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Citizens Advice: Further submission on Ofwat price determinations appeal

Dear Juliette,

This submission is not confidential and may be published on your website. This is our second submission to the CMA on this appeal, and does not include our comments on other parties' submissions, and in particular on Ofwat's responses to the Statement of Cases published on 4th May.

Citizens Advice has statutory responsibilities for representing energy and post consumers in Great Britain, and we also advocate and provide advice for consumers on cross-cutting issues. We are responding to the Ofwat price determinations appeals for 2 reasons: firstly because of the impact of water bills on household incomes, and secondly because the CMA's decision on these appeals will set an important precedent for other sectors (such as energy). We have focussed our response on cross-sector, economy-wide issues which are not unique to water but play a key role in this price control. We have primarily developed our expertise in these areas looking at energy price controls, but the issues we have focussed on are common to a number of

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essential service sectors where we believe that consumer outcomes could be improved.¹

In our initial submission to this appeal, we outlined our high-level views on Ofwat's PR19 determination. In particular, our response stated that we would identify areas where Ofwat had been generous to water companies. We have also provided more detail on a number of other areas in this submission, including the areas identified in the CMA's approach to water determinations.

Summary

Cost of capital

The cost of capital is a key part of the water determinations, where the decisions Ofwat made translate into considerable impact for consumers. Small changes in the metrics which make up these costs can translate into millions of pounds of consumers' money. We have identified 6 areas within this methodology where we think Ofwat has been generous to water companies in its PR19 determination of the allowed rate of return.

We also provide recommendations for the CMA in their redetermination. On the gearing outperformance mechanism, we agree with Ofwat's objective but propose alternative mechanisms.

Areas where we think Ofwat has been generous to companies

We have identified 6 areas in the cost of capital methodology where we think that Ofwat has been too generous:

- Equity Beta: Our evidence points to a lower beta than used by Ofwat. Looking at how Ofwat calculated beta **we recommend the CMA use a 2 year data period, in line with Ofwat's draft determination using an unlevered beta estimate of 0.255** (the mid-point of Ofwat's updated 2-year daily beta analysis). We advocate an alternative approach considering the fundamental levels of risk. Ofwat's beta determinations overstated water companies' non-diversifiable risk, as they imply that investors in water companies face a level of non-diversifiable risk far greater than the actual level borne by investors, **the CMA should take account of evidence of lower longer term betas**. We also recommend the **CMA base beta and gearing assumptions directly on market data with no re-gearing adjustment**. This will be consistent with the CMA's (NATS En-route Limited) NERL price control decision.
- New cost of debt outperformance: Ofwat applies an adjustment of 25bps compared to historical average outperformance levels of 31bps (2000-2018)

¹ Indeed, the CAA clearly state (Document: CAP 1857, RP3 reference CAA document 002, p29) that in setting the WACC for RP3 they referred to recent consultations and determinations from other UK regulators, including Ofwat, Ofcom and Ofgem, as well as the cost of equity study by Professor Wright et al. for the UK Regulators Network (UKRN).

and 44bps (2015-2018). We argue that **the CMA should consider an adjustment of 44bps.**

- Embedded cost of debt outperformance: Ofwat applies an adjustment of 25bps, compared to historical average outperformance levels of 31bps (2000-2018) and 44bps (2015-2018). **We argue the CMA should consider an adjustment of 31bps.**
- Inconsistency of beta and debt outperformance adjustment calculations: We argue that companies with a lower level of gearing will be able to raise debt at a lower cost than more highly geared companies, so the outperformance adjustment for companies with a lower level of gearing may be higher than the average of all companies. **We suggest that the CMA considers the need for a consistent approach to estimating beta and the debt outperformance adjustment.**
- Total market return: Ofwat may have been generous in their assessment of the Total Market Return, by using long-run average returns on equities as a proxy for the Total Market Return, rather than long-run average returns on a much wider and more diversified portfolio of assets, as specified by the Capital Asset Pricing Model.
- Retail margin adjustment to ROCE. Ofwat's adjustment to the allowed return to take account of the separate margin calculated for retail activities assumes debtors are the only relevant working capital item for a retail business. This does not recognise that a substantial proportion of retail customers pay in advance for water services and that in aggregate the working capital position of all companies is positive. **We argue the CMA should correct for this error, changing the retail margin from 0.04% to 0.09%, reducing the retail margin adjustment and saving consumers £75 million.** We also propose a change to the allowed retail margin (below) which would further reduce the retail margin adjustment.

Impact of Higher Gearing

We agree with Ofwat's identified risks to consumers of excessive gearing, but we don't think Ofwat has identified the right mechanism and **adopting approaches from other sectors that also face concerns about the risks of excessive gearing, such as "bail-in-able" bonds and contingent convertible bonds, or "CoCos".**

Applying the statutory framework

In its evidence to the CMA, Ofwat has outlined why it thought a step change in approach was needed in PR19. Consistently high investor returns and poor corporate behaviours were key triggers for Ofwat. Our research looking at consistently high returns by water and energy companies clearly demonstrates why regulators are right

to take action. A key focus of our submission is the cost of capital, where our analysis² has demonstrated that regulators have consistently made decisions generous to water companies.

Water is an essential service, delivered by monopoly companies in the household sector, with developing competition in the business sector. It is essential that the regulator ensures good quality service at an efficient cost. This is a sector where people have struggled with debt, even before the current coronavirus crisis, so it's essential that PR19 delivers lower costs overall, as well as:

- tackle key structural issues with outperformance and allowed returns
- make use of the best evidence available to understand and respond to people's needs, especially those people in vulnerable circumstances

Ofwat has moved in the right direction in PR19 by identifying affordability as a vital part of this determination and set a significantly lower cost of capital which is in line with market conditions.

The appealing water companies have complained that the settlement is too stretching. However, in our view, Ofwat has instead recognised a considerable evidence base that prior settlements were too generous to water companies and has now devised a settlement that is more in line with market evidence. This is a good step towards delivering a more balanced price control for consumers.

In fact, we think that there are a number of areas where Ofwat has still been too generous to water companies. We set out the evidence for these areas in the remainder of the response. Companies have asked the CMA to review certain aspects of the price control. We think there is a strong case for the CMA looking more broadly, including areas where Ofwat has been too generous. It should consider the redetermination in the round, in light of the CMA's and Ofwat's statutory duties.

This further submission has focussed on the following key areas identified by the CMA in their approach to water determinations³:

² Citizens Advice, 'Energy Consumers' Missing Billions', July 2017, <https://www.citizensadvice.org.uk/Global/CitizensAdvice/Energy/EnergyConsumersMissingBillions.pdf> and Citizens Advice, 'Monopoly Money: How consumers overpaid by billions', May 2019, <https://www.citizensadvice.org.uk/Global/CitizensAdvice/Consumer%20publications/Monopoly%20Money%20-%20How%20consumers%20overpaid%20by%20billions.pdf>

³

https://assets.publishing.service.gov.uk/media/5ee21c85e90e070428c2c666/CMA_s_approach_to_water_redeterminations.pdf

Excessive returns, degree of stretch and historical performance

Our research⁴, and Ofwat's own analysis⁵ has shown that, historically, returns to shareholders in water companies have on average been persistently higher than the efficient cost of capital.

Ofwat recognised that it needed to address excessive returns when designing PR19. Based on the evidence that we are submitting in this response, Citizens Advice thinks that Ofwat should have gone further to address excessive returns.

This is in line with Ofwat's duties to protect the interests of consumers, and is not in conflict with its other duties. The underlying problem of information asymmetry is arguably higher in the water sector than others, and systematic bias in favour of shareholders is at the expense of consumers.

Our first recommendation is that the CMA considers introducing an outperformance adjustment to the allowed rate of return to help ensure consumers' interests are best protected. This would adjust for the historic error rate in estimating the cost of equity. Ofwat's data for total shareholder returns show an equity outperformance of 2.9% (in nominal terms) compared to the return on equity assumed in the allowed rate of return or more than £3 billion over the period of the charge control.

Excessive returns are a key issue that the CMA will need to address to help ensure consumers' interests are best protected. We recommend 2 possible courses of action for the CMA in the redetermination that would compensate for the high levels of historic outperformance in this sector:

- Set a new outperformance wedge for equity and adjust the existing debt outperformance wedge, or
- set the cost of capital at a level that fully reflects the balance of risk and return faced by water companies, which our evidence - set out in full below - shows is below Ofwat's allowed rate of return.

Affordability and consumers in vulnerable circumstances

Ofwat prioritised affordability as a key area for consumers in its determination. However, there are some other key areas where we think more support and better outcomes could be achieved for consumers. In particular, COVID-19 will have made issues around affordability even more acute than when Ofwat made its determinations. It will be important for the CMA to consider the impact that COVID-19 will have on short and long term implications for affordability.

