. It has also been endorsed in the redeterminations made by the Competition and Markets Authority and Competition Commission.

4.41 Companies and their investors are responsible for maintaining long term financial resilience. This view was shared by the Competition Commission in previous utility references. For example, in 2014, the Competition Commission said

“if shareholders were able to withdraw large sums in periods with strong cash flow, it was reasonable they should also be willing to supply finance in periods of weaker cash flow”.²⁵⁸

4.42 We discuss why it is important to determine the allowed return and assess financeability on the basis of the notional capital structure in Section 2, the notional structure used in our determinations.

4.43 We respond to the disputing companies' issues with regards to the cost of debt and the mix of new and embedded debt within the notional structure in Section 3, allowed cost of debt.

4.44 Each of the disputing companies claim that the level of the financial ratios set out in our final determinations is a reason that the allowed return should be increased:

- Northumbrian Water suggests that the level of the adjusted interest cover ratio that is calculated by our final determination is reason, on its own, to increase the allowed return on equity.²⁵⁹ The company argues that the financeability test should be a fundamental element in the determination of the allowed return on capital
- Bristol Water argue that we appear to have disregarded the implications of financeability tests of the notional company as a cross-check on allowed returns.²⁶⁰

²⁵⁸ Competition Commission, [Northern Ireland Electricity Limited price determination – A reference under Article 15 of the Electricity \(Northern Ireland\) Order 1992](#), March 2014, paragraph 17.100, page 17-21.

²⁵⁹ Northumbrian Water, 'Statement of Case', April 2020, p. 186, paragraph 1047

²⁶⁰ Bristol Water, 'Statement of Case', April 2020, p26, paragraph 73

- Anglian Water submitted analysis in support of its view that the notional company is not financeable at the allowed return on capital.²⁶¹ It published and updated a paper setting out its analysis of the financeability of a company under the notional structure on the basis of the allowed return, latterly with an update based on the allowed return for the draft determinations.²⁶²
- Yorkshire Water argues that the response to weak interest cover ratios resulting from the allowed return on capital has to fundamentally impact value not just be a timing solution.²⁶³

4.45 We do not accept that achieving a specific level for adjusted interest cover ratio or a specific credit rating of Baa1 from Moody's is an empirical test either of financeability or of whether we have satisfied our financing duty.²⁶⁴ There is no basis for this approach in the statute. We satisfied our financing duty by making sure that companies' allowed revenues, relative to efficient costs, were sufficient for an efficient company to finance its investment on reasonable terms and therefore secure that it can properly carry out its functions. We set out further details of how we meet all of our statutory duties in the 'Introduction and overall stretch' document.²⁶⁵ Notwithstanding this, **the disputing companies provide no viable alternative solution should the CMA apply a different allowed return that does not achieve 1.5 adjusted interest cover.**

4.46 Increasing the allowed return to address a financeability constraint would not protect the interests of customers. Our aim in determining the allowed return is to set it at a level such that investors receive reasonable returns for the risk associated with their investment. As we set out in section 3, our allowed return is consistent with market evidence. If we were to uplift the allowed return to target a specified level for a key financial ratio, it would be inconsistent with the application of all of our duties and it would call into question the legitimacy of our determinations because it would facilitate companies earning returns that exceed the level required as evidenced by market data. We addressed this issue in our introduction to the CMA.²⁶⁶

²⁶¹ Anglian Water, '[SOC134_AW_Notional company financeability \(April 2019\)](#)', April 2019

²⁶² Anglian Water, '[SOC199_AW_Notional company financeability \(August 2019 update\)](#)', August 2019

²⁶³ Yorkshire Water, '[Statement of Case](#)', April 2020, p. 81, paragraph 272

²⁶⁴ We set out in the section, 'Financial ratios used in our financeability assessment' that water companies are rated by up to three rating agencies. Each rating agency has its own methodology for assessing companies and considers a range of factors and financial metrics in determining a credit rating.

²⁶⁵ Ofwat, 'Reference of the PR19 final determinations: Introduction, overall stretch on costs and outcomes – response to cross-cutting issues in companies' statements of case', May 2020, Section 3

²⁶⁶ Ofwat, '[Reference of the determination of price controls for the period from 1 April 2020: Cross-cutting issues](#)', March 2020, pp. 64-65, paragraph 6.39

“We do not consider that calculating the allowed return by reference to a target threshold for a key financial metric used by the credit rating agencies is an approach that would best meet our duties. We set the allowed return on equity by reference to expectations observed in market data. Applying an increase to this allowed return to meet a target level of adjusted interest cover would need to be justified in the interests of customers. Aiming up the allowed return at a time when cash returns are low would require a reduction in returns to below market rates in future periods; otherwise adjustments would be asymmetric and would result in customers paying more over the economic cycle. This is also likely to undermine regulatory predictability and the transparency of the determination of the allowed return on capital.”

- 4.47 Applying an artificial increase to the allowed return at a time when cash returns are low would require a reduction in returns below market rates in future periods; otherwise adjustments would be asymmetric and would result in consumers paying more over the economic cycle.** This is also likely to undermine regulatory predictability and the transparency of the determination of the allowed return on capital over the long term. The CMA and Competition Commission have never increased the allowed return to solve a financeability constraint in previous regulatory decisions.
- 4.48 We note that companies have never suggested reducing the allowed return at previous price reviews in anticipation of a future financeability constraint, or set out how they expect to return the excess allowed return to customers at a future time.

Target credit rating and our benchmark for the cost of debt

- 4.49 Anglian Water, Northumbrian Water and Yorkshire Water claim that the financial metrics achieved for the notional capital structure are inconsistent with the index used to set the allowed cost of debt. The companies suggest the final determinations will likely lead to a downgrade of the notional company to a rating below Baa1 resulting in a cost of new debt which is above the benchmark index we use. Companies also argue that the lower credit rating will reduce financial resilience and result in more limited access to raise funds through the capital markets.²⁶⁷

²⁶⁷ Anglian Water, ‘[Statement of case](#)’, April 2020, paragraph 1,290; Northumbrian Water, ‘[Statement of case](#)’, April 2020, Section 10.1 Ensuring that NWL can finance its functions, summary page 177 & paragraph 991; Yorkshire Water, ‘[Statement of case](#)’, April 2020, p. 73, paragraphs 235 & p. 79, 265

- 4.50 In section 3 'New debt issue 1: Ofwat's cost of new debt allowance is inconsistent with the credit rating of the notional company', we set out the reasons why company arguments that the credit rating of the iBoxx A/BBB should be the same as the notional company are simplistic and misleading.
- 4.51 Furthermore, the financeability assessment in our determinations was guided by the target credit ratings on which companies provided Board assurance in their business plans, which was to focus on two notches headroom above the minimum investment grade credit rating. On this basis, we assessed the final determinations for each of the companies to be financeable on the notional capital structure. We show in 'Rating actions since the final determinations' above that an efficient company with gearing close to the notional structure can maintain a credit rating two notches above a minimum investment grade. **As such, we do not consider our final determinations underfund the cost of debt.**

Financial ratios used in our financeability assessment

- 4.52 We summarised our approach to the financeability assessment in our introduction to the CMA:²⁶⁸

"We focus on a basket of key financial metrics used by investors and credit rating agencies, concentrating primarily on gearing, adjusted interest cover and funds from operations to net debt. These metrics draw on common approaches used in the financial markets, and reflect those used by credit rating agencies in their assessment of credit ratings. We set out the specific financial metrics and the basis of the calculations in the PR19 methodology.

Our determinations focus on cash flow headroom and debt capacity for the period of the price control. While metrics are broadly similar to those used by rating agencies and financial analysts, the financial ratios we use do not mirror exactly any one credit rating agency. This is because the calculation of the preferred metrics differ between the credit rating agencies and credit rating agencies. Furthermore, we do not use exactly the same definitions of financial ratios as are used by credit rating agencies, as credit rating agencies may apply further adjustments to the calculation of financial ratios to reflect the specific circumstances of each company, taking account of non-regulated

²⁶⁸ Ofwat, 'Reference of the determination of price controls for the period from 1 April 2020: Cross-cutting issues'. March 2020, p. 60, paragraphs 6.16-6.17

activities and past financing decisions of actual company structures. Our approach is consistent with the approach we have adopted in previous price reviews.”

4.53 Each disputing company argued that the financial ratios used in our financeability assessment should be consistent with credit rating agency methodologies.

- Anglian Water argues that the final determination does not deliver adjusted interest cover and funds from operations to net debt ratios for the company on a notional basis that would enable it to maintain a Baa1 credit rating.²⁶⁹
- Bristol Water applies the ‘credit rating test’ as an empirical assessment of financeability, arguing that the final determination should be able to achieve a Baa1 credit rating to be financeable, focussing on adjusted interest cover ratio as the primary metric for Moody’s.²⁷⁰
- Northumbrian Water sets out a series of financeability tests. This includes application of the methodologies used by the credit rating agencies to assess Regulated Water Utilities. The company argues debt financeability tests are therefore not market-based where they deviate from rating agency or lender methodologies applied in practice.²⁷¹
- Yorkshire Water argues that:

“Ofwat’s response fell far short of providing any increased assurance that YWS will be able to access the long-term debt finance for its requirements in the 2020-25 regulatory period. This is principally because:

- YWS’s covenant definitions specifically exclude the benefit of any accelerated revenue when calculating interest cover ratios, which results in a stronger covenant that is consistent across AMPs;
- two rating agencies have determined that they will disregard Ofwat’s PR19 revenue acceleration in their rating assessments; and hence interest cover, as calculated for rating purposes, for most companies in the sector remains well below the threshold values for a Baa1/BBB+ rating.²⁷²

²⁶⁹ Anglian Water, ‘Statement of case’, April 2020, p. 300, paragraph 1,246

²⁷⁰ Bristol Water, ‘Statement of Case’, April 2020, p. 20, paragraphs 36-40

²⁷¹ Northumbrian Water, ‘Statement of Case’, April 2020, pp. 181-182, paragraphs 1004-1010.

²⁷² Yorkshire Water, ‘Statement of case’, April 2020, pp. 79-80, paragraph 265

- Yorkshire Water also submits a third party report that claims that the use of our own bespoke calculation methods for the financial ratios, rather than using calculations in line with the methodologies of the credit rating agencies points to a tension between our approach and the financing duty.²⁷³

4.54 The legal terms and conditions of a company's actual debt instruments including covenants are a matter for the company. Our financeability assessment cannot be expected to consider the definitions of specific financial metrics included in such covenants that relate to the specific choices a company has made regarding its actual financial structure. Choices made by companies and their investors, including in defining financial ratios and their function within financial instruments are a matter for companies and their investors to manage. Where covenanted financial ratios are tight as a result of a company's choice of actual financial structure, that is not a reason on its own for customers to bear the responsibility of alleviating the consequences of that fact.

4.55 Our financing duty does not require us to target a specific credit rating or use specific rating agency methodologies in our determinations. As we explain in our 'introduction and overall stretch' document, it would be inappropriate to read these concepts into the duty.²⁷⁴ However, even if this were not the case, variations in rating methodologies between rating agencies and variations in the credit ratings assigned by different credit rating agencies to individual companies would make this impractical to apply consistently across the sector.

4.56 Fifteen of the seventeen water companies have credit ratings from up to three rating agencies, Fitch, Moody's and Standard & Poors. Hafren Dyfrdwy and South West Water have an exemption to the requirement to maintain a credit rating.²⁷⁵ Each rating agency takes a different approach to how it rates

²⁷³ R016 - Yorkshire Water, [Statement of Case](#), 'Annex 01 - EI – Financeability of the notionally efficient firm: bottom-up analysis', April 2020, p. 18

²⁷⁴ Ofwat, '[Reference of the PR19 final determinations: Introduction, overall stretch on costs and outcomes – response to cross-cutting issues in companies'](#) statements of case', May 2020, Section 3

²⁷⁵ The licences of South West Water and Hafren Dyfrdwy contain a provision that allows Ofwat to agree an exemption to the requirement to maintain or to use reasonable endeavours to maintain an investment grade credit rating. Ofwat has currently agreed to the exemption and instead there is a requirement for their Boards to certify on an annual basis that in the Board's opinion, they "would be able to maintain an issuer credit rating which is an investment grade rating" and provide a statement of the main factors which the Board has taken into account.

companies and their debt issuance.²⁷⁶ This includes a different focus on different financial ratios and the calculation of similar ratios in different ways. This leads to variations of credit ratings for water companies across the rating agencies²⁷⁷.

4.57 All credit rating agencies use a number of qualitative and quantitative factors in determining a credit rating incorporating business and financial risk. The CMA expressly recognised in the Firmus appeal of 2017 (para 7.98) that credit rating agencies have regard to a range of factors beyond interest cover ratios.²⁷⁸ Credit rating agencies may assess these factors differently for each company which can vary the impact of a particular level of financial metric. For example, Moody's ascribe equal weight in its credit rating assessment for the funds from operations to net debt and adjusted interest cover financial ratios despite its focus on adjusted interest cover in stated guidance. Standard and Poor's adopts a different approach stating thresholds for funds from operations to net debt that are specific for each company (and vary between companies in the sector for a given credit rating).²⁷⁹

4.58 The approaches adopted by credit rating agencies also vary over time. Moody's in May 2018²⁸⁰ and Fitch in July 2018²⁸¹ amended their guidance for gearing and adjusted interest cover following a downgrade to the view of the stability and predictability of the regulatory regime following publication of our 'Putting the sector in balance position consultation' and an assessment of more volatile cashflows resulting from the enhanced incentive regimes for PR19. Both Moody's and Fitch increased their guidance for interest cover by 0.1 times and

²⁷⁶R017 - Fitch Ratings, 'Corporate Rating Criteria', February 2019; R018 - Moody's Investor Services, 'Rating methodology, Regulated water utilities' June 2018; R019 - Standard and Poor's, 'Corporate methodology', November 2013

²⁷⁷ For example table 4.2 shows that Anglian Water is rated two notches above the minimum investment grade by Moody's (Baa1) and three notches by Fitch (A-) and Standard & Poor's (A-). Southern Water has a rating at the minimum investment grade from Moody's (Baa3) and is rate two notches above this by Fitch (BBB+) and Standard & Poor's (BBB+). Yorkshire Water is rated one notch above the minimum investment grade by Moody's (Baa2), three notches by Standard & Poor's (A-) and four notches by Fitch (A). Portsmouth Water, United Utilities and Wessex Water all have higher investment grade credit ratings from Moody's than from Standard & Poor's, and United Utilities are also rated higher by Moody's than Fitch.

²⁷⁸ CMA, 'Firmus Energy (Distribution Limited v Northern Ireland Authority for Utility Regulation, Final determination', June 2017, pp. 181, paragraph 7.98

²⁷⁹ R004 - Standard and Poor's, 'Four UK-based water utilities downgraded on tougher regulations; two put on watch negative; four outlooks negative', February 2020, sets out that the BBB+ ratings for South Staffs Water could be lowered if the FFO/debt ratio stays below 12%, and for Thames Water if this same financial metric does not maintain enough headroom above 6%.

²⁸⁰ R020 - Moody's Investor Services 'Regulator's proposals undermine the stability and predictability of the regime', May 2018

²⁸¹ R021 - Fitch Ratings, 'Fitch revises outlook on 3 UK water holding companies to negative', July 2018

lowered guidance for gearing by 3% for a rating one or two notches above minimum investment grade.

- 4.59 We incorporated the latest guidance in our assessment of financeability to reflect the approach taken by companies. However, we do not agree that the 'Putting the sector in balance position statement' impacts the stability and predictability of the regulatory regime. The statement addresses the previous actions of some water companies that has undermined the legitimacy of the sector.
- 4.60 We note that in a number of recent credit opinions since publication of our final determination, Moody's has applied a one notch upgrade to two other factors (revenue risk and complexity of capital programmes).²⁸² We estimate that these latest changes have a higher impact on average on Moody's credit score (reflecting improvements in credit quality for these factors) than the reduction for the downgrade in the stability and predictability of the regulatory regime.
- 4.61 These revisions support our view that guidance given by credit rating agencies should not be seen as a minimum threshold for adjusted interest cover to satisfy our financeability assessment.
- 4.62 We see further evidence that Moody's carries out its overall assessment of credit quality in the round, with the assigned rating often departing from the grid-indicated rating.²⁸³ Comments made by credit rating agencies ahead of publication of our final determinations reflect the inherent uncertainty that arises during the determination process. We would be willing to discuss our assessment of Moody's approach further with the CMA ahead of its determinations, particularly our assessment that the latest changes to Moody's methodology more than offset the claimed increase in risk of the stability and

²⁸² R022 - Moody's Investor Service, Credit opinion: 'Yorkshire Water Services Limited, Update following CMA appeal and downgrade of Class A bonds to Baa2', March 2020, Exhibit 11. Rating factors set out that Business profile factors 1d) Revenue risk and 1e) Scale and complexity of capital programme & asset condition risk ratings are upgraded from A to Aa in Moody's 12-18 month forward view. The upgrading of these factors is repeated across a number of credit opinions for companies in the water sector.

²⁸³ R023 - Moody's Investor Services, 'United Utilities Water Limited, Update following PR19 final determination', March 2020, p.9, Regulated water industries grid shows a score-card indicated outcome from the grid of A2 and an actual assigned rating of A3; Moody's Investor Services, R024 - 'Dŵr Cymru Cyfyngedig, Update following rating downgrade to A3, stable', February 2020, p12., Exhibit 14, Rating methodology grid – Dŵr Cymru Cyfyngedig shows a score-card indicated outcome from the grid of A2 and an actual assigned rating of A3; R025 - Moody's Investor Services, 'Severn Trent Plc/Severn Trent Water Limited, Update following rating downgrade to Baa1 (OpCo)/Baa2(HoldCo)', February 2020, p.10, Exhibit 13, Rating methodology scorecard shows a scorecard outcome from the grid of A3 and an actual assigned rating of Baa1 for the OpCo,

predictability of the regime that led it to increase its guidance for adjusted interest cover from 1.4x at PR14 to 1.5x at PR19.

4.63 While our financeability assessment took account of the indicative guidance published by Moody's, it is by no means clear that an adjusted interest cover of 1.5x should be interpreted as a minimum requirement for a credit rating of Baa1.²⁸⁴

4.64 We have responded to the latest guidance for thresholds from credit rating agencies. **However, strict adherence to credit rating agency methodology would result in the cost to customer being influenced by credit rating agencies.** The CMA may consider disregarding the increase in thresholds for adjusted interest cover and gearing.

Application of our approach

4.65 We applied the approach set out above consistently in our final determinations and on that basis, we assessed that the final determinations for Anglian Water, Bristol Water, Northumbrian Water and Yorkshire Water would allow an efficient company to finance its functions, in particular by securing reasonable returns on its capital. The final determinations are sufficient to allow each company to raise finance on reasonable terms while protecting the interests of current and future customers.

4.66 Disputing companies raise the follow issues in relation to the financeability assessment:

- Financial ratios are not consistent with the target credit rating
- There is a material inconsistency between the exposure to downside risks and the financial headroom available under the final determination

4.67 We respond to these issues in the following section. Anglian Water also argues that the final determination misallocates allowed funding between capital and

²⁸⁴ For example, R026 - Moody's Investor Services, 'Thames Water Utilities Ltd, Update following PR19 final determinations and downgrade to Baa2', March 2020, p.2 Key indicators shows the actual adjusted interest cover ratio was 1.2x for the years ended 31 March 2018 and 31 March 2019 and the corporate family rating was Baa1 during this time.

operating expenditure. We respond to this in our 'Response to Anglian Water's statement of case' document.²⁸⁵

The PR19 financeability constraint

4.68 The disputing companies argue that the level of the financial ratios in our determination, before steps were taken to address a financeability constraint is evidence, on its own that the allowed return was set too low.

- Anglian Water claims the financeability assessment tests whether the final determination has achieved the correct balance between allowed revenues and allowed costs (including the cost of capital). It argues the reasons why the final determination is not financeable on a notional basis. It sets out that one of the key elements is the provision for too low a cost of capital.²⁸⁶ Anglian Water also claims that our conclusion that the final determination provides for Anglian Water to be financeable at the notional capital structure is flawed because the final determination falls well short of meeting the thresholds to maintain a Baa1 rating under the key credit metrics AICR and FFO/Net Debt on the basis of the notional capital structure. The company argues that Instead of addressing the allocation of insufficient allowable returns, we have applied a number of artificial and unjustified adjustments and assumptions to conclude that Anglian was financeable on a notional basis.²⁸⁷
- Northumbrian Water argues that "Given an AICR below the target, rather than adjust PAYG rates, Ofwat should have considered a recalibration of the PR19 framework and the assumptions underpinning it. In general, the identification of a financeability constraint for the notional company driven by low coverage metrics implies that the return on capital, rather than the return of capital (e.g. through PAYG or run-off rates) is too low."²⁸⁸
- Yorkshire Water argues that adjusted interest cover across the sector is well below the minimum 1.5x threshold that Moody's has indicated a company will need to achieve in order to obtain a Baa1 rating. The company claims that lower credit ratings would needlessly restrict the appetite of debt investors, increase the sector-wide cost of debt, and adversely affect the sector's financial resilience. Yorkshire Water argues that these are serious matters that should have been identified and remedied as part of the final

²⁸⁵ Ofwat, 'Reference of the PR19 final determinations: Response to Anglian Water's statement of case', May 2020, Section 6

²⁸⁶ Anglian Water, 'Statement of case', April 2020, p. 307, paragraph 1292

²⁸⁷ Anglian Water, 'Statement of case', April 2020, p. 294, overview (viii)-(ix)

²⁸⁸ Northumbrian Water, 'Statement of Case', April 2020, p. 183, paragraph 1019

determinations.²⁸⁹ Yorkshire Water claims that addressing the issues it has identified in the cost of capital calculation should naturally increase the adjusted interest cover above 1.5x. However, the company offers no solution if this is not the case.

4.69 Anglian Water published a report which included analysis of the underlying adjusted interest cover ratio based on the allowed return on capital. The company updated the analysis as part of its representations to the draft determinations following the update to the allowed return.²⁹⁰

4.70 We carried out similar analysis to that of Anglian Water based on the allowed return at the final determination building on an illustration presented in the PR19 methodology. We summarised how the balance of returns between the real and inflationary returns may result in a financeability constraint due to the low real allowed return on capital. We set this out in our initial submission to the CMA and which we restate below for reference:²⁹¹

A feature of the privatised utility sectors is that customers pay, and investors earn, returns from two sources – the indexation of the RCV to inflation and a real return on the RCV which is earned directly from the revenue allowance. The approach is based on the assumption that assets are maintained over the long term, such that each generation of customers pays their fair share for the use of an asset base that is expected to be maintained in perpetuity.

Companies can issue debt instruments that allow debt costs to match the real revenue profile, for example through the use of index-linked debt, but in practice, companies raise both nominal and index-linked debt. Therefore, the notional capital structure we adopt assumes a balanced debt portfolio including both types of debt.

As the real allowed cost of debt is lower than the equivalent nominal cost of debt, for a company whose RCV growth is financed mainly by debt, a mismatch can arise in allowed cash flows because the real return is insufficient to cover nominal interest costs. These issues were explored by Ofwat and Ofgem in Financing Networks, where it was illustrated that this mismatch can unwind once a company is in 'steady

²⁸⁹ Yorkshire Water, 'Statement of case', April 2020, p. 80, paragraphs 267-269

²⁹⁰ Anglian Water, 'SOC134, 'Notional company financeability (April 2019)', April 2019; SOC199, 'Notional company financeability (August 2019 update)', August 2019

²⁹¹ Ofwat, 'Reference to the PR19 final determinations – Cross cutting issues', March 2020, pp.65-67, paragraphs 6.46 to 6.48,

state' with the use of retained earnings; that is, for a company without expansionary growth of the RCV.

We determine the allowed return on capital on the basis of observable market data which includes the impact of inflation. Our PR19 methodology set out that the indexation of RCV will transition to CPIH from 1 April 2020. The final determinations index 50% of the RCV at 1 April 2020 to RPI and the rest, including all new RCV added after 1 April 2020, to CPIH. The real allowed return for each component of RCV was deflated by the relevant index. The transition reflects the de-designation of RPI as a national statistic and evidence that it overstates consumer inflation, and the corresponding designation of CPIH as a national statistic, whilst allowing for the unwinding of embedded RPI-based debt over time.

The financeability challenge is particularly acute at PR19 because the proportion of the return related to the RPI linked part of the RCV is very low in real terms, as illustrated in the upper most section of [Table 4.3]. The table illustrates that the ratio of cash return to inflationary return for the RPI linked part of the RCV, at 39% is materially lower than at any previous determination. While the ratio of the cash return to the inflationary return for the CPIH linked part of the RCV is higher than the ratio at PR14, it remains below the PR09 level, and the blended CPIH/RPI real return is significantly lower than PR14 and much lower than PR09. This means that cashflows from allowed real returns are lower and the proportion of returns earned from indexation is higher. This has the potential to place cashflows and cashflow based financeability measures under strain.