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<https://www.citizensadvice.org.uk/about-us/policy/policy-research-topics/consumer-policy-research/consumer-policy-research/monopoly-money-how-consumers-overpaid-by-billions/>
⁵[https://assets.publishing.service.gov.uk/media/5eb16056e90e0723aef8056c/008 - Reference to the PR19 final determinations Risk and return response to common issues_002 .pdf](https://assets.publishing.service.gov.uk/media/5eb16056e90e0723aef8056c/008_-_Reference_to_the_PR19_final_determinations_Risk_and_return_response_to_common_issues_002_.pdf)

Water is an essential service. Within the last 12 months, Citizens Advice has advised over 74,000 people in person, by phone or by email about water supply and sewerage debts, and the relevant advice pages have had over 220,000 unique web page views. Our data shows that the most common reasons people come to us for advice on water are those that impact on their household incomes. This mirrors the trend in written complaints by household customers to water companies, where over half are about charging and billing issues⁶. Trends in our data over the past few years, even before COVID-19, suggest consumers are increasingly focussed on managing costs.

We have concerns about the regional variability between water company eligibility criteria and the level of support available. Better support for people in vulnerable situations will enable more consumers to engage with water services in a manageable way. This includes being able to afford their bills. We think, particularly given the current context, there should be a commitment to share the expertise and experiences between water companies and more widely across the essential service sectors to better identify and respond to additional support needs.

In its redetermination the CMA should:

- **Consider if the overall support package for consumers in vulnerable circumstances should be enhanced.** This includes improving identification of additional support needs, improving consumer awareness of support measures and enhancing the form and quantity of support provided.
- **Require water companies to better coordinate and standardise additional support mechanisms**

The utilisation of consumer evidence

Research and engagement with consumers have been vital and valuable parts of PR19. The consumer evidence collected by companies, where this has been done well can help to identify people's needs, shape the outputs of the price control and justify specific programmes of investment or service delivery. But it is much harder for this evidence to say what the return and cost of that investment should be. We were concerned with the way some companies used consumer evidence in their appeal submissions in arguments around the fairness of returns.

Citizens Advice commissioned Sustainability First to carry out a review of the use of consumer evidence used by companies and Ofwat in PR19. This review highlights the value of the consumer research and engagement that companies carried out, and makes several recommendations for the CMA to follow in their redetermination.

Using consumer evidence is not always straightforward and weighing up consumer evidence alongside other research types has challenges. In our view, there are areas where Ofwat could have been more transparent about the way it used and weighted consumer evidence. Again a key factor is the impact of COVID-19 and the extent to which consumer appetite for spending and services will have changed as a result of the

⁶ <https://www.discoverwater.co.uk/complaints>

crisis. It will be important for the CMA to consider how it can best understand this, reflecting the “spirit” of consumers’ views while reflecting the changed circumstances.

In its redeterminations, the CMA should:

- **Ensure a strict separation between consumers’ expressed desire for particular investments (which is the key focus of engagement in PR19) and their efficiency and cost (which is not)**
- **Consider how consumer evidence has shaped company outputs, and reflect the “spirit” of consumer views**
- **Seek to understand how Ofwat used its judgement when weighing up consumer evidence in the round**
- **Consider how the impact of COVID-19 will have changed consumers’ views**

Financeability

We strongly agree with Ofwat that financeability should be based on the structure of a notional capital-efficient company, and that Ofwat has met its duty to ensure companies are able to finance their activities. If an individual company is not efficiently structured, then that is for the company (and its shareholders) to address – any inefficiencies should not be paid for by consumers.

We do not agree with the appealing companies’ submissions suggesting that they will not be able to finance their on-going activities or new investment, or even that there is a risk they will not be able to do. The consistently high rate of return by water companies suggests that there has been an overly generous buffer to protect financeability. We have not seen evidence that financeability will be at risk.

Impact of COVID 19

We consider 3 different ways that COVID-19 could affect the price control. We think the CMA should not look at general impacts (i.e. impacting the overall price control methodology), but should look at specific impacts on consumer evidence, outputs and anticipatory investment.

Impact of COVID-19 on the price control methodology

The impact of the COVID-19 pandemic on financial markets has been dramatic with significant falls in share prices and interest rates. But the CMA should not change the overall methodology because of COVID-19. There are existing mechanisms and processes for re-opening of the price controls available to Ofwat and water companies if there is evidence over a significant period that it will be necessary.

Implications for outputs and consumer evidence

We think key considerations of the specific impacts of COVID-19 on the underlying business cases for investment will need reassessing because consumer willingness to pay is likely to have shifted, and benefits of investment may have changed. Risk allocation may need to be reconsidered too. Companies may need to take on more risk and consider transfer of some risk to future consumers or higher earners. **We think the**

CMA should consider this important context when looking at evidence of consumer preferences and assessing the merits of companies' proposals.

Impacts on highly anticipatory investment

Citizens Advice has been looking at the ways in which investment for highly anticipatory investment can be delivered in ways that most benefit consumers. We've been focussed on this primarily for energy infrastructure, but we recognise the close parallels for these types of investment with the water sector.

We have attached analysis that we commissioned from Europe Economics to look at a suite of different highly anticipatory investment vehicles, and some further analysis considering the ways in which the COVID-19 crisis affects our previous analysis of risk allocation mechanisms for highly anticipatory infrastructure investments. We have also attached our summary table of the different mechanisms. **We think the CMA will need to consider issues such as risk allocation, as well as possible changes to consumer evidence above.**

Areas CMA propose to deprioritise

The CMA's approach to the determinations flagged a number of areas that it does not currently consider a priority. We disagree with the CMA's proposal to deprioritise these 2 areas:

Household and business retail

Ofwat's retail margin of 1% is arguably too low and results in an unnecessarily low retail margin adjustment and high return on capital employed. **We suggest that the CMA considers whether a higher retail margin is appropriate with a corresponding reduction in the allowed Return on Capital Employed (ROCE).**

Transparency around dividends

We think the CMA should consider looking at dividends and executive pay. The pay structures of CEOs and executive teams are driven by maximising shareholder value. This puts a huge incentive on behaviors that maximise these areas above others, particularly consumer outcomes. We are pleased overall with the progress of Ofwat's initiative to improve transparency and link to customer service delivery. We think the impact of COVID-19 on affordability, and enhanced scrutiny of company behaviour mean that consumers are likely to be more concerned than before with these issues.

1. Applying statutory framework

1.1 Excessive returns and past company performance, and Ofwat's stretch and outperformance

In our initial submission, we promised to provide further detail about where we think Ofwat has been generous to water companies in its determinations. In this section, we outline where Ofwat could have better addressed outperformance by water companies, and our recommendations for the CMA.

Ofwat's duties include: protecting consumers; securing that water company functions are properly carried out and enabling companies to finance those functions. Ofwat's financing duty means a duty to ensure that an efficient company can finance its functions by securing reasonable returns on its capital.⁷

Ofwat's aim in its PR19 final determinations was to align the interests of the water companies and their investors to those of customers by setting an appropriate balance of risk and return. At the same time, PR19 aimed to incentivise the companies to deliver stretching levels of efficiency and levels of service that improve over time.⁸

Accordingly, Ofwat's objective in setting the companies' allowed return on capital was to provide a reasonable level of return reflective of the sector's risks, sufficient to cover efficient debt and equity financing costs. Ofwat said that it based its figures on a wide range of market, regulatory, and academic sources.⁹

Our research, and Ofwat's own analysis, has shown that historically, returns to shareholders in water companies have on average been persistently higher than the allowed rate of return provided for in the price controls – referred to as outperformance. As a result, prices have been higher than necessary. As noted in a 2015 report by the National Audit Office: *"We consider that the price cap regime does not balance risks appropriately between companies and consumers, and so does not yet achieve the value for money that it should"*¹⁰

The ability of shareholders to earn a higher rate of return than is necessary to secure investment comes at the expense of consumers – who pay for that excess return through higher prices.

Ofwat has explained that many of the changes it introduced in the PR19 price controls reflected the need for a "step-change" in performance of companies to address a range of issues, including criticisms relating to high levels of profitability and value for money.

⁷ See for example PR19 Final Determinations: Aligning risk and return technical appendix, Ofwat, 2019, page 68.

⁸ See Aligning risk and return technical appendix, page 3.

⁹ PR19 Final Determinations: Allowed return on capital technical appendix, Ofwat, 2019, page 3.

¹⁰ National Audit Office, *The economic regulation of the water sector*, 14 October 2015, paragraph 18.

¹¹ We think that the case for this step-change in approach has only deepened with the impact of COVID-19 on affordability.