Anglian Water's discussion paper explored the relationship between the allowed return on equity and financeability on the basis of the notional capital structure. The report sets out that the allowed return on capital applied in the draft determination results in financial ratios that are consistent with the requirements for a Baa2 credit rating. The report includes a table demonstrating the relationship between the cost of capital and the adjusted interest cover ratio.

In the lower section of [Table 4.3], we adopt the same approach used by Anglian Water to illustrate the impact of the allowed return on capital on the indicative adjusted interest cover ratio. The calculations illustrate the challenge brought about by the allocation of the real and nominal returns to the RPI inflated part of the RCV. The illustrative calculation

for the adjusted interest cover ratio for the RPI linked return is very weak, but the calculation for the CPIH linked return is materially better.

For PR19, the transition to inflate part of the RCV by CPIH mitigates the financeability challenge to some extent. The table illustrates that assuming the average transition to CPIH of 63.6% by the end of the period (for the sector), the real return on a blended RPI/CPIH basis results in an implied adjusted interest cover ratio for PR19 consistent with PR14, though this will vary between companies depending on the relative proportions of RCV that are inflated by RPI and CPIH.

Our initial submission included the table below:

Table 4.3: Ratio of cash to inflationary returns and indicative adjusted interest cover ratio at successive price reviews

| | | PR09 RPI | PR14 RPI | PR19 RPI | PR19 CPIH | PR19 blended |
|---|-------------------------------------|--------------|--------------|--------------|--------------|-----------------|
| Allowed return on debt | A | 3.60% | 2.59% | 1.15% | 2.14% | 1.71% |
| Allowed return on equity | B | 7.10% | 5.65% | 3.18% | 4.19% | 3.75% |
| Gearing | C | 57.5% | 62.5% | 60.0% | 60.0% | 60.0% |
| Allowed return | $D = A \times C + B \times (1 - C)$ | 5.09% | 3.74% | 1.96% | 2.96% | 2.53% |
| Inflation | E | 2.50% | 2.80% | 3.00% | 2.00% | 2.43% |
| Total nominal allowed return | $F = ((1 + D) \times (1 + E)) - 1$ | 7.71% | 6.64% | 5.02% | 5.02% | 5.02% |
| Real return on capital (as % nominal return) | G = D / F | 65.9% | 56.3% | 39.1% | 59.0% | 50.4% |
| RCV | H | 100 | 100 | 100 | 100 | 100 |
| Proportion index linked debt | I | 30% | 33% | 33% | 33% | 33% |
| Fixed rate debt (£m) | $J = H \times C \times (1 - I)$ | 40.3 | 41.9 | 40.2 | 40.2 | 40.2 |
| Index linked debt (£m) | $K = H \times C \times I$ | 17.3 | 20.6 | 19.8 | 19.8 | 19.8 |
| Interest rate on fixed rate debt | $L = ((1 + A) \times (1 + E)) - 1$ | 6.19% | 5.46% | 4.18% | 4.18% | 4.19% |
| Interest rate on index linked debt | M = A (RPI) | 3.60% | 2.59% | 1.15% | 1.15% | 1.15% |
| Interest on fixed rate debt | N = L x J | 2.49 | 2.29 | 1.68 | 1.68 | 1.68 |
| Interest on index linked debt | O = M x K | 0.62 | 0.53 | 0.23 | 0.23 | 0.23 |

| | | PR09 RPI | PR14 RPI | PR19 RPI | PR19 CPIH | PR19 blended |
|--------------------------------------|-------------------------------|-------------|-------------|-------------|--------------|-----------------|
| Return £m | $P = D \times H$ | 5.09 | 3.74 | 1.96 | 2.96 | 2.53 |
| Interest £m | $Q = N + O$ | 3.11 | 2.82 | 1.91 | 1.91 | 1.91 |
| Adjusted interest cover ratio | $R = P / Q$ | 1.63 | 1.32 | 1.03 | 1.55 | 1.32 |

Note: All data taken from relevant determination. Interest cost for index linked debt is in RPI terms in all columns. The PR19 blended return on capital reflects a mix of 56.8% CPIH and 43.2% RPI, being the average transition over 2020-25 (opening proportion of 50% CPIH and closing proportion of 63.6% CPIH).

4.71 We disagree with the view expressed by the disputing companies that the allowed return should be uplifted to meet target levels of financial ratios. We set the allowed return at a level that fairly rewarded for the risk associated with their investment. We set a reasonable allowed return based on market evidence available the time we set our determinations.

4.72 Uplifting the allowed return to target specified levels of financial ratios would be inconsistent with the application of all of our duties; it would **provide equity investors with a return in excess of the level implied by market evidence.**

4.73 Our PR19 methodology set out appropriate mechanisms for addressing financeability constraints, which we discuss below.

Financial headroom under the final determinations

4.74 Disputing companies claim their final determinations are not financeable on the basis that there is insufficient headroom in financial ratios to withstand downward shocks and maintain an investment grade credit rating. Companies argue this is due to:

- the level of financial ratios for a specific credit rating; and
- the ability to maintain an investment grade credit rating in line with company licences.²⁹²

4.75 Anglian Water argues that there is no headroom to allow for any degree of underperformance whilst maintaining the credit metrics needed for a Baa1 rating. The company states that an adjusted interest cover ratio of 1.50x which

²⁹² Under the conditions of their licences, the disputing companies have a requirement to maintain or to use reasonable endeavours to maintain an investment grade credit rating (i.e. BBB-/Baa3/BBB- (Fitch/Moody's/Standard & Poor's) or higher).

is at the very bottom of what is permitted to retain a Baa1 rating would not allow for any unforeseen shocks (or indeed the realisation of any of the asymmetric risks created by the final determination). Anglian Water further states that both Moody's and Fitch advise targeting the "middle" of an adjusted interest cover range of 1.50x-1.70x to achieve a Baa1 rating, and its FFO/Net Debt ratio of approximately 9.5% is significantly below the 10% needed by the credit rating agencies to maintain a Baa1 (or equivalent credit rating).²⁹³

- 4.76 Northumbrian Water submit a third party report, the "KPMG Financeability Report" which makes an assumption that adjusted interest cover ratios 0.1x above the minimum threshold would be required for a stable rating to be achieved.²⁹⁴ The company sets this out in its statement of case.²⁹⁵
- 4.77 Consistent with previous price reviews, our approach is to consider the level and trend of the suite of financial ratios in the round when assessing financeability and to aim to achieve financial ratios that are broadly consistent with the ratios set out in the company's business plan.
- 4.78 Credit rating agencies consider a range of factors, including wider consideration of company performance and a range of financial ratios is carrying out their assessments. Where the focus of a credit rating agency is on one key financial ratio, generally it is only where the financial ratio is consistently below guidance as grounds for downgrade of the rating.
- 4.79 We set out the adjusted interest cover and the funds from operations to net debt ratios for the notional capital structure from each of the disputing companies' business plans and final determinations in table 4.4. We note that Anglian Water incorporated additional revenue from past performance reconciliation adjustments to achieve the minimum threshold ratios upon which the Board provided assurance of financeability.

²⁹³ Anglian Water, 'Statement of case', April 2020, pp. 302-303, paragraphs 1,268-1,270

²⁹⁴ R027 - Northumbrian Water, 'SOC283 – KPMG – Financeability of Northumbrian Water under the PR19 final determination', March 2020.

²⁹⁵ Northumbrian Water, 'Statement of Case', April 2020, p182, paragraph 1010.

Table 4.4: Ofwat calculation of adjusted interest rate cover (AICR) and funds from operations to net debt (FFO/net debt) – notional structure before reconciliation adjustments (5 year average)

| Company | AICR | | FFO/net debt | |
|--------------------|---------------|---------------------|---------------|---------------------|
| | Business plan | Final determination | Business plan | Final determination |
| Anglian Water | 1.46x | 1.50x | 9.19% | 9.49% |
| Northumbrian Water | 1.51x | 1.50x | 9.64% | 9.84% |
| Yorkshire Water | 2.02x* | 1.50x | 9.34% | 10.06% |
| Bristol Water | 2.50x* | 1.47x | 14.26% | 13.53% |

Source: PR19 final determinations. Bristol Water, Northumbrian Water and Yorkshire Water's financial ratios in their April business plan tables for the notional company took account of reconciliation adjustments. We set out in the table the ratios excluding these adjustments consistent with our assessment of notional financeability. We verified the recalculation of the ratios with each company.

There is a difference in the presentation of the adjusted interest cover ratio between the business plan and the final determination for Bristol Water and Yorkshire Water. In presenting the ratios for our final determination we excluded the effect of differing accounting treatment of infrastructure renewal expenditure from the numerator of the adjusted interest cover ratio to improve comparability of the financial ratios between companies.

4.80 Bristol Water claims its final determination is not financeable under its 'headroom debt service test' as applied by KPMG.²⁹⁶ The headroom analysis in our determination assessed there to be £20 million totex headroom over the period of the control on the basis of the notional capital structure. The company argues this is less than the £25 million in the normalised totex downside scenario applied in our final determination. The company sets out that the sensitivity analysis ignored other sources of downside risk, for example cost of debt.

4.81 Northumbrian Water claims we have not conducted sufficient downside scenario analysis to test financial resilience on the final determinations. The company views that it is not clear whether it will be resilient to plausible downside scenarios under the final determination as our threshold of 1.0x adjusted interest cover is not consistent with the threshold for a minimum investment grade credit rating and we have not taken into account the companies' analysis of actual projected risks. Northumbrian Water also claims

²⁹⁶ Bristol Water, 'Statement of Case', April 2020, pp. 28-31, paragraphs 85-95

that a tougher regulatory settlement significantly increased the likelihood and potential severity of downside scenarios.²⁹⁷

- 4.82 Companies are responsible for ensuring they maintain financial resilience over the long term.²⁹⁸ The downside scenarios prescribed for the assessment of a company's approach to financial resilience were not intended for assessment of the notional structure in the final determination. These were set out to allow us to compare each company's approach to its assessment of financial resilience under the actual financial structure, to allow us to understand how a company and its investors might respond in a downside scenario.
- 4.83 Our financeability assessment considered the resilience of the final determinations to withstand financial shocks. Alongside the work undertaken by companies on the financial resilience of their business plans, we assessed the headroom available for companies to maintain debt interest payments under the notional structure.
- 4.84 Our final determinations provided sufficient headroom for an efficient company with the notional capital structure to be sure it can pay its cash interest costs. Our approach was to assess cash flow headroom for each company against an adjusted interest cover of 1.0x, to meet its interest costs. This represents the point at which a company under its notional structure can pay its ongoing expenses, maintain its regulatory capital and just service its cash interest costs.
- 4.85 The reduction to this point could be the result of additional cost spend, lower revenue, regulatory penalties or a combination of these. We set out the basis of our stress tests in the final determinations.²⁹⁹
- 4.86 Disputing companies argue this is below the level of 1.1x adjusted interest cover that is necessary to maintain a minimum investment grade credit rating. However, there is no guidance from any credit rating agency on the minimum required financial ratios to maintain an investment grade credit rating. This is

²⁹⁷ Northumbrian Water, '[Statement of Case](#)', April 2020, p. 186, paragraphs 1042-1046

²⁹⁸ Separately, we note that in the SONI determination, the company argued that it was a failure for the regulator not to run downside scenarios as part of its financeability assessment. The CMA said that while there might be some benefits of doing so, it was not a requirement. CMA, '[SONI Limited v Northern Ireland Authority for Utility Regulation, Final determination](#)', November 2017, p. 210, paragraph 7.305;

²⁹⁹ We create a downside scenario with an outcome delivery incentive downside of 1% of regulatory equity and a totex downside based on the P10 figures in our risk analysis. We calculate the totex downside by multiplying our base totex cost allowance by the relevant PAYG rate to proxy an opex downside scenario.

recognised by companies.³⁰⁰ Adjusted interest cover is only one financial ratio considered by rating agencies in their analysis. Credit rating agencies ascribe weight to other financial metrics and other factors, for example Moody's ascribed equal weight to adjusted interest cover and funds from operations to net debt.