A report for the UK Regulators Network recommended (or at least the majority of the authors did) factoring into the allowed rate of return an outperformance wedge to recognise that regulated companies have persistently earned higher than required rates of return.

Ofgem is currently considering applying an outperformance adjustment to the allowed return. Ofwat has argued that an adjustment to the allowed rate of return for outperformance is not necessary in water price controls for a number of reasons, including that it has sufficient information to set efficient prices and that historical levels of outperformance in the water sector have not been as high as in the energy sector.

Ofwat faced a significant challenge to address outperformance in PR19, we think they could have gone further. The underlying problem of information asymmetry is arguably higher in the water sector than other sectors and while levels of outperformance may be lower in the water sector, systematic bias in favour of shareholders is at the expense of consumers. An outperformance adjustment to the allowed rate of return could help ensure consumers interests are best protected. Ofwat's characterisation of the level of outperformance does not consider the actual levels of return earned by shareholders in terms of dividends and profits reinvested in the business. Ofwat's data for total shareholder returns calculated on this basis show an equity outperformance of 2.9% (in nominal terms) compared to the return on equity assumed in the allowed rate of return of more than £3 billion over the period of the price control.

In principle, an outperformance adjustment to the *ex ante* allowed rate of return reflecting historical levels of outperformance would be a reasonable approach to ensure that the allowed return reflects the market's required rate of return. Alternatively, an approach which sets an allowed return at the lowest end of the estimated range of the rate of return reflecting plausible assumptions (in line with Ofgem's current proposed approach to this issue) would help address the asymmetry problem.

We recommend 2 possible courses of action for the CMA in the redetermination that would compensate for the high levels of historic outperformance demonstrated by the evidence:

- Set a new outperformance wedge for equity and adjust the existing debt outperformance wedge, or
- Set the cost of capital at a level that fully reflects the balance of risk and return faced by water companies, which our evidence shows is below Ofwat's allowed rate of return.

¹¹ Explained by Ofwat in *Reference of the PR19 final determinations: Overview*, March 2020, section 2.

Historical levels of return

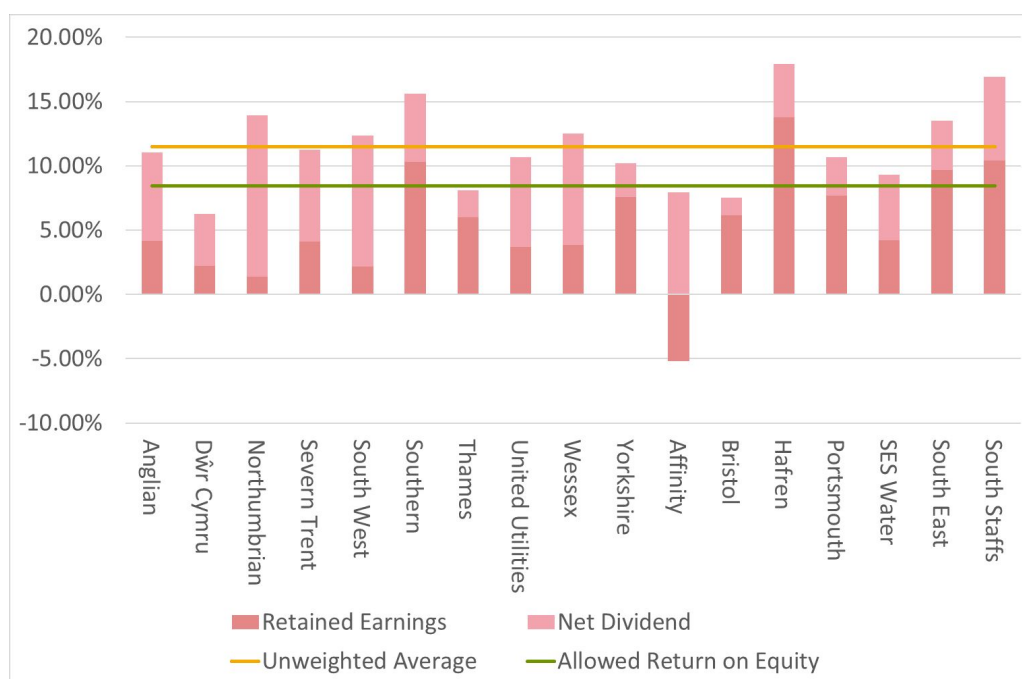
In its assessment of overall financial performance, Ofwat has calculated the average level of outperformance achieved by all companies during the PR14 price control period in two ways: a return on capital employed and a return on regulated equity.

- PR14 outturn ROCE was 5.7% including “other income” (or 5.2% excluding “other income”), compared to a 3.7% allowed return on capital.
- The average outturn Return on Regulatory Equity (RORE) in PR14 (weighted by average Regulatory Capital Value (RCV) for each company in each year 2015-2018) was 6.2% compared to the equity in the allowed cost of capital of 5.6%.¹²

However, the ROCE and RORE measures of return do not provide a good measure of actual shareholder return. This is because the ROCE measure looks at the overall returns used to service debt and pay shareholders and the RORE uses a notional gearing structure rather than the actual gearing of companies.

A better measure of actual shareholder returns is ‘Total Shareholder Returns’ which is measured as retained earnings (i.e. the amount of shareholder’s profit retained in the business for future investment) plus dividends paid to shareholders. Figure 1 below compares the actual total shareholder returns as reported by Ofwat to the cost of equity included in the allowed rate of return (restated in nominal terms).

Figure 1: Total Shareholder Returns 2015-2019



¹² Ofwat, PR19 Final Determinations, Securing cost efficiency technical appendix, December 2019, page 193.

Source: Ofwat¹³, Citizens Advice analysis

Figure 1 shows that the average total return to shareholders during 2015 to 2019 for all companies (unweighted) was 11.5% in nominal terms compared to the return on equity included in the PR14 price controls of 8.6%.¹⁴

The difference of 2.9% (in nominal terms) between the actual return to shareholders and assumed cost of equity is clearly significant and represents a difference in more than 1% in the overall allowed rate of return in real terms, or £3 billion over the period of the price control.

Outperformance adjustment to the allowed rate of return

The ability of shareholders to earn a higher rate of return than is necessary to secure investment comes at the expense of consumers – who pay for that excess return through higher prices.

One approach to address this problem is to introduce an *ex ante* outperformance adjustment. This idea was proposed by a report prepared in 2018 for the UK Regulators Network and subsequently adopted by Ofgem in its proposals for price controls in the energy sector.^{15, 16}

Ofwat's view on Outperformance Adjustment

Ofwat do not consider an outperformance adjustment to the allowed return to be necessary. In its determination Ofwat said:

*"We note other regulators are considering a reduction in the allowed return on capital to account for asymmetry of information in setting cost allowances and outcomes. While we understand the case for a downward adjustment, we do not consider that such an adjustment is required for PR19 as we have sufficient information to set efficient costs and stretching but achievable performance commitments."*¹⁷

¹³ Ofwat, *Charts and underlying data for the Monitoring Financial Resilience Report 2019* spreadsheet.

¹⁴ The allowed rate of return in PR14 included an equity allowance of 5.65% in real terms and 8.6% in nominal terms (source: Ofwat, *Delivering Water 2020: Our methodology for the 2019 price review Appendix 12: Aligning risk and return*, December 2017, page 24).

¹⁵ Ofgem, *RIIO-2 Sector Specific Methodology Decision - Finance*, May 2019, Paragraphs 3.235 to 3.300.

¹⁶ *Estimating the cost of capital for implementation of price controls by UK Regulators*, 2018 Wright, Burns, Mason and Pickford, page 6.

¹⁷ Ofwat, PR19 Final Determinations, Overall stretch on costs, outcomes and cost of capital policy appendix, December 2019, page 9.

Information asymmetry

Ofwat's optimistic view that it has "*sufficient information to set efficient costs and stretching but achievable performance commitments*"¹⁸ goes against the grain of the generally accepted view that regulators face a significant asymmetry of information and level of resources in setting price controls.

As noted by leading academic experts on regulation Dieter Helm and Jon Stern:

*"More complexity increases the asymmetry between the companies and the regulator: for every new tweak and rule, there are more games to play. This asymmetry of information, which the original Littlechild model addressed with its simplicity, has not gone away. It remains a defining feature of the water industry."*¹⁹

*"Repeat regulation, necessary for the reasons outlined above, acutely raises the problem of information asymmetry. Given the inevitable superiority of knowledge by companies of their own costs and potential efficiency, this is a major problem for forward looking regulation - the companies (but not the regulator) know "where (and why) the bodies are buried". This makes repeated regulation into a strategic game between the regulator and the regulated company. More specifically, regulation with regular repeat price resetting becomes a non-zero sum repeated game"*²⁰

There are 3 reasons why information asymmetry could be particularly problematic in the water sector:

- The particularly complex nature of the charge controls
- The lack of challenge from well-resourced retail competitors

Price controls in the water sector are very complex, and a high level of resources is needed by the regulator compounded by the fact that separate prices need to be set for 17 companies. No other regulator faces the same level of workload.

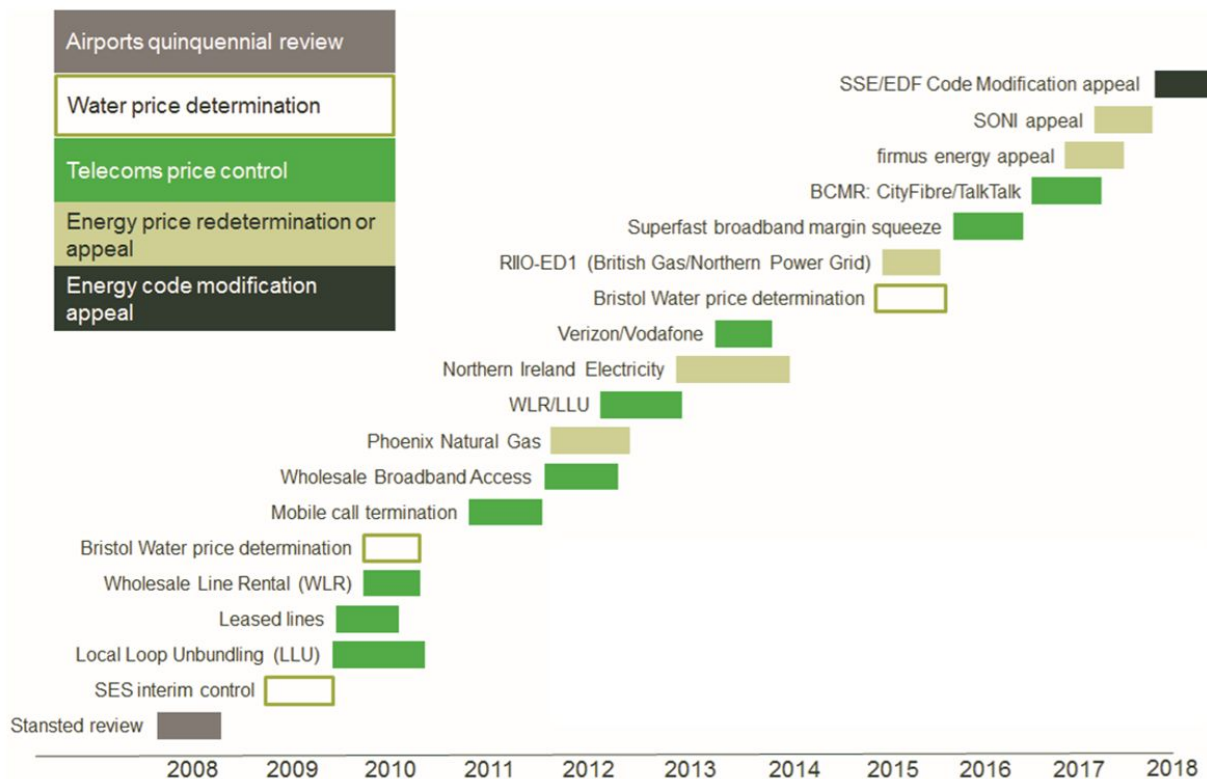
The complexity of water price controls is illustrated by the huge amount of modelling which is required, as illustrated in the 'model map' shown in Figure 2 below.

¹⁸ Ofwat, PR19 Final Determinations, Overall stretch on costs, outcomes and cost of capital policy appendix, December 2019, page 9.

¹⁹ Dieter Helm, Professor of Economic Policy at the University of Oxford and Fellow in Economics at New College, Oxford, Thirty years after water privatization—is the English model the envy of the world? The Oxford Review of Economic Policy, vol. 36 no. 1, January 2020.

²⁰ Jon Stern Honorary Visiting Professor at the Centre for Competition and Regulatory Policy (CCRP) in the Department of Economics at City, University of London, *The British utility regulation model: Its recent history and future Prospects* Utilities Policy, 31 (2014)

Figure 3: Price controls referred to the CMA



Source: Oxera²³

Figure 3 shows that:

- There have been relatively few appeals of water price controls compared to telecoms (particularly so given that there are 17 water companies subject to price controls compared to only 2 fixed line telecom companies (although there are more price controls per company and for shorter periods)).²⁴
- Unlike telecoms, no appeals in the water sector company have been brought by parties seeking lower prices.

In a 2019 report the National Infrastructure Commission referred to information asymmetry as follows:

*"The regulatory system was designed so that companies would have to reveal their information advantage in order to benefit from it, so that the benefits could be eliminated over time. However, the true cost of capital is never fully revealed, while with rapid technological change new information asymmetries can arise faster than regulators can offset them with the traditional approach. In future price controls, regulators should therefore seek to take direct account of the fact that their best estimate of costs, based on the information available to them, is likely to be biased in the interests of the companies, and 'aim off' for this effect. **If regulators overlook***

²³ Oxera paper, Agenda, *Regulatory appeals: do the UK's appeal regimes stand up to critical review?* March 2018.

²⁴ In addition, all licensed telecom companies (including mobile operators) are also subject to a price control for wholesale call termination – which makes up a very small proportion of their revenues. Also, there are separate price controls for different markets served by telecom companies covering voice, broadband and business services – up to five and these are typically over shorter periods (3 years) than water price controls.

these asymmetries, they cannot regulate efficiently to reduce costs for consumers. [emphasis added]²⁵

Given the multiple difficulties of complexity and volume of cost models, the inevitable bias of the water companies, a lack of counter-balancing inputs from wholesale customers and the significant resources of the water companies to employ consultants to generate a biased set of submission, it is inevitable that Ofwat will face a struggle to set optimally efficient prices.

Historical levels of outperformance

As discussed above (in section 1.2), Ofwat's assessment of the level of outperformance does not provide a complete picture of the actual returns to shareholders – one of the areas of concern which Ofwat indicated was a driver of the need for a 'step-change' in approach.²⁶

The level of outperformance measured in terms of total shareholder return would indicate that an adjustment is merited in the interests of consumers.

CAPM framework and Outperformance adjustment

Ofwat argues that an adjustment to the allowed return *"has limited grounding in the CAPM framework"*.²⁷

In their paper for the UKRN, Wright et al explain why it is important to distinguish between the Regulatory Allowed Return (RAR), the return set by the regulator; and the Regulatory Expected Return (RER), the rate of return expected by investors after taking into account expected levels of outperformance and underperformance on target costs (including the cost of capital) compared to the RAR.²⁸

Importantly, the RER, not the RAR, represents the cost of equity required in the CAPM model as it provides the relevant measure of expected returns. So, to the extent investors expect companies to outperform the regulator's cost targets overall, and hence the RER is greater than the RAR, then the RAR should be reduced by the investors' expected level of cost outperformance in order to avoid providing shareholders with an unnecessarily high level of overall return (as calculated in the CAPM framework).

The UK Regulators Network report recommended (or at least the majority of the authors did) factoring into the allowed rate of return outperformance wedge to recognise that regulated companies have persistently earned higher than required rates of return:

"We argue that on grounds of accountability and statutory obligations to the consumer there is a strong case for setting a target value for the informational

²⁵ National Infrastructure Commission, *Strategic Investment and Public Confidence*, October 2019, Section 2.1.

²⁶ Ofwat, *Reference of the PR19 final determinations: Risk and return – response to common issues in companies' statements of case*, page 30.

²⁷ Ofwat, *PR19 final determinations: Allowed return on capital appendix*, page 23.

²⁸ *Estimating the cost of capital for implementation of price controls by UK Regulators*, 2018 Wright, Burns, Mason and Pickford, page 6.

wedge. Recall that, crucially, this should represent the regulator's best estimate of the impact of future outperformance on regulatory returns."²⁹

Incentives

Ofwat argues that adjusting the allowed return on equity "would risk undermining the incentive properties of our regulatory regime" because "intervening to set easier targets or increase returns to address a downside RoRE skew resulting from previous management decisions (e.g. underinvestment), that this would significantly reduce incentives to improve performance and maintain investment at efficient levels"³⁰.

Ofwat's defence of its incentives doesn't address the point of the outperformance adjustment to the allowed return – which is that history tells us, however hard it tries, the water companies, on average, outperform the cost targets they are set, and that investors expect that. If investors expect the company to beat the targets, which they have consistently done, then it is right to factor that into the allowed return. The companies will always be incentivised to maximise returns to shareholders through reducing costs - even when they know lower costs will be reflected in future price controls. They do not need the incentive of higher than required returns to reduce costs.