4.87 Credit rating agencies typically consider that a lower credit rating is indicated where a financial metric is persistently below its guidance level. Credit rating agencies are unlikely to lower a rating where a particular ratio is weak for a short period of time, particularly where the company can demonstrate mitigating action and a clear recovery plan.³⁰¹

4.88 We found Anglian Water, Northumbrian Water and Yorkshire Water to have headroom against the downside sensitivity. The headroom calculations for Bristol Water are impacted by reconciliation adjustments for past performance. The transparency we gave about the calculation of reconciliation adjustments post PR14 means the consequence of these adjustments were well known to the company in advance and the company acknowledged headroom in its financial ratios was challenged as a result of reconciliation adjustments for past performance.

4.89 The fact that we assess financeability on the basis of the notional capital structure and before reconciliation adjustments for past performance is consistent with our previous determinations and is well understood by companies. This approach is consistent with all of our duties, and with maintaining incentives on companies to bear the consequences of their actions.

4.90 Water companies will be strongly incentivised to outperform our determination. Therefore, we do not agree it is necessarily appropriate to consider downside scenarios versus the original business plan costs; in a downside scenario, a company has scope to manage its costs and can be expected to focus on minimising ODI underperformance adjustments. The results of the stress testing do not take into account management action to mitigate potential

³⁰⁰ For example in Bristol Water, '[Statement of Case](#)', April 2020, p. 20, paragraph 41, Bristol Water states that "Moody's does not define an AICR threshold that would apply for a Baa3 rating."; Northumbrian Water, '[Statement of Case](#)', April 2020, p.182, paragraph 1008, Northumbrian Water states that Moody's has not specifically set out a threshold for Baa3.

³⁰¹ For example, R028 - Moody's Investor Services, 'Southern Water Services (Finance) Limited, Update following affirmation at Baa3, stable', March 2020, p3. Exhibit 2 shows a forward view for adjusted interest cover ratio of 0.6x-0.7x and the senior secured rating is Baa3, stable outlook; R026 - Moody's Investor Services, 'Thames Water Utilities Ltd, Update following PR19 final determinations and downgrade to Baa2', March 2020, p.2 Key indicators shows the actual adjusted interest cover ratio was 1.2x for the years ended 31 March 2018 and 31 March 2019 and the corporate family rating was Baa1 during this time.

downside shocks. We note that in practice, in a totex regime, companies have significant scope to mitigate this downside risk by determining the most efficient mix of expenditure and taking steps to control costs and focus management to mitigate downside performance issues. The actions the company takes could impact on its own credit rating, but this is consistent with the approach we anticipated in our PR19 methodology to increase company focus on issues that matter for customers.

- 4.91 We consider it unlikely the downside levels of cost and service performance should persist for the full period of a price control. We note that in addition, a proportion of the totex downside is temporal because companies benefit from totex cost sharing through reconciliation adjustments at PR24; this is an issue that must be managed by companies and their investors but in a downside scenario the reconciliation mechanism provides regulatory certainty about the proportion of overspend that companies will recover at PR24.
- 4.92 Furthermore, to mitigate the scope for extreme cashflow (and bill) volatility associated with outcome performance delivery reconciliations in 2020-25 we have offered companies the option, in the PR19 reconciliation rulebook, to ask us to defer incentive adjustments that exceed +/-1% of notional equity to a subsequent year in the regulatory period, or for reconciliation at PR24.

Solutions to address financeability constraints

- 4.93 We set out appropriate measures to address financeability constraints in the PR19 final methodology.³⁰² In summary, we set out:
- Companies may **advance revenues through the use of PAYG and RCV run-off financial levers** where customers support the resulting bill profiles and RCV is not unduly depleted. Such revenue advancement is net-present-value neutral to companies and customers over the long term.
 - **Restricting dividends to improve cash reserves and reduce net debt** for the notional structure is justified where companies have large investment programmes and otherwise face increasing gearing levels.
 - Where a company has a particularly large investment programme relative to its RCV, **an equity injection may be appropriate**. We consider equity

³⁰² Ofwat, 'Delivering W2020: Our final methodology for the 2019 price review', December 2017, pp. 199-201, Section 11.5, Addressing financeability concerns

investors have a part to play in funding significant RCV growth to maintain gearing at appropriate levels.

4.94 In the final determination we also discussed alternative options that could be used to improve financial ratios and address the financeability constraint. These comprised:

- Changes to the notional capital structure, in particular, adopting lower notional gearing and a higher proportion of index-linked debt.; and
- A faster transition to CPIH.

4.95 The disputing companies argue that none of the remedies are appropriate to address the financeability constraint in the final determinations. We suggest that the CMA may wish to exercise caution when considering these arguments. Companies frequently assert that the only viable remedy to improve the financial ratios is to increase the allowed return on equity. However, we consider that this solution is not consistent with all of our statutory duties as it is not in the best interests of customers. Such an adjustment to the cost of equity (i) provides above market returns for investors, (ii) is a permanent increase in costs to customers unless there is a reduction below market returns at other times, and (iii) diminishes the incentive for companies to outperform the final determination.

4.96 We discuss each of the approaches to address a financeability constraint in the following sections, before commenting on the approaches the CMA could adopt in its redetermination in the 'Conclusions' section below.

PAYG and RCV run-off financial levers

4.97 Advancing revenue using financial levers (PAYG and RCV run-off) increases cash flow in the regulatory period, providing headroom in cash flow financial ratios. Such adjustments were applied at PR14 and the PR19 methodology set out it is an appropriate mechanism for PR19, given the nature of the financeability constraint as set out. Advancing revenue has the effect of providing investors with a larger proportion of the market based allowed return in period and less through inflation of the RCV.

4.98 In our final determinations we increased PAYG and RCV run-off rates for 12 companies to advance revenue to improve financial ratios. This includes Anglian Water, Northumbrian Water and Yorkshire Water. Table 4.5 sets out the amount of revenue advanced over 2020-25 and the percentage this represents of total allowed revenue and the average RCV indexed by RPI.

Table 4.5: Revenue advanced through the RCV run-off and PAYG levers

| Company | Use of financial levers | | Revenue advanced | % of allowed revenue | % of RPI inflated RCV |
|--------------------|-------------------------|-------|------------------|----------------------|-----------------------|
| | RCV run-off | PAYG | | | |
| Anglian Water | - | 1.92% | £80m | 1.3% | 0.5% |
| Northumbrian Water | - | 0.93% | £25m | 0.7% | 0.3% |
| Yorkshire Water | - | 2.43% | £85m | 1.6% | 0.6% |
| Bristol Water | - | - | - | - | - |

Source: PR19 final determinations.

4.99 In addition to the claims of the disputing companies that the use of financial levers suggests the allowed return has been set too low (which we address in previous sections), each company claims the use of financial levers (PAYG and RCV run-off rates) is not appropriate to address financeability constraints. The companies' issues can be summarised as follows:

- the movement of revenue between price control periods should not be used to address long-term problems. Bringing forward cash flows from the future defers the financeability problem into future price control periods and risks the future financial resilience of the company by reducing the RCV and associated returns in the future;
- the use of financial levers is not a workable solution because rating agencies have made clear that they will look through such adjustments; and
- the advancement of revenue causes inter-generational issues between today's and tomorrow's consumers and the PR19 methodology requires customer support for adjustments to PAYG and RCV run-off rates.

The PAYG and RCV run-off adjustments do not adversely impact long term financial viability of the water sector

4.100 The disputing companies argue that the use of financial levers is not a sustainable option to address the financeability constraint at PR19 as the constraint will continue for future price reviews.

- Anglian Water claims revenue advancement is a short-term solution to a long-term problem. The company references the Competition Commission (CC), setting out that it "has considered an advancement of revenue from future periods" and concluded that this "might be appropriate if the financeability problem was temporary, for example, due to a short-term

spike in capital expenditure.” Anglian Water claims we are incorrect to suggest the causes of the financeability concerns are temporary. It argues the financeability constraint is a result of structural changes introduced to the cost of capital methodology for PR19 that will persist if the methodology is maintained.³⁰³

- Bristol Water claims that changing revenue timing would not be an appropriate remedy as, with low enhancement costs and a falling RCV, front loading revenues would likely exacerbate financeability issues in future periods.³⁰⁴
- Northumbrian Water claims the use of financial levers is insufficient and misdirected as it attempts to improve liquidity at particular points in time, e.g. by shifting cash flows over time rather than addressing the actual, underlying financeability issues. Northumbrian Water argues the mechanism defers the issue to future periods and adversely impacts financial resilience. The company also argues the mechanism does not reduce the company's risks related to asset risk and shortfalls in revenues, and hence does not improve the actual financial position of the firm on a sustainable basis.³⁰⁵
- Yorkshire Water claims that:

“the acceleration of revenue from future control periods – whether in the form proposed by Ofwat or using some other lever – to boost short-term interest cover is not a sustainable long-term fix for financeability.”³⁰⁶

4.101 We disagree with Northumbrian Water's assertion that the remedy to the financial constraint should reduce the company's risk. We set the allowed return on capital to provide investors with a reasonable return commensurate with the risk of operating a monopoly service. The financeability constraint is a result of a larger proportion of that return being earned as growth of the RCV, through capital investment and indexation.

4.102 We disagree that the particular constraint at PR19 will automatically continue at PR24. We set price limits every five years and reset the allowed return on capital based on evidence at that time. We will also determine our approach to the basis for the inflationary index at this time.

³⁰³ Anglian Water, [Statement of case](#), April 2020, paragraphs 1250 to 1253

³⁰⁴ Bristol Water, [‘Statement of Case’](#), April 2020, p. 38, paragraph 124

³⁰⁵ Northumbrian Water, [‘Statement of Case’](#), April 2020, pp. 183-184, paragraphs 1020 to 1023

³⁰⁶ Yorkshire Water, [‘Statement of case’](#), April 2020, pg. 81, paragraph 271

4.103 The balance of the real return on equity to the nominal cost of debt is expected to improve at future price reviews improving financial ratios due to (i) a higher proportion of the return earned in period, and (ii) lower embedded debt costs due to the roll-off of expensive older debt to be replaced by newer low cost debt through 2020-25 and into 2025-30. Whilst we have not set out our approach to indexation of RCV at PR24, further transition to CPIH would improve the cash flows in period. Moody's has set out that it views the adoption of CPIH indexation as credit positive.³⁰⁷ The government and UK Statistics Authority are consulting on a proposal to address the shortcomings of the RPI by adopting the methods and data sources from CPIH. From the point of adoption, growth rates will trend towards CPIH.³⁰⁸

4.104 We asked PwC to analyse the impact of these factors on interest cover and funds from operations to net debt ratio.³⁰⁹ PwC's illustrative modelling takes forward assumptions based on the PR19 RCV growth, run-off rates and PAYG revenue to the period 2020-25 and takes forward the expected debt interest costs for 2025-30 based on forward projections at the time of our determination. PwC find:

- credit ratios improve significantly over PR24 as the embedded cost of debt falls in relation to the new cost of debt and the cost of equity. PwC find that credit ratios for the notional company improve in PR24 as the embedded cost of debt falls in relation to the cost of new debt, with adjusted interest cover increasing by 0.36x.
- Revenue advanced in our final determinations is considerably less than the underlying long-term rise in financial ratios through the transition to CPIH indexation and the expected evolution of the cost of debt.

4.105 Use of revenue advancement through RCV run-off and pay-as-you-go at PR19 has not negatively impacted the long-term financeability of the water sector and based on current expectations, we could unwind the effect of bringing forward revenue in the 2020-25 period in the 2025-30 period.

4.106 PwC's analysis supports a view that revenue advancement has the same effect as a faster transition to CPIH. CPIH cashflows are accepted by Moody's

³⁰⁷ R029 - Moodys Investor Services, 'Credit quality likely to weaken in RIIO-GD2 regulatory period', February 2019, p7, Moody's state "Although [CPIH indexation] is a pure "speed of money" adjustment that will reduce future cash flow by an equivalent amount, we regard the change as credit positive as long as companies reduce distributions to maintain a stable path of net debt/RAV."

³⁰⁸ HM Treasury, '[A consultation on the reform to retail price index \(RPI\) methodology](#)', March 2020

³⁰⁹ R030 - PwC, 'Long-term financeability in the water sector', May 2020.

as improving the financial ratios during the 2020 to 2025 period and so an alternative for the CMA would be to adopt **faster transition** to achieve the same effect.³¹⁰

Rating agencies approach to advanced revenue

4.107 The disputing companies argue that the use of financial levers (PAYG and RCV run-off rates) is not an appropriate tool to address a financeability constraint as certain rating agencies do not recognise the income in the calculation of financial ratios.