An appropriate outperformance adjustment to the allowed rate of return

In principle, an outperformance adjustment reflecting historical levels of outperformance would be appropriate (as recommended by Wright et al)³¹. Alternatively, an approach which sets an allowed return at the lowest end of the estimated range of the rate of return reflecting plausible assumptions (in line with Ofgem's proposed approach) would help address the asymmetry problem.

- **Set a new outperformance wedge for equity and adjust the existing debt outperformance wedge, or**
- **Set the cost of capital at a level that fully reflects the balance of risk and return faced by water companies, which our evidence shows is below Ofwat's allowed rate of return.**

²⁹ *Estimating the cost of capital for implementation of price controls by UK Regulators*, 2018 Wright, Burns, Mason and Pickford

³⁰ Ofwat, *PR19 final determinations: Allowed return on capital appendix*, page 23.

³¹ *Estimating the cost of capital for implementation of price controls by UK Regulators*, 2018 Wright, Burns, Mason and Pickford, page 74.

1.2 Affordability and consumers in vulnerable circumstances

In our initial submission, we provided an overview of the main issues facing the people to whom we provide advice. Within the last 12 months, Citizens Advice has advised over 74,000 people in person, by phone or by email about water supply and sewerage debts, and had over 220,000 unique web page views. Overall, Citizens Advice services have helped over 2.7 million people in 2018-19 on a broad range of issues and had over 7 million web page views in the last year.

Here we outline the context of the current consumer situation, the impact of COVID-19 and highlight the areas we think the CMA could look at to improve consumer outcomes in the redeterminations.

Dealing with debt repayments is consistently the biggest water issue that consumers speak to us about. We receive between 2000-4000 enquiries about this a month. Consumer use of the Citizens Advice service suggests that the broad category of affordability and payment support is the most common issue and we expect those most exposed to this will be financially vulnerable consumers.

Improvement of water service issues will require more geographic and demographic consistency in accessibility and service offer and with particular attention to identifying financial distress and vulnerability where detriment will be highest and how it can be effectively avoided.

We recommend the CMA considers the following areas in the redeterminations:

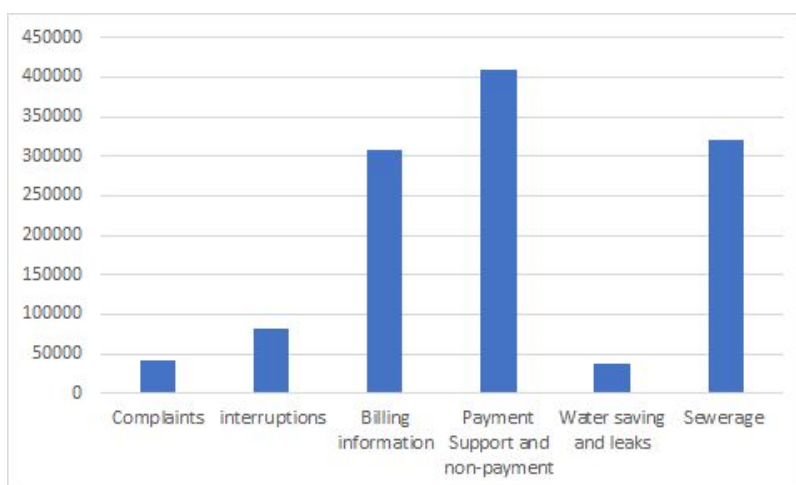
- **Consider if the overall support package for consumers should be enhanced.** This includes improving identification of additional support needs, improving consumer awareness of support measures and enhancing the form and quantity of support provided
- **Require water companies to better coordinate and standardise additional support mechanisms**

Charges and billing are the biggest water issues for consumers

Over half of all written complaints by household customers to water companies are about charging and billing, including complaints about whether the right person is being billed, the amount being billed and about how customers in debt are being treated³². Figure 4 shows a breakdown of the pages that are most viewed on the Citizens Advice website since 2017. The pages relating to payment support, including pages about Watersure and information about non-payment and arrears are of most interest to consumers. The next biggest issues are repairs and paying for sewerage and other concerns relating to the procedure of billing. Quality of service, interruptions or how to make a complaint made up a small percentage of page views.

Figure 4: Overview of Citizens Advice website views (Apr 2017 - Mar 2020)

³² <https://www.discoverwater.co.uk/complaints>



Source: Citizens Advice

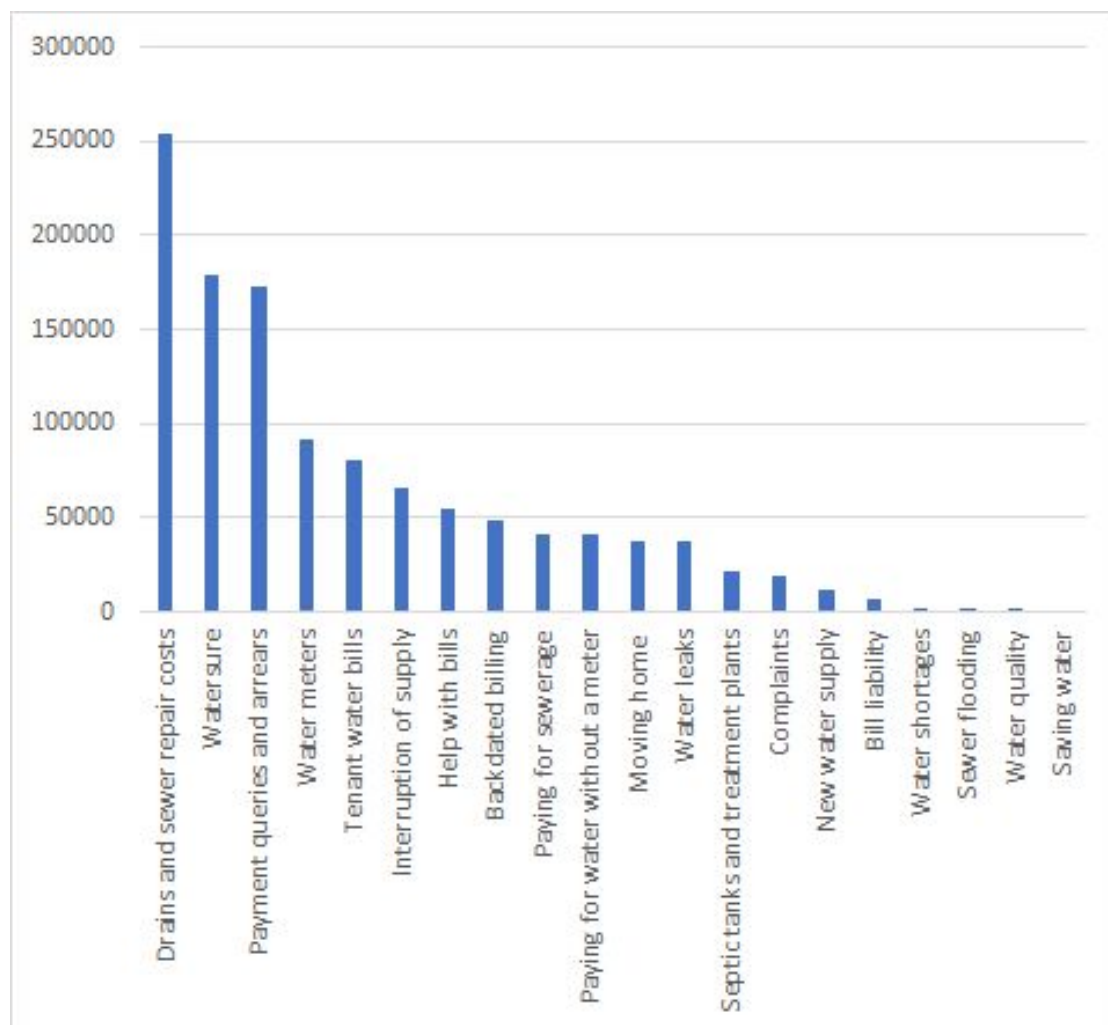
Issues about the allocation and managing of costs are the most important to water consumers

The pages viewed by people looking for advice on our website in Figures 5 and 6 provide valuable insight into the issues that need help with. These include drain or sewer fixes, information about paying bills, and the impact of water meters. Consumers have progressively over the last 2 and half years showed more interest in pages related to their exposure to costs.

The issues related to service quality are generally of low interest. Of these factors, interruption of supply is the only topic that received a significant volume of interest.

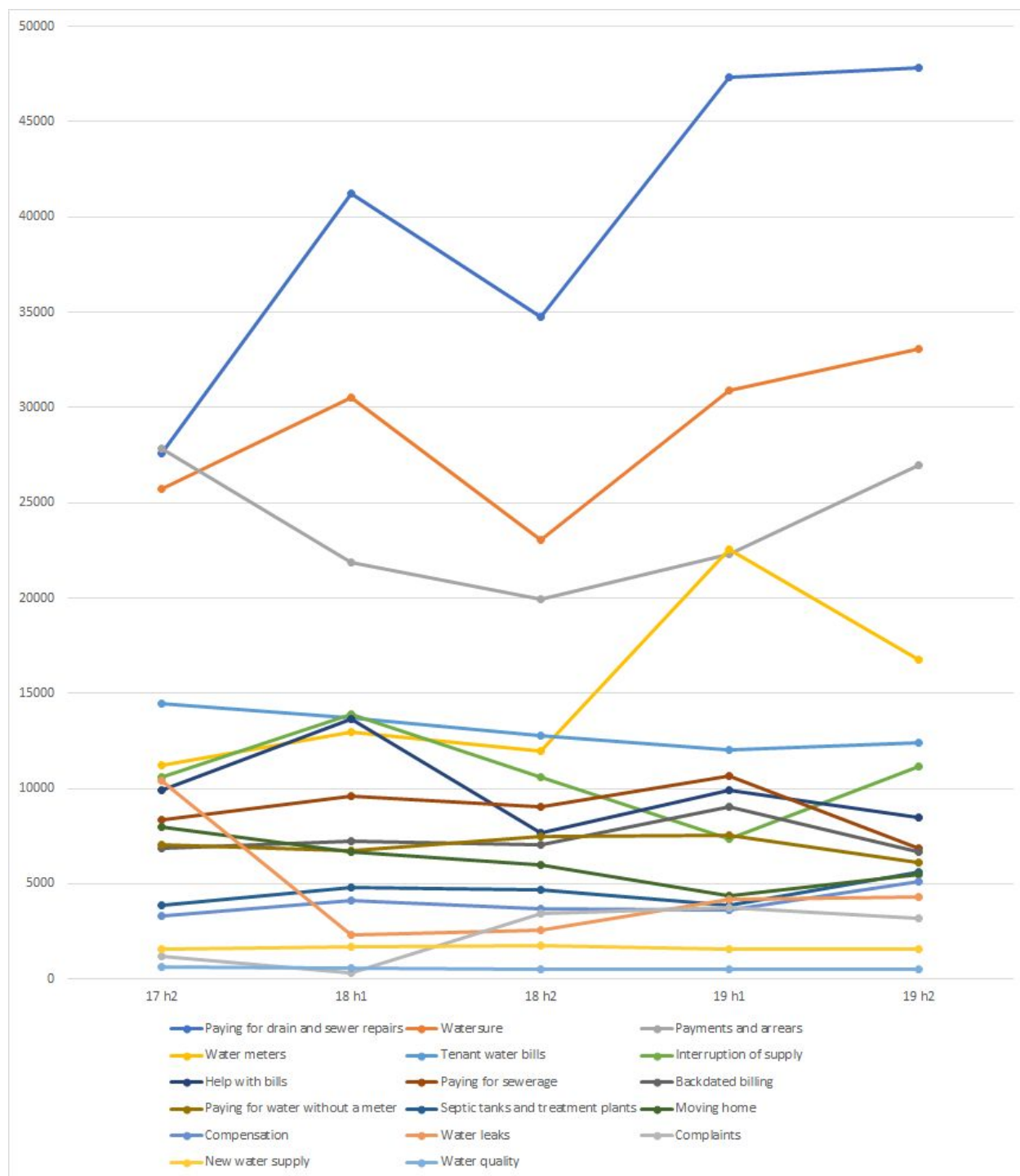
Figure 6 shows that consumers' concerns about their exposure to costs are increasing over time, while less interest is being shown to service quality information. This highlights the increased attention consumers were paying to household bills pre COVID-19. This would suggest the recency of water company evidence on service priorities will impact the relevance of claims about the relative service quality priorities in relation to cost and affordability.

Figure 5: Breakdown of Citizens Advice web traffic (April 2017 - March 2020)



Source: Citizens Advice

Figure 6: Consumer views of Citizens Advice web pages over time (2017-2019)



Source: Citizens Advice

COVID-19 and paying bills

The full impact of the pandemic on customers' ability to pay their utility bills is still unknown. For water companies with half-yearly billing cycles, the full picture will be slow to appear. What is known is that large numbers of households are facing a shortfall in income. At the same time, lockdown at home, the health, wellbeing and remote working challenges mean greater domestic usage of water, telecoms and

energy. For those customers who pay according to usage, this will result in disproportionately higher bills unless there is a correction factor applied³³.

The water companies have made available emergency funds, access to payment breaks and made some effort to encourage those consumers with health issues to register for priority services. We are also aware that Ofwat is looking to conduct further research into the economic impact of COVID-19 on the water sector. We think this is vital work that needs to provide insight into the short and long term economic impacts for consumers and their distributional impacts.

We think that the water industry was relatively poorly positioned to respond to COVID-19 due to the poor identification of vulnerable consumers and low consumer engagement with additional support mechanisms. We think the water industry needs a long term concerted commitment to promoting consumer awareness of social tariffs and Watersure which help consumers at this challenging time and beyond. These issues are not isolated to water. Citizens Advice will be looking at the development of social tariffs and mechanisms for identifying additional support across essential services.

Providing additional support to more consumers that need it

More people could benefit from additional support from water companies. As argued by Sustainability First, the exact number of customers in financial difficulty in the water sector is not well understood and a strategy to tackle water poverty is needed now more than ever³⁴. As of 2018, around 300,000 households are on water Priority Service Registers (PSRs), compared with 6 million people on the electricity equivalent³⁵.

There has been progress. The number of consumers signed up to one of several support schemes increased by 69 per cent between 2011 and 2015³⁶. Yet the number of customers requiring targeted support is likely to be much larger, as research shows that those in a position of vulnerability are often unlikely to be aware of or ask for support. Only 44% of customers are aware of the PSR³⁷. More generally, customer views on fairness and value for money have continued at disappointing levels for several years (63% and 72% respectively), suggesting that water companies could do more to improve consumer perceptions³⁸.

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https://www.sustainabilityfirst.org.uk/images/publications/bridging_corona/Consumer_Vulnerability_Ensuring_Affordability_Final_150520.pdf

34

https://www.sustainabilityfirst.org.uk/images/publications/bridging_corona/Consumer_Vulnerability_Ensuring_Affordability_Final_150520.pdf

35

<https://www.ccwater.org.uk/wp-content/uploads/2017/09/Staying-afloat-Addressing-customer-vulnerability-in-the-water-sectory-2016-17.pdf>

36

<https://www.ofwat.gov.uk/pn-0316-many-water-customers-situations-vulnerability-dont-get-help-need-new-report-finds/>

37

<https://www.ccwater.org.uk/wp-content/uploads/2019/07/Water-Matters-Highlights-Report.pdf>

38

<https://www.ccwater.org.uk/research/water-for-all-affordability-and-vulnerability-in-the-water-sector-2018-19/>

Better vulnerability identification and ways to increase awareness of support mechanisms should be a priority. Watersure is an example of a coordinated and consistently branded sector-wide support mechanism that promotes consumer engagement. It is consistently one of the most viewed water pages on the Citizens Advice site but customer awareness of WaterSure remains at only 12%, while only 5% of water consumers are aware of social tariffs.³⁹

The COVID-19 outbreak has heightened the need to identify additional support needs. Given the low levels of recognition of utility provider support mechanisms in the water sector this is concerning.

Households with water supply and sewerage debt are likely to also have other overlapping issues. 61% of people we advise who have water supply and sewerage debt also have council tax arrears, 34% have fuel debts and 20% have rental arrears. This indicates that there are wider affordability issues for consumers that are relevant across essential services.

We support steps by the water sector to work with other essential service providers, such as linking the water and energy priority service registers to better understand the additional support needs of consumers⁴⁰. The offer water companies make to their consumers should be clearer and more pronounced if it is to be taken up by those that need it. As a result, we encourage CMA to consider ways to make water companies coordinate better, and standardise their additional support mechanisms.

Ensure a fair distributional impact in the transition to smarter zero-carbon water services

The amount and content of support available is not consistent from region to region in relation to the number that need support, and eligibility criteria varies by water company⁴¹. This includes regional variation in water billing and consumer group cross-subsidisation⁴².

The percentage of customers on water PSRs varies significantly by company. The region you are in affects the amount of advice and support required from Citizens Advice as shown below in Figure 7 by contacts to local Citizens Advice offices.