4.108 Each of the disputing companies argue that two of the three rating agencies (Fitch and Moody's) have publicly stated that such adjustments would be excluded from their calculation of credit metrics while making rating decisions.³¹¹ Anglian Water also set out that Moody's has made the distinction between the switch to CPIH on the one hand (a permanent change that applies to all companies in a similar way) and PAYG and RCV run-off rates, on the other, which can change between periods, distorting comparability between companies and over time. The company states that Moody's

"will continue to remove the regulatory depreciation as well as excess PAYG to calculate company-specific AICR ratios."

4.109 We set out our response to the use of financial levers to improve cash flows and financial metrics alongside the draft determinations³¹² and the final determinations.³¹³ We set out in our introduction to the CMA³¹⁴:

³¹⁰ Moody's Investor Services, '[Credit quality likely to weaken in RII0-GD2 regulatory period](#)', February 2019, p7, Moody's state "Although [CPIH indexation] is a pure "speed of money" adjustment that will reduce future cash flow by an equivalent amount, we regard the change as credit positive as long as companies reduce distributions to maintain a stable path of net debt/RAV."

³¹¹ Anglian Water, '[Statement of Case](#)', April 2020, p. 305, paragraphs 1,279-1280; Bristol Water, '[Statement of Case](#)', April 2020, p. 38, paragraph 125; Northumbrian Water, '[Statement of Case](#)', April 2020, p. 177, Section 10.1 Ensuring that NWL can finance its functions and p.202, paragraphs 1143-1144; Yorkshire Water, '[Statement of Case](#)', April 2020, p. 81, paragraph 271

³¹² '[PR19 draft determinations: Aligning risk and return technical appendix](#)', July 2019, pp. 56-57, Section 6.5.1 Use of PAYG and RCV run-off

³¹³ '[PR19 final determinations: Aligning risk and return technical appendix](#)', December 2019, pp. 83-87, Section 6.3, Challenges about the use of financeability levers to advance revenues in our determinations

³¹⁴ Ofwat, '[Reference of the determination of price control for the period from 1 April 2020: Cross cutting issues](#)', March 2020, p. 64, paragraph 6.37

The views expressed by Anglian Water and Northumbrian Water contrasted with those expressed by a number of other companies. For example:

- Bristol Water submitted that the use of financial levers may be a sensible approach to support minimum financial ratios for the notional capital structure;
- Thames Water stated that in some circumstances it may be appropriate to adjust the underlying PAYG rate; for example, where notional financial ratios are constrained;
- A number of companies including fast track companies proposed revenue advancement to support certain financial ratios in their September 2018 and April 2019 business plans.

4.110 We disagree that there are fundamental differences between advancing revenue through the use of financial levers and the higher real returns achieved using CPIH as the inflationary index. The rate of transition to CPIH varies between companies depending on the relative rates of run-off of the existing RCV and the level of new RCV added over 2020 to 2025.

4.111 Moody's accepts the cash flow benefit of a CPIH based returns. Where revenue has been advanced for the disputing companies, it has not exceed the position that would arise if our determination had given effect to a full transition to CPIH. We discuss this in the section 'Faster transition to CPIH' below. And as revenue advancement has the same economic effect as a faster transition to CPIH, our final determinations did not advance revenue that was greater in extent than had we adopted a full transition to CPIH.

4.112 We also disagree that revenue advancement distorts comparability of PAYG and RCV run-off over time. PAYG and RCV run-off rates can be expected to change over time reflecting the nature of cost allowances, for example the mix of opex and capex. At PR19 we clearly set out the basis of which revenue was advanced, providing transparency necessary to allow PAYG and RCV run-off rates to be compared over time.

4.113 Revenue advancement through PAYG or RCV run-off is an appropriate approach, balancing all of our duties, where a financeability constraint arises because of cash flow timing issues.

4.114 If the CMA were to consider it necessary to remove the distinction Moody's make between revenue advancement and transition to CPIH, the CMA may decide to adopt a **faster transition** to CPIH for the disputing companies rather than advance revenue using the financial levers.

4.115 We also disagree that the use of financial levers affects intergenerational fairness between existing and future customers. The acceleration of revenue at PR19 increases real bills (excluding the effect of inflation) for the current price review period but will reduce bills for future price reviews. This more closely aligns to the bills that customers would face had the methodology allowed for full transition to CPIH. It is also net present value neutral for all customers. The solution suggested by companies to increase the allowed return on capital would result in current customers paying more without a subsequent reduction in future bills.

Dividend restriction and equity injections

4.116 Our PR19 methodology set out that dividend restriction and equity injections may be an appropriate solution to improve financial metrics for the notional company structure, particularly where companies have significant RCV growth. Companies may also consider equity injections to reduce gearing where there is a financeability constraint for the actual company structure.

4.117 A number of disputing companies set out that equity is not a suitable solution to the financeability constraint at PR19. Companies argue that they do not represent viable investment opportunities. Companies set out that they are not able to earn the appropriate rate of return in the long run which has negative consequences for the willingness of investors to invest in the sector. Companies state this will lead to an inefficiently high cost of capital in the near future during a period where the climate emergency necessitates an increase in investment to meet net zero carbon goals.

- Anglian Water claims the final determinations are not enabling an efficiently financed company to earn the appropriate return in the long run which will have negative consequences for the willingness of investors to invest in the sector.³¹⁵
- Bristol Water claims that reducing the notional dividend yield is not appropriate, since whilst it would alleviate the pressure on debt metrics, it fails to take into account equity financeability.³¹⁶

³¹⁵ Anglian Water, 'Statement of case', April 2020, paragraph 1,291

³¹⁶ Bristol Water, 'Statement of Case', April 2020, p. 39, paragraph 134

- Northumbrian Water claims that it is unlikely that equity holders would be willing to inject significant amounts of additional equity. It also argues that a dividend yield that is below market benchmarks would represent a significant strain on equity financeability.³¹⁷
- Yorkshire Water submits a third party report suggesting an expected loss as the equivalent of a shortfall of approximately 100 basis points against the allowed base equity return for Yorkshire Water.³¹⁸ The company argues:

“No rational, long-term investor would be willing to take on this loss (notwithstanding said investors would also regard the allowed return itself as being insufficient).³¹⁹”

4.118 The allowed return on capital in the final determinations was based on market data at that time such that investors in an efficient company will be fairly rewarded for the risk associated with their investment. Investors earn that return in the form of dividends in period and growth of its investment in the RCV, either through capital additions or indexation.

4.119 An efficient firm can expect to earn the allowed return if the company fulfils its performance commitments within the totex allowances. It is the responsibility of the company if it underperforms its final determination. Customers should not be expected to pay for underperformance. Companies have significant opportunity to outperform the allowed return through the incentive mechanisms in the final determinations.

4.120 We have signalled a lower return throughout the price review process. We published our early view allowed return on capital in the PR19 methodology in December 2017. We updated the allowed return on capital in the draft determinations and set out the increased use of incentives to align company objectives with the best interest of customers. We provided further guidance indicating a lower return in the final determinations. Investors have had a clear view of the objectives for PR19 throughout the process.

4.121 We have not seen any evidence of unwillingness of investors to invest in the water sector before or after the publication of the final determinations; listed companies were trading at premia to RCV that were close to historic highs in the aftermath of our determination. And the publicly owned water companies

³¹⁷ Northumbrian Water, 'Statement of case', April 2020, p. 204, paragraphs 1162-1163

³¹⁸ R016 - Yorkshire Water, 'Annex 01 – EI – Financeability of the notionally efficient firm, a bottom-up analysis', April 2020

³¹⁹ Yorkshire Water, 'Statement of case', April 2020, paragraphs 278 to 279

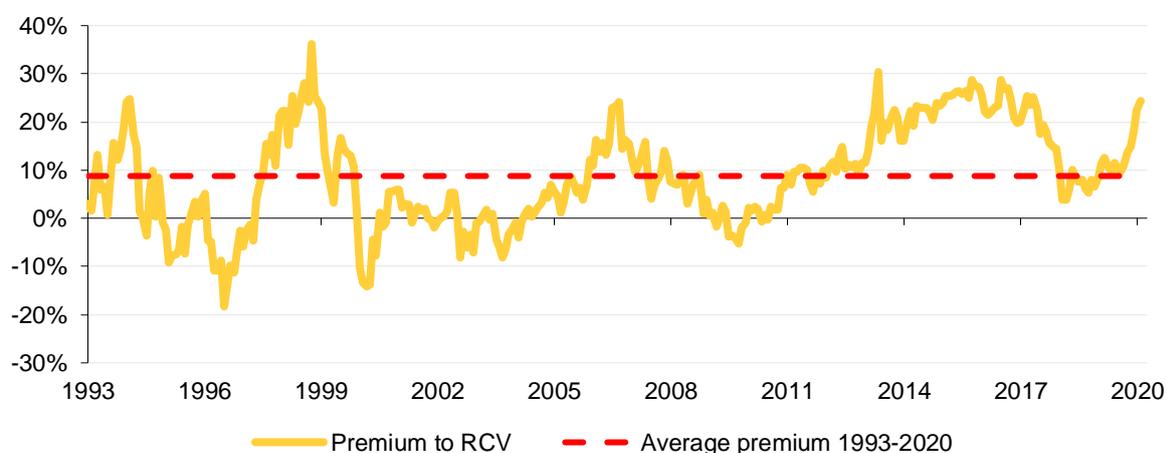
continued to trade at a premium to their regulated equity value prior to the dislocation of the market due to the pandemic. We set out in our introduction to the CMA:³²⁰

Since our final determinations were published on 16 December 2019, the share prices of Severn Trent Water and United Utilities Water have implied a premium of market value over regulatory capital value. Analyst reports have recently pointed to premia of around 20% for United Utilities Water and well in excess of 20% for Severn Trent Water, though we note share prices in more recent weeks have been impacted by market turbulence related to the expected impacts of Covid-19. One analyst noted that our allowed return is above their WACC assumption, while another has suggested that these premia indicate that investors see our determinations in a favourable light.

Figure [5.1] sets out our assessment of the evolution of market premia to RCV over time, averaging the premium for Severn Trent Water and United Utilities. Premia remained positive throughout the PR19 price control determination process; they were positive when we made announcements about the expected allowed return in our PR19 methodology and our draft and final determinations. The share prices of utilities also likely increased to reflect the perceived reduction in nationalisation risk following the general election in December 2019. The average premium for Severn Trent and United Utilities in February 2020 was 28% and 20% respectively - markedly higher than the historic average of 9%.

³²⁰ Ofwat, 'Reference of the determination of price controls for the period from 1 April 2020: Cross cutting issues', March 2019, pp. 33-34, paragraphs 5.13 to 5.14

Figure [4.1]: Premium of enterprise value over RCV for Severn Trent and United Utilities composite (1993-2019)



Source: Ofwat analysis of Refinitiv data

There are a number of reasons why a positive market to asset value premium might exist. A premium might suggest one or a combination of:

- an expectation that the companies will outperform regulatory cost allowances and/or receive outperformance rewards related to service performance;
- investors requiring a lower allowed return which could arise because the regulator has set an allowed return on capital that is above the level required by the market or that the required return by market has changed since the final determination; and/or
- expectations of a change of ownership driving speculative pressure on share price, reflecting that past transactions have historically involved a significant 'control premium'.

Alternative solutions to address the financeability constraint

4.122 We set out above that applying a higher return on capital on the basis of financeability to target higher financial ratios would provide equity investors with a return on their investment in excess of the market return. Aiming up the allowed return at a time when cash returns are low would require a reduction in returns to below market rates in future periods; otherwise adjustments would be asymmetric and would result in customers paying more over the economic

cycle. This is also likely to undermine regulatory predictability and the transparency of the determination of the allowed return on capital.

4.123 We set out in the final determinations that we considered changes to the notional capital structure assumptions for the level of gearing³²¹ and the proportion of index-linked debt³²² would improve the financial metrics. We also set out that we considered whether it would be appropriate to require a faster transition to CPIH from 1 April 2020.³²³ We did not consider it necessary to make any changes to the notional capital structure or the rate of transition to CPIH in the final determinations, focusing on the use of PAYG and RCV run-off levers to address the financeability challenge.

4.124 If the CMA does not agree with our use of financial levers, it could consider these alternative mechanism to address any financeability constraint in its determinations.