Figure 7: Regional variation in water and sewage contacts to local Citizens Advice Offices (Nov 17 - Oct 19)

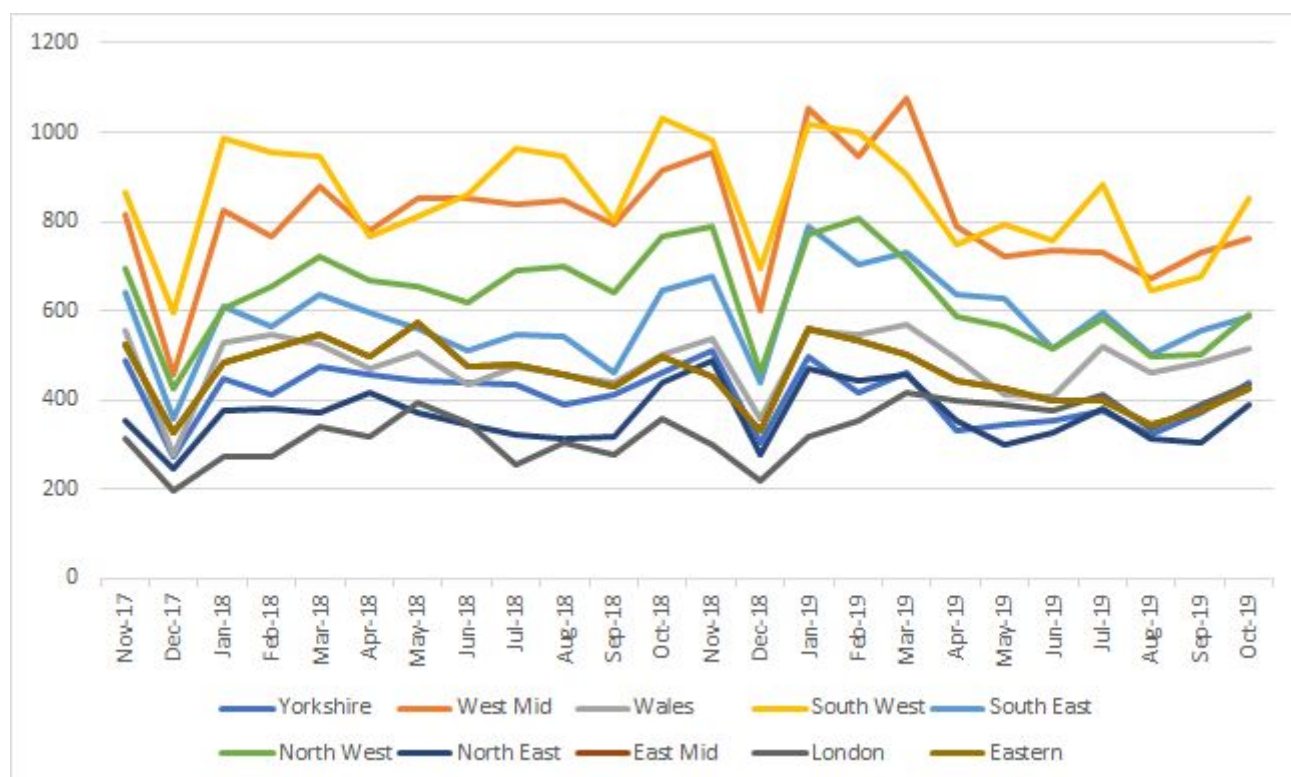
³⁹ *Ibid*

⁴⁰ <https://www.ukrn.org.uk/publications/ukrn-annual-report-and-2020-21-work-plan/>

⁴¹ <https://www.ccwater.org.uk/wp-content/uploads/2019/10/Water-for-All-2019-FINAL.pdf>

⁴²

https://www.sustainabilityfirst.org.uk/images/publications/bridging_corona/Consumer_Vulnerability_Ensuring_Affordability_Final_150520.pdf



Source: Citizens Advice

As in the energy sector, the impact of planning for net-zero ambitions requires consideration of the distributional impacts of increased costs to achieve emission reductions and sustainability. Without the aforementioned commitment that is required for water companies to better identify consumers' additional support requirements, the distributional impacts of network developments will not be possible to monitor effectively. Major progress is required on the identification of additional support requirements to ensure more equitable outcomes for different consumer groups and regions and reduce unfair distributional impacts.

2. The utilisation of consumer evidence

Summary

In our initial submission we outlined how valuable we think consumer evidence is for monopoly utility price control processes, and also some concerns we had about the way that consumer evidence was being used by some of the companies who have appealed the determination.

Using consumer evidence is important in shaping outcomes, but we should not mistake this as being the same as consumers providing all the answers. People - as consumers, citizens or communities - should be able to contribute to and influence decisions that affect their lives, choices and environment. Water companies as monopolies providing an essential service should in turn seek out the views of water users in their decision-making. Involving people in decisions that affect them results in better decisions overall: decisions that deliver more efficient and effective services, that meet real consumer needs and respond as they change, that reflect community values, and that have greater likelihood of effective implementation. However, ultimately this evidence will need to be weighed up alongside other types of evidence.

Engagement broadly encompasses a range of activities (planned and unplanned) through which a company interacts with consumers, citizens or communities to address and respond to issues affecting them. These activities can include media campaigns, surveys, consultations, focus groups, interviews or Citizens Juries. Whatever method is used to engage, however many events and panels are held, engagement should ultimately lead to positive outcomes for consumers, citizens and communities.

We commissioned Sustainability First to carry out a review of use of engagement by water companies and Ofwat in PR19. We asked them to focus on the 4 water companies that have appealed – Anglian Water (AW), Yorkshire Water, Northumbrian Water (NWL) and Bristol Water. We have appended Sustainability First’s full report to this submission.

The CMA has set out some key questions in its approach around the use of consumer evidence in PR19. In this section we have set out what we think the evidence says around how well consumer evidence has been used, and make some recommendations for the CMA for the redeterminations.

2.1 Where and to what extent consumer evidence can guide business plans, performance commitments and Outcome Delivery Incentives (ODIs)

Our research⁴³ in this area has highlighted the benefit that consumer evidence can bring, especially direct engagement with end-consumers. This is useful to understand their needs, attitudes and values. If done well, it captures the potentially diverging views of different groups, including small and medium sized businesses, consumers in vulnerable situations, and future consumers. Speaking to consumer representatives should be complemented with the rich insight that can be gained from speaking to end-consumers. The range of topics that consumers are engaged on needs to widen. Crucially we think engagement has to move beyond reliability, service standards and prices - topics which initially may be most immediate to domestic and small business consumers - to include complex, long-term decisions. In our view, in theory there are few, if any, issues where consumer evidence cannot guide outcomes.

In practice, this can be more challenging, as the review from Sustainability First demonstrates. We recognise that a key challenge for the CMA is understanding the robustness of engagement and then what weight to place on customer and stakeholder views in its price review decision. Assessing the quality of engagement is notoriously difficult and the weighting of specific customer insights is made more challenging by the lack of consensus and transparency across the water sector as to what good practice really looks like.

The three key sources of evidence available to the CMA: Ofwat's own engagement assessments; customer challenge group views; and Consumer Council for Water's (CCWater) assessments and research, with some noted exceptions, all state that the overall quality of all 4 companies' engagement is good. But assessments are not without limitations which Sustainability First has outlined in their report and we encourage the CMA to take these into consideration. For example, there is significant variation in the breadth and depth of different Customer Challenge Groups' (CCGs) scrutiny, the expertise on their groups (especially on willingness to pay and wider evaluation techniques), and the quality of governance arrangements and reporting, which may influence the weight the CMA wants to give to their respective views.

The pros and cons of different research approaches and the limitations of any engagement programme are well-rehearsed. As a general rule, while the quality of individual research will vary across companies, Sustainability First's review suggests that it is easier to engage customers and stakeholders on outcomes, preferences, priorities and bespoke performance commitments. A more cautious approach may be needed regarding insights on individual outcome delivery incentives (which make up a proportion of company overall returns) - especially attitudes to rewards and penalties, and caps/collars in particular. Also, engagement conducted in response to the Initial Assessment of Plans due to the regulatory time constraints imposed. It is also well recognised that customers struggle to engage with probabilities/risk appetite, and technical concepts such as 'voids' and 'gap sites'.

The appealing companies operate in different contexts and have different challenges, performance histories, and relationships with their customers with some more trusted than others. It may be harder to have confidence in regional variations of views

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https://www.citizensadvice.org.uk/Global/CitizensAdvice/Energy/CitA_Strengthen%20Consumer%20Voice%20in%20Energy%20Networks%20Price%20control_2018.pdf

between companies due to the lack of comparable research, but it is still important to explain how these have been taken into consideration.