Changes to the notional capital structure

4.125 Changes to the notional capital structure, including lowering the notional gearing or reducing the notional dividend yield could increase financial headroom and reduce the magnitude of the financeability challenge. This is acknowledged by Bristol Water and Northumbrian Water. However, companies claim this does not represent an appropriate remedy to addressing financeability issues.³²⁴

4.126 The companies argue changes to the level of gearing are likely to be arbitrary and claim equity investors would be unwilling to provide the additional equity required. The companies also claim that this is important for the actual

³²¹ Ofwat, '[PR19 final determinations: Aligning risk and return technical appendix](#)', December 2019, p. 89, we set out "We have decided not to adjust the notional gearing assumption for the final determinations as we have referenced 60% consistently since we published the PR19 methodology. However we will reflect further on these issues in future price reviews; it may be the case that levels of gearing should reduce (both notional and actual) if a perception remains that risk for the sector has increased."

³²² Ofwat, '[PR19 final determinations: Aligning risk and return technical appendix](#)', December 2019, p. 83, We set out that "An increase of opening index-linked debt to 49% (in line with opening debt balances in companies' revised business plans) would increase the adjusted interest cover ratio by approximately 0.2 times."

³²³ Ofwat, '[PR19 final determinations: Aligning risk and return technical appendix](#)', December 2019, pp. 85-86,

³²⁴ Bristol Water, '[Statement of Case](#)', April 2020, p. 39, paragraphs 132-134; Northumbrian Water, '[Statement of Case](#)', April 2020, p. 204 paragraphs 1159-1163

financing structure which has been directly influenced by the notional gearing assumption set in previous determinations.

4.127 We disagree. Figure 2.5 shows that actual gearing is above the notional gearing assumption of 60% for all except two of the water companies. It is also above the notional gearing assumption at PR14 of 62.5% for 14 of the 17 companies including all of the disputing companies.³²⁵ The enterprise value of gearing of the publically listed companies used for our assessment of beta is lower than our 60% notional level. If the CMA were to take an alternative approach to resolving a notional financeability constraint, it could do so by reducing notional gearing to a level that is more consistent with the gearing levels on which our beta observations are based (around 56%).

4.128 As set out in section 2, one option available to the CMA is to alter the notional structure adopted in our determination. **Options the CMA could take include to adopt a lower level of notional gearing or a higher proportion of index linked debt.**

Faster transition to CPIH

4.129 Bristol Water and Northumbrian Water claim that a full transition to CPIH is not an appropriate approach to resolving a notional financeability constraint.³²⁶ The companies acknowledge that a faster transition is net-present-value neutral and would have the effect of higher cash flows during 2020-25 which would increase headroom and improve financeability. However, the companies argue that full transition is at the expense of reducing future financial headroom and an increase in customer bills in the short-term. Northumbrian Water argues that full transition would create a mismatch between CPI-linked revenues and RPI-linked liabilities in the form of its RPI-linked bond portfolio. The company claims that this would require it to swap its RPI-linked bonds to CPI, incurring a premium due to the new nature of the CPI-linked swap market and its relative illiquidity.

4.130 We agree that the transition to CPIH alters the profile of cash flows compared with RPI which has consequences on customer bills and companies, and this underpinned our decision not to fully transition to CPIH as a credible measure of inflation at PR19.

³²⁵ Section 2 'Balance of risk and return', Figure 2.5: Company reported gearing as at 31 March 2019.

³²⁶ Bristol Water, 'Statement of Case', April 2020, p. 39, paragraphs 129-131; Northumbrian Water, 'Statement of Case', April 2020, pp. 202-204 paragraphs 1148-1158

- 4.131 As stated above, Moody's has acknowledged the cash flow benefits of the CPI transition. The CMA should note that other companies requested a faster transition to CPIH at PR19 (including Severn Trent Water and United Utilities Water) and Ofgem has adopted a full transition to CPIH in its RIIO-2 methodology, which lends support to the idea of a faster transition in water. We have also seen 6 CPI-linked bonds issued as of 31 March 2020. These bonds have been issued at a considerable discount to the iBoxx A/BBB (the average is -92 basis points). This suggests that the company's cited concern with a 15 basis point liquidity premium it infers from a 2011 publication may be of second order importance – if it persists, the clearly strong demand for CPI-linked exposure suggested by bond pricing suggests that a similar picture should apply in the swaps market.
- 4.132 Table 4.5 above shows that the revenue advanced in our final determinations for three of the disputing companies is less than one percent of the average RCV inflated by RPI over 2020-25, ranging from 0.3% to 0.6%: no revenue was advanced for Bristol Water. One percent is equivalent to the assumption for the RPI:CPIH wedge for the notional company therefore an equivalent amount of total revenue could have been achieved through a faster transition to CPIH.
- 4.133 Finally we note HM Treasury and the UK Statistics Authority has an open consultation on the reform of the retail prices indexation methodology. The consultation includes a proposal to converge RPI and CPIH between 2025 and 2030, which means it is possible this could remove the wedge between RPI and CPIH sometime between 2025 and 2030.³²⁷

Conclusion

- 4.134 It is imperative to set the allowed return based on market data rather than based on achieving specific financial ratios for a specific target credit rating. Increasing the allowed return for the purpose of improving the ratios is not required by our financing duty, and would not be consistent with all of our statutory duties taken in the round as it is clearly not in the best interests of customers. It is also not consistent with the approach taken at previous price reviews nor CMA redeterminations.
- 4.135 Such an adjustment to the cost of equity (i) provides above market returns for investors, (ii) is a permanent increase in costs to customers unless there is a

³²⁷ HM Treasury and the UK Statistics Authority [A consultation on the reform of the Retail Prices Index Methodology](#), March 2020

reduction below market returns at other times, and (iii) diminishes the incentive for companies to outperform the final determination. Aiming up the allowed return at a time when cash returns are low would require a reduction in returns to below market rates in future periods; otherwise adjustments would be asymmetric and would result in customers paying more over the economic cycle. This is also likely to undermine regulatory predictability and the transparency of the determination of the allowed return on capital.

- 4.136 There are solutions to address low financial metrics as set out in the PR19 methodology. The most appropriate solution is to rebalance the cash flows resulting from the low real return on capital and proportionately higher return earned through indexation of the RCV. This was partly mitigated in the final determinations by the partial transition to CPIH as the inflation index for part of the RCV.
- 4.137 We improved financial ratios in the final determinations, where necessary, by advancing revenue through an increase to PAYG rates and in some cases RCV run-off rates. This has the effect of bringing forward revenue from future periods in a NPV neutral way without impacting the overall return to investors, and therefore is consistent with all of all statutory duties. We advanced revenue for three of the disputing companies.
- 4.138 The revenue advanced for Anglian Water, Northumbrian Water and Yorkshire Water is not substantial and represents between 0.7% and 1.6% of allowed revenue, and 0.3% and 0.6% of RPI inflated RCV. We do not consider this has an adverse impact on the long-term financial resilience of the sector.
- 4.139 The financeability constraint at PR19 is particularly acute because of the mismatch between the return on equity which is forward looking across 2020-25 and the cost of embedded debt which is backward looking over 15 years and includes high interest rates for debt raised before the credit crunch. All things being equal, the average cost of debt in future price controls will reduce as this expensive debt rolls off and is replaced by current lower interest rates. Further transition to CPIH and the convergence of the RPI index towards CPIH will also improve financial metrics over the medium term.
- 4.140 If the CMA disagrees that using financial levers as an appropriate solution, the CMA could consider changes to the assumptions underpinning the notional capital structure. A lower gearing level would improve financial metrics and the financeability of the notional company. Similarly, increasing the assumption for the proportion of index linked debt above our conservative level of 33% of opening debt will also increase financial metrics. Our assumption was below

the average for the sector of 55% and the proportion of index linked debt included in the balance sheet of all four of the disputing companies.

4.141 If the CMA is not minded to amend the notional structure or use PAYG or RCV run-off rates, applying a faster transition to CPIH is an option that has a similar effect of rebalancing cash flows as advancing revenue through financial levers.

5. Putting the sector in balance and the gearing outperformance sharing mechanism

- 5.1 Water companies deliver vital services that are essential for public health, the environment, economy and society. The regulatory framework seeks to best align the interests of customers with those of investors.
- 5.2 In July 2018, reflecting widespread public concern about the behaviour of some companies,³²⁸ we published a position statement³²⁹ which made targeted amendments to the PR19 methodology that aimed to encourage companies to take greater account of customers' interests. The document set out our aim to improve trust and confidence in the sector including encouraging companies:
- to act in a manner consistent with their responsibilities as providers of essential public services;
 - to be transparent and accountable to customers and wider society; and
 - to have appropriate alignment of the interests of company management and investors to the interests of current and future customers.
- 5.3 Included in the proposals in our position statement was our expectations for company policies on dividends and performance related executive pay in 2020-25. The position statement also set out our expectation that companies with gearing levels that are well in excess of the notional level should apply a gearing outperformance sharing mechanism that allows customers to share in the returns equity investors achieve from high gearing.

Gearing outperformance sharing mechanism

- 5.4 The gearing outperformance mechanism aims to address a long held concern that companies and their investors enjoy all the benefits of adopting financial structures where gearing levels are well in excess of the notional level, with little evidence of benefits to customers. We considered that in the absence of benefit sharing, the regulatory arrangements could distort company incentives

³²⁸ As referenced for example in a public exchange of [correspondence](#) between Jonson Cox and the Secretary of State, and our [implementation letter](#) to the Chief Executive Officers of all water companies.

³²⁹ Ofwat, '[Putting the sector in balance: position statement](#)', July 2018

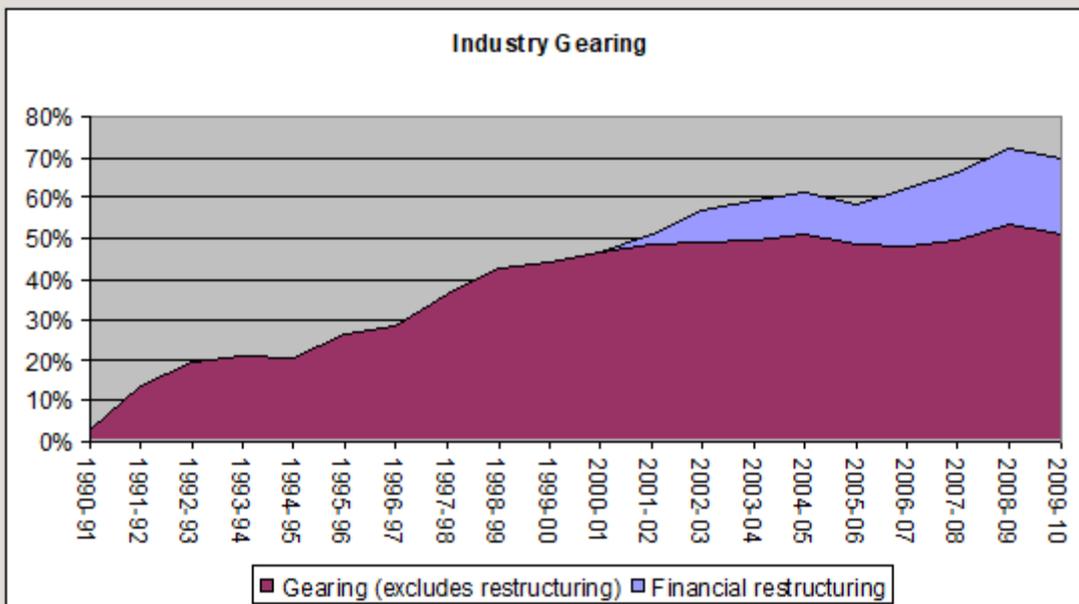
on choosing financing structures without full consideration of the potential impacts on customers and wider stakeholders.

Highly geared companies

It is our long held view that equity has a vital role to play in the water sector to manage exposure to cost shocks. In our determinations over the last 20 years we have maintained a notional gearing level that has remained in a tight range of 55% to 62.5%. The notional gearing level we have used has to a degree been led by the actual gearing levels reported by the companies, but not those that have adopted highly geared structures.

Investors in some companies have withdrawn significant amounts of equity from the sector by restructuring to include a greater proportion of debt finance. In 2011, we estimated the amount of equity extracted by such means to have exceeded £9 billion by 31 March 2010, equivalent to over 18% of the RCV.¹

Figure 5.1 Increase in gearing arising from financial restructuring



When companies have carried out such restructuring arrangements, the equity that has been extracted has typically been financed by dividend payments or intercompany loans, paid for by increased debt, sometimes was of long tenor.

Since privatisation we have maintained a consistent view that companies and their investors must bear the consequences of their choice of financing and capital structure. However, some commentators have suggested that the failure of one or

more highly geared company could impact on investor sentiment for the sector, which could manifest itself in a higher cost of capital and higher bills for customers. In this context, it could be argued that our policy on capital structure has been insufficient.

While companies that have adopted these structures have been resilient to the credit crunch (in some cases injection of equity was required to maintain financial ratios within covenanted levels in the period of deflation in 2009), concerns arise where companies adopt risky structures that they can maintain resilience over the long term, particularly in circumstances where there is downward pressure on the allowed return.

Since PR14, we have signalled that companies with less resilient structures should consider taking steps to improve financial resilience in the context of an expected lower allowed return at PR19, and credit rating agencies have noted companies with such structures might be unwilling or unable to maintain credit quality.

The gearing outperformance sharing mechanism does not cut across company choices of capital structure, and indeed it is possible that some companies with large proportions of debt can remain resilient for example where they benefit from a portfolio of debt that is relatively low cost. However, our aim in adopting the mechanism is to incentivise companies to consider the interests of customers when making decisions that affect their capital structure and long term financial resilience.

¹ Ofwat, [2011 Financeability and financing the asset base](#), page 36

- 5.5 The gearing outperformance sharing mechanism in our position statement included a trigger such that companies with gearing levels that are 10 percentage points above our notional assumption should share benefits with customers. We subsequently amended the mechanism in our final determination to incorporate a glidepath to the trigger point – starting at with gearing at 74% in 2021, reducing to 70% by 2025.
- 5.6 We introduced a glidepath in our final determination recognising that the mechanism was new and provides companies more time to unwind debt arrangements. The mechanism will apply at PR24 through a reconciliation

process. We illustrated the basis on which adjustments will be calculated in our final determinations.³³⁰

5.7 Companies raise concerns with the gearing outperformance sharing mechanism in their representations to the CMA,³³¹ variously arguing that the mechanism is:

- an unprecedented intervention into company capital structures;
- inconsistent with financial and economic theory (Modigliani Miller's Financial Structure Irrelevance Proposition);
- applied to an arbitrary level of gearing that is not grounded in evidence
- an affront to the principle of maintaining a stable regulatory regime; and
- subject to a glidepath does not account for the scale of the regulatory change.

5.8 The companies argue that highly geared structures benefit customers as they result in lower bills as a result of a lower payments for tax. Additional points raised are that:

- Anglian Water argues highly geared structures have generated customer benefits as a result of licence conditions such as the dividend lock up licence conditions.
- Northumbrian Water argues there is no one-size fits-all-gearing that is optimal for all companies, and costs to customers would rise over time as additional risk is priced in.
- Yorkshire Water argues that the fact that water companies have different levels of gearing in the range 60-80% is evidence that the cost of capital is not particularly sensitive to changes of gearing in this range.
- Yorkshire Water cites statements in previously published material by the CMA and Ofwat's cost of capital advisors at PR04 and PR09 as evidence that the WACC is insensitive to gearing changes.
- Bristol Water argues the trigger level of gearing for the gearing outperformance sharing mechanism is too low.
- Bristol Water suggests our mechanism should treat preference shares as equity in the gearing calculation.

³³⁰ Ofwat, '[PR19 final determinations: Aligning risk and return technical appendix](#)', December 2019, text box pp. 130-131

³³¹ Bristol Water, '[Statement of case](#)', April 2020, pp.161-166, paragraphs 669-709.
Anglian Water, '[Statement of case](#)', April 2020, pp. 29-31 and 309-327, section 7.1 and Chapter K.
Northumbrian Water, '[Statement of case](#)', April 2020, pp.163-165, paragraphs 892-910.
Yorkshire Water, '[Statement of case](#)', April 2020, pp. 76-79, paragraphs 246-259.

5.9 We recognise the introduction of the gearing outperformance sharing mechanism represents a change from the established set of regulatory incentives affecting company gearing decisions. However, the introduction of the mechanism stemmed from a challenge to the legitimacy of the regulatory regime that was linked, in part, to concerns raised about companies paying high dividends and adopting complicated and potentially risky financial structures.

5.10 Looking afresh at the benefits companies with gearing levels that are materially above the notional level, we considered:³³²

- Companies with high levels of gearing have potentially lower levels of financial resilience, as the impact of cost shocks or poor performance is magnified on a smaller equity base.
- As it is companies and investors rather than customers that make choices about financial structure, despite the safeguards we put in place, it is possible that service to customers and wider society is put at risk in the event of failures that relate to a company's choice of capital structure, and that customers or taxpayers (or both) could bear the costs of addressing such failures.
- Customers are paying for an allowed cost of capital under a notional structure, but there is no substantive benefit that is passed to customers associated with highly geared structures; the benefits of such arrangements are systematically skewed in favour of investors.
- Companies with high gearing may also have reduced ability to adapt to changes to regulatory arrangements that are required in customer interests.

5.11 Since companies first adopted structures with gearing levels that are well in excess of the notional level, concerns have been raised about the benefits such structures bring to customers. For example, in 2004 the Department for Trade and Industry (DTI) ³³³ set out:

'Academic literature indicates utility companies react to their regulatory climate by adjusting capital structure. Managers can mitigate the consequences of unfavourable regulation by gearing up as higher debt ratios are associated with greater levels of financial distress. It can be argued that where this occurs, regulators hands become tied – i.e. they are unable to enforce a tough regulatory settlement while still acting in line with the duty to ensure companies are able to finance their

³³² Ofwat, '[Putting the sector in balance – a position statement](#)', July 2018

³³³ Department of Trade and Industry (DTI) and HM Treasury, '[The drivers and public policy consequences of increased gearing](#)', October 2004

functions. This reduces the likelihood of a tough price cap, reducing the risk facing the firm and hence its costs of capital.

In the context of utilities, risk reduction can be achieved through risk transfer to customers (through greater potential volatility in bills) or to taxpayers (if there is special administration). A lower cost of capital may be possible even if there is only a perception that Government will ultimately bail out a utility business in financial distress. Shareholders funds act as a buffer in the equity model, absorbing shocks to costs and demand. Gearing up reduces or removes this equity buffer pushing costs of a revenue or cost shock onto customers (which will be borne through increased price volatility) or by the taxpayer. If a regulated business is able to do this in effect it shifts business risk away from investors, with the result that the return on capital they require is reduced.'

- 5.12 In representations to us, and in representations to the CMA, companies have argued that the outperformance mechanism conflicts with the accepted **Modigliani Miller finance theory** which sets out that, under certain conditions, the cost of capital is invariant to capital structure. Companies argue it is well-established that as leverage increases, the cost of debt may increase but the cost of equity will increase to reflect the increased risks faced by equity holders.
- 5.13 We disagree with the view expressed by companies that the cost of capital is invariant to gearing levels where gearing levels are materially above the notional level. We disagree for the same reasons referenced above by the DTI in 2004,³³⁴ which are linked to the transfer of risk to customers, also explained in an accompanying note from Europe Economics.³³⁵
- 5.14 As set out in our position statement, we consider the views expressed by companies reflect a misunderstanding of the Modigliani Miller theorem. The applicability of the theorem is underpinned by a set of highly restrictive assumptions which do not hold true of the water sector. Specifically, it assumes there are no taxes, no costs associated with financial distress, no asymmetry of information or agency costs and capital market operation is perfect. In other words, the correct inference to draw from the theorem when considering the water sector is that capital structure does matter – precisely because the

³³⁴ Department of Trade and Industry (DTI) and HM Treasury, '[The drivers and public policy consequences of increased gearing](#)', October 2004

³³⁵ R033 - Europe Economics, 'Further Advice on the Allowed Return on Capital for the Water Sector at PR19 – Betas and Gearing', page 8

conditions which would make the Modigliani-Miller theorem hold true do not apply.

- 5.15 In water, in an attempt to discourage companies to adopt financial structures with gearing levels well above the notional level to benefit from tax allowances, we have adopted a policy of remunerating tax on the basis of the actual capital structure of each company. Since PR09, adopted a mechanism that allows for claw back of tax gains where a company restructures to take the benefit of a larger tax shield. We agree therefore that in the water sector, companies are not able to outperform the tax allowance by gearing up at the level of the regulated company.
- 5.16 Under the Modigliani-Miller theory, one way a company can reduce its cost of capital is to **transfer risk** to another party. In water, increasing gearing materially above the notional level reduces financial headroom. This may increase the probability of default, increasing risk to consumers of service interruption and/or increase pressure from bondholders to restrict future cash outlays creating pressures which may limit future investment. It may also increase the perceived likelihood of companies triggering re-opening mechanisms to increase funding where a firm is in financial distress.
- 5.17 It may be difficult in such circumstances to distinguish between claims made by companies that credit ratings are at risk due to a tough regulatory settlement and or as a result of the actual capital structure. Indeed evidence presented in section 4 suggests efficient companies with gearing close to the notional level are able to maintain credit ratings well within the investment grade.
- 5.18 In a competitive market, a firm that made its consumers bear additional risks (either of lost service or of foregone quality improvements) may be more likely to lose customers to other competing suppliers. In the context of monopoly service provision, encouraging companies to consider the impacts of their decisions on customers is consistent with the reason we provide controls on revenue – because such constraints would apply in a competitive market.
- 5.19 In theory, the covenants that are associated with such structures should help protect customers from the risk transfer of such structures, but the covenants are not perfect and they remain under the control of companies and their investors.
- 5.20 Regulatory mechanisms including the regulatory ring fence, and special administration recognise that we should also help protect customers from the risk transfer. Again, these features are not perfect and some risks can remain

with customers. Our plans to further strengthen the regulatory ringfence to protect customers is the subject of ongoing work, and where we consider it is necessary to introduce licence conditions that further tighten the regulatory ringfence, the Water Industry Act 1991 allows such amendments to be made only with the agreement of the company, or where the company disagrees, after reference to the CMA.

- 5.21 Experience indicates that where risks are passed to customers, these costs can be large³³⁶ and special administration is not a costless process as longer term planning and investment can be disrupted during the transition of a special administration process. So even if customers do not bear much of the risk of immediate business failure, some costs may ultimately fall on customers.
- 5.22 Where regulated monopolies increase gearing to levels materially above the notional level, they may transfer some risk to equity investors, but also to customers or taxpayers at their potential expense. This underlines the importance of companies taking account of customer interests in financing decisions and to be prepared to share the benefits of these arrangements with customers.
- 5.23 In their representations, companies claim highly geared structures provide benefits to customers from lower tax allowances. However, at PR19, tax is a small component of allowed revenues given the availability of capital allowances (Table 5.1). And consistent with advice in the Green Book, tax should be excluded from a monetised assessment of policy value because it is a transfer payment where costs are set off exactly by benefits. Therefore lower tax allowances as a result of a company's choice of capital structure should not be seen as a direct benefit against which the gearing outperformance sharing mechanism should be assessed.

Table 5.1 PR19 Tax as percentage of allowed revenue

| | Allowed revenue (£m) | Tax (£m) | Percentage |
|---------------|----------------------|----------|------------|
| Industry | 52,208 | 575 | 1.1% |
| Anglian Water | 5,408 | 0 | 0.0% |
| Bristol Water | 488 | 11 | 2.2% |

³³⁶ For example, in 2004 former Rail Regulator Tom Winsor put the overall cost of the government's decision to put Railtrack into administration at £11-14 billion; and in 2009 the National Audit Office estimated that the failure and entry into administration of Metronet in 2007 led to a direct loss to the taxpayer of £170-£410m

| | | | |
|--------------------|-------|----|------|
| Northumbrian Water | 2,955 | 66 | 2.2% |
| Yorkshire Water | 4,731 | 12 | 0.2% |

- 5.24 We disagree also with the benefit claimed by Anglian Water that highly covenanted structures have brought benefits that have been mirrored in the ringfencing licence conditions for water companies. The covenants adopted by companies with highly geared companies are designed to protect lenders, suggesting bond holders perceive risks associated with these structures. While recognising that our interests are different to that of bond holders and debt providers, we note that it is precisely because some companies could choose more risky structures (including high levels of debt and associated interest payments which reduce the ability of the company to manage the effect of cost shocks) that the regulatory ring fence has been strengthened over time, and our ongoing work in this area recognises the arrangements are not perfect. Although licence conditions such as the cash lock up licence conditions (where companies must restrict dividends or transfers out the regulated business where an investment grade credit rating is at risk) are important protections, they broadly cover actions we would expect prudent companies to take if their financial resilience was under threat. We are not convinced that the existence of similar mechanisms in lenders' covenants could be presented as a benefit when they are really mitigations to risks associated with different structures.
- 5.25 Our regulatory approach has always recognised that there is no one-size-fits all level of gearing that applies for an efficient company and companies remain able to choose a level of gearing that is suitable for their circumstances. The gearing trigger for our mechanism starts at 74%, with a glidepath to 70%. These gearing levels are well above the notional level we have used at PR19 and in previous reviews. The glidepath, introduced in our final determination, provides companies significant time to respond to the mechanism to mitigate the risk of any sharing payments.
- 5.26 Bristol Water considers that if the gearing outperformance sharing mechanism is applied in 2020-25 that its own definition of gearing should apply rather than the standard definition of regulatory gearing reported in the annual performance report. The company considers its preference shares should be treated as equity rather than debt.
- 5.27 We do not consider this to be a matter for the CMA to determine as the reconciliation will be made at PR24. Should it consider it necessary to address this issue, the CMA should note:

- Bristol Water's view is inconsistent with the definition of gearing in the Regulatory Accounting Guidelines (RAGs) published by Ofwat.
- Bristol Water argued in its 2015 CMA appeal (with a supporting KPMG report) that its preference shares were more like debt than equity.
- The reason we exclude Bristol's preference shares from our assessment of the cost of debt that might apply for a notional structure is that their irredeemable nature makes them non-pure debt which is unlikely to be included in an efficient notional company's debt financing mix.

Conclusion on the gearing outperformance sharing mechanism

5.28 In summary, we set out above that the gearing outperformance sharing mechanism is consistent with application of the Modigliani-Miller theorem in the water sector. It is supported by a paper by the Department of Trade and Industry in 2004 and an accompanying note to our submission from Europe Economics.³³⁷

5.29 The mechanism includes a glidepath which recognises that the mechanism is new and provides companies more time to unwind debt arrangements.

5.30 We do not consider Bristol Water's claimed approach to the definition of gearing is a matter for the CMA to determine in its redetermination for Bristol Water.

Expectations and assessment of dividends and performance related executive pay policy

5.31 Through the price review process we incentivised companies to take steps to demonstrate that their dividend policies and performance related executive pay policies will reflect delivery for customers. We set out our expectations in the position statement.

5.32 Our assessment of companies policies on dividends and performance related executive pay began in September 2018 with the initial assessment of business plans (IAP), following which all companies received actions to further demonstrate how they were meeting our expectations. Companies responded to our IAP actions in April 2019 and we considered the further information provided. The majority of companies still had more to do, and we sent a

³³⁷ R033 - Europe Economics, 'Further Advice on the Allowed Return on Capital for the Water Sector at PR19 – Betas and Gearing', May 2020

number of queries to companies on their dividend policy and an enhanced query to all companies on their performance related executive pay policies. In our draft determinations, all companies received further actions on their dividend and performance related executive pay and we also highlighted areas of best practice that we had seen amongst the companies that we regulate to point companies to the areas that they needed to focus on.

5.33 Our final determinations set out our understanding of each company's policies for 2020-25 and identified areas where each company's policy continued to fall short. We expect companies to implement their commitments and continue to develop best practice in their dividend and performance-related executive pay policies, to ensure they align with customers' interests in the 2020-25 period.

Dividends

5.34 Our assessment of companies' dividends policies for the final determination found that some companies had still not provided sufficient detail and clarity on their proposed dividend policies to demonstrate that they will meet our expectations. Table 5.2 summarises companies' proposed dividend policies in 2020-25 and highlights where companies need to improve their reporting on dividends in the period 2020-25.

5.35 For Northumbrian Water, our assessment of its dividend policy found the company was falling well short in a number of areas with too much focus on distributions to shareholders and insufficient weight given to align with the delivery of service to customers'. We expect greater transparency from the company when reporting on dividends paid over 2020-25 in the annual performance report.

5.36 For Anglian Water, our assessment of its dividend policy found that the company was falling short in a number of areas and we expect greater transparency on how performance delivery has impacted on the dividends paid, when the company reports over 2020-25 in its annual performance report.

5.37 Our final determinations proposed a base dividend yield of up to 4% as a reasonable level for companies that have little real RCV growth and that perform in line with our determination in 2020-25. We set out in our final determinations that Anglian Water, Northumbrian Water and Yorkshire Water will need to reduce their proposed base dividend yield for 2020-25 to take account of the lower allowed return in our final determination and our revised expectations for a reasonable base dividend yield.

5.38 Table 5.2 sets out our assessment of the companies' proposed dividend policies for 2020-25, taking account of the following factors:

- Policy Factors – Does the dividend policy reference all the factors included in our position statement. It does it propose adjustments for out/underperformance against regulatory metrics and benefit sharing, employee interests, pension obligations, actual capital structure, the need to finance future investment (RCV growth) and financial resilience?
- Commitments to customers – Does the dividend policy include sufficient detail on the specific obligations and commitments to customers and other stakeholders that will be considered?
- Performance levels – Does the dividend policy confirm the performance levels, obligations and commitments that will be considered when determining a dividend, including reference to the final determination of price limits where appropriate?
- Two way – Is the dividend policy explicit that dividends paid will lead to both upwards and downwards adjustments to the base dividend yield depending on a company's performance in meeting its commitments and obligations to customers?
- Impact – Does the dividend policy explain how the above factors will impact on dividends paid?
- Transparency - Does the company commit to our expectations around transparency, including publishing information on dividend policies and signalling changes to stakeholders?

Table 5.2: Our assessment of companies’ proposed dividend policies in 2020-25 and proposed base dividend yield, (actual structure)

| Company | Policy factors | Commitments to customers | Performance levels | Two way | Impact | Transparency | Base Dividend yield % ² |
|------------------------|----------------|--------------------------|--------------------|---------|--------|--------------|------------------------------------|
| Anglian | ✓ | ✓ | ✓ | ✗ | ✗ | ✓ | 4.5% |
| Dŵr Cymru ¹ | ✓ | ✓ | ✗ | ✗ | ✗ | ✓ | 2.6% |
| Hafren Dyfrdwy | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 4.5% |
| Northumbrian | ✓ | ✗ | ✗ | ✗ | ✗ | ✓ | 4.52% |
| Severn Trent | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 5% |
| South West | ✓ | ✗ | ✓ | ✓ | ✓ | ✓ | 5.5% |
| Southern | ✓ | ✗ | ✓ | ✓✓ | ✓ | ✓ | 5% |
| Thames | ✓ | ✓ | ✓ | ✗ | ✗ | ✓ | 3% |
| United Utilities | ✓ | ✓ | ✓ | ✓ | ✓✓ | ✓ | 5% |
| Wessex | ✓ | ✗ | ✗ | ✓ | ✗ | ✓ | 2.7% |
| Yorkshire | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 5% |
| Affinity | ✓ | ✓✓ | ✓✓ | ✓✓ | ✓ | ✓ | 5% |
| Bristol | ✓ | ✓ | ✓ | ✗ | ✓ | ✓ | 3.4% |
| Portsmouth | ✓ | ✓ | ✓✓ | ✓ | ✓ | ✓✓ | 5% |
| South East | ✓ | ✗ | ✓ | ✗ | ✗ | ✓ | 1.77% |
| South Staffs | ✓ | ✓ | ✓✓ | ✓✓ | ✓ | ✓✓ | 3.1% |
| SES Water | ✓ | ✗ | ✓ | ✓ | ✗ | ✓✓ | 3.8% |

✓✓ Indicates best practice amongst the companies we regulate on the basis of information presented to us for policies that will apply in the period 2020-25.

✓ Meets our expectations on the basis of information presented through PR19. ✗ Falls short of our expectations based on information presented in PR19.

¹Company limited by guarantee which does not pay an equity dividend but maintains a ‘customer dividend’.

²For consistency of presentation and assessment we have used the average total or gross dividend yield. Some companies refer to a lower % dividend yield, after netting of intercompany transactions.

Performance related executive pay

- 5.39 Our assessment of companies' performance related executive pay policies found that although a number of companies had sufficient detail to demonstrate that they will meet our expectations, some still had work to do in the key area of the substantial alignment to delivery for customers. Table 5.3 summarises companies' proposed performance related executive pay and policies in 2020-25 and includes the good and best practice we have identified.
- 5.40 Northumbrian Water, in our initial assessment of companies business plans, did not meet our expectations as set out in our position statement, in a number of areas. The company was slow to respond to our expectations through the PR19 process. The company did eventually amend its proposals for its performance related executive pay policy for 2020-25, to align with our expectations, however in one of the key areas, the substantial alignment of performance related executive pay to delivery for customers the company fell short of the good practice demonstrated among the companies that we regulate.
- 5.41 Yorkshire Water demonstrates the alignment of its proposed policy for performance related executive pay for 2020-25, to the expectations set out in our position statement in a number of areas. However, in the key area of the substantial alignment of performance related executive pay to delivery for customers, the company falls short of the good practice demonstrated among the companies that we regulate.
- 5.42 We assessed companies' proposed performance related executive pay policies in 2020-25 in relation to the following factors:
- Alignment to delivery for customers - at least 60% of the measures / metrics are aligned to delivery for customers. We explain that measures that are aligned to the delivery of service to customers are those that relate to the costs of, or levels of services provided to, customers. Such measures specifically exclude financial measures (which are for the benefit of investors). Examples of specific customer service measures include C-MeX or measures such as interruptions to supply. These measures also include the totex and outcome delivery incentive components of RoRE where companies have identified RoRE performance as part of their incentive scheme.

-
- Stretching targets – we assess whether the company has committed to set targets that will be aligned to its final determination commitments or sector upper quartile performance
 - How the policy will be monitored and rigorously applied - clear evidence of the role of the remuneration committee in developing, implementing and monitoring the policy, in particular ongoing review of the policy to ensure that targets remain appropriate and stretching in the period 2020-25.
 - Gateway / underpin provisions – there is evidence of any gateway or underpin arrangements or conditions that must be met in order for a bonus to be awarded.
 - Transparent reporting – there is a clear commitment to transparent reporting of the full details of the application of the policy on an annual basis, including how the bonuses have been calculated. There is also a clear commitment to transparently report any changes to the policy in 2020-25, including the underlying reasons for the change.

Table 5.3: Our assessment of companies' proposals on performance related executive pay policies in 2020-25

| Company | Our assessment of substantial alignment to delivery for customers ¹ | Stretching targets | Role of remuneration committee | Gateway / underpin provisions | Transparent reporting |
|------------------|--|--------------------|--------------------------------|-------------------------------|-----------------------|
| Anglian | ✓✓ | ✓ | ✓ | No | ✓ |
| Dŵr Cymru | ✓✓ | ✓✓ | ✓ | No | ✓ |
| Hafren Dyfrdwy | ✗ | ✓ | ✓ | No | ✓ |
| Northumbrian | ✗ | ✓ | ✓ | No | ✓ |
| Severn Trent | ✓ | ✓ | ✓ | No | ✓ |
| South West | ✓ | ✓ | ≈ | Yes ✓✓ | ✓ |
| Southern | ✓ | ✓✓ | ✓ | No | ✓ |
| Thames | ✗ | ✓ | ✓ | Yes | ✓ |
| United Utilities | ✗ ₁ | ✓ | ✓ | No | ✓ |
| Wessex | ✓ | ✓ | ✓ | Yes ✓✓ | ✓ |
| Yorkshire | ✗ | ✓✓ | ✓ | Yes ✓✓ | ✓ |
| Affinity | ✗ | ✓✓ | ✓ | Yes | ✓ |
| Bristol | ✓ | ✓✓ | ✓ | Yes | ✓ |
| Portsmouth | ✗ | ✓ | ✓ | Yes | ✓ |
| South East | ✓ | ✓✓ | ✓ | Yes | ✓ |
| South Staffs | ✓ | ✓ | ✓ | No | ✓ |
| SES Water | ✗ | ✓ | ✓ | Yes | ✓ |

Notes: ¹ Our understanding of the weightings provided by companies that indicate a minimum of 60% alignment of incentives to delivery of service to customers. Where RoRE comprises part of the incentive mechanism, we have calculated a value based on the previous four years performance, excluding financing performance. Based on performance in 2015-19, United Utilities falls short of 60%, but it could exceed 60% on a forward basis depending on outturn performance.

≈ The company states that its independent customer challenge panel will have a role in overseeing the monitoring and application of the policy from 2020.

✓✓ indicates best practice among the companies we regulate

✓ indicates good practice among the companies we regulate

✗ indicates falls short of good practice among the companies we regulate

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