Qualitative research can provide useful insight into the values and assumptions that are driving consumer views and understanding values may be increasingly important given the COVID-19 pandemic and rapidly changing context.

The companies cite high acceptability for their original business plans, and Ofwat cites the CCWater's research which indicates its final determination will also have high customer acceptability. Both are useful 'sense tests' with the public. It is reasonable to assume that had customers thought companies were proposing a higher than needed bill (as Ofwat suggests) that their willingness to pay, acceptability levels, and sense of affordability (which is often linked to perceptions of value for money) of the plan would have declined.

Overall, there is a general consensus that customer engagement has significantly shaped all 4 companies' business plans, making them better aligned to customer and stakeholder views. Customers want to have confidence that prices are fair and based on efficient costs but we ask the **CMA to provide assurances that a focus on bill reductions is not at the expense of broader outcomes** that consumers value.

We would encourage the CMA to be mindful of the "spirit" of consumer evidence:

- **the outcomes consumers say they want**
- **their values**
- **preferences for proposals and bespoke performance commitments**

The CMA will also need to consider what impact COVID-19 may have had on the consumer evidence base. The majority of insight that underpins company business plans was carried out prior to the COVID-19 pandemic. Consumer attitudes towards affordability and willingness to pay, risk, the environment and resilience may have changed substantially since then.

We would encourage the CMA and Ofwat to review emerging insight and consider conducting their own research in the medium term.

2.2 Areas where consumer evidence is less informative

A key area where we think consumer evidence has been less informative is around the cost of capital. The appealing companies challenge Ofwat's proposed cost of capital and express concerns about the allowed level of company returns which they say will impact their ability to deliver the outcomes that their customers want.

Our review found no evidence that companies had cited customer insights on profit levels or the cost of capital to support their arguments in this area. No company appears to have engaged robustly on what customers see as a fair return and this seems to be a gap. In line with Ofwat's PR19 methodology, companies have conducted engagement on rewards and penalties (which form part of overall returns) and this is used to varying degrees in the calculation of ODIs. In addition, all companies have

undertaken consumer engagement on wider financing issues and this research may be worth further investigation.

It is reasonable to assume that customers would not want to pay for inefficient costs. In this regard (if Ofwat's assessments are correct) the regulator would be acting in accordance with Ofwat's Engagement Principle 7 outlined in its PR19 methodology - stepping in to protect consumers. Indeed qualitative insight from the companies' insight synthesis reports and wider research indicates that many customers are concerned about:

- Unfair prices and money going unnecessarily into shareholder pockets
- Do not feel qualified to make decisions on efficiency
- Expect Ofwat to perform this role - thus highlighting its importance

Willingness to pay research also needs to be carefully considered. The CMA should consider whether this is genuinely representative of what consumers are willing to pay. The views of the CCGs are important here, although we note there is no single entity aside from Ofwat (for example like Ofgem's RIIO-2 Challenge Group) that has made any comparable analysis of willingness to pay research during PR19. There are also some well known inherent drawbacks to willingness to pay methodology (non-response bias, position and importance bias, information bias, anchoring bias, response uncertainty, interviewer and sponsor bias, hypothetical bias and protest valuation)⁴⁴ which the CMA should be conscious of when assessing the usefulness of this evidence.

Finally, a key factor when considering the validity of claims about the consumer and stakeholder acceptability of business plans is the extent that they were able to review measures of consumer satisfaction that reflect company performance. Without this benchmark an assessment of whether a business plan will improve performance and consumer satisfaction is difficult to make. Consumer and stakeholder perspectives based on an assessment of performance using recent consumer experience of a water company's performance is likely to hold more weight.

The CMA should:

- **Ensure a strict separation between consumers' expressed desire for particular investments (which is the key focus of engagement in PR19) and their efficiency and cost (which is not)**

2.3 Whether the evidence collected by companies is robust and of high quality

Our review shows that the companies quote insights from a wide range of qualitative and in particular quantitative research – much of which appears to follow good practice and is recognised as high-quality by Ofwat, their respective Customer Challenge Groups (CCGs) and CCW.

⁴⁴ <https://www.ofgem.gov.uk/ofgem-publications/53802/visualamenity.pdf>

2.4 How Ofwat has interpreted and made use of consumer evidence in assessing business plans and forming determinations (including comparisons between companies)

To varying degrees all 4 appealing water companies argue that Ofwat has ignored, misinterpreted or has given insufficient weight to consumer views in making its final determinations. Three of the 4 companies (excludes Bristol Water) say that as result of Ofwat's proposed funding settlement they will not be able to deliver the outcomes that customers want.

In a number of cases the regulator says that it has not ignored the views of customers, but thinks that the same outcome that consumers want can be delivered for less. In these instances the argument would seem more about company efficiency rather than engagement and the 2 things should not be confused. In at least 1 important instance, Ofwat appears to challenge the need for a proposal (NWL's Abberton-Hanningfield raw water transfer scheme in Essex) rather than customer support for it. Though it is unclear if customers would support it if they didn't think it was needed. However, NWL thinks the strength of consumer views towards longer-term resilience investment is not reflected in the regulator's overall assessment of need. Understanding how Ofwat has weighted consumer and societal value in its assessments of 'need' would be helpful for future price controls.

Ofwat says it "did override" customer research in some cases. This is for three main reasons:

- To better align the decision with customer interests and preferences
- As it thought the research that underpinned the company's decision was poor quality
- As it had additional evidence that was not available to the company's stakeholders including the CCG

Ofwat also states that ultimately decisions are the product of 'regulatory discretion'. We would encourage the CMA to ensure transparency around the methodologies, values, assumptions and trade-offs informing decisions. This is especially the case as Ofwat's approach has arguably not been subject to the same level of scrutiny as the companies' approaches.

Company proposals that have been co-created with customers and communities, local schemes where views may be strongly held, resilience approaches where it is necessary to balance the needs of current and future generations, and Ofwat's approach to regional variations in customer views, are all especially sensitive and warrant particular focus.

Given stakeholder concerns about the lack of weighting of consumer views, the **CMA may want to explore using alternative evaluation methodologies** such as Social Return on Investment approaches, or wellbeing analysis as is outlined in the updated Treasury Green book to ensure the wider public interest is captured.

The **CMA may want to be particularly mindful of the views of customers and stakeholders where the company has genuinely co-created an approach** and worked collaboratively with the community to develop solutions as this could impact on trust and legitimacy of water companies and regulators. This may be especially the case for local schemes, where engagement could have been extensive, sensitive, and public views strongly held.

The **CMA may want to particularly explore how certain Ofwat ‘discretionary’ decisions have been made. Greater transparency around the values, assumptions, methodologies and wider approaches informing any evaluations would be useful.** In particular: how Ofwat has defined and valued consumer and societal needs and preferences; how the requirements of current and future consumers have been balanced; and regional variations in views.

We encourage the **CMA to explain for each company business plan how it has considered customer and stakeholder views** and to provide a clear line of sight between the outcomes customers say they want and the final determination. Greater transparency in this area would be welcome. This will be important for trust and legitimacy.

3. Cost of Capital

Summary

In our initial submission we promised to provide further detail about where we think Ofwat has been generous to water companies in its determinations. In this section we outline the issues around the allowed rate of return and elements of the cost of capital methodology. In our view, Ofwat's calculation of the allowed rate of return includes 6 elements which are generous to the water companies. These areas are:

Equity Beta

We consider three aspects of Ofwat's beta estimation, looking at how Ofwat calculated beta, an alternative approach considering the fundamental levels of risk, and the impact of gearing:

- a) Econometric calculation data period: Ofwat's estimate of water company unlevered beta of 0.29 was not altered between its draft and final determination to take account of a fall in the 2-year daily beta estimate (from 0.28-0.29 to 0.25-0.26). Ofwat did not change its assumption on the basis that it was cautious, and that taking account of 5-year data (of a higher beta) was in line with its approach in PR14 and other regulatory precedents. Ofwat's caution is not justified. 2 year data is a better statistical predictor of future betas, and there is no evidence to suggest that average 2-year betas will not continue. Based on the evidence, we think the CMA should use an unlevered beta estimate of 0.255 (the mid-point of Ofwat's updated 2-year daily beta analysis) should be adopted.
- b) Aligning risk and return: Ofwat's final determination may have overestimated the return on capital necessary to provide a reasonable level of return because Ofwat's return on capital approach materially overstated the water companies' non-diversifiable risk (as proxied by beta). Ofwat's beta determinations materially overstated water companies' non-diversifiable risk, as they imply that investors in water companies face a level of non-diversifiable risk far greater than the actual level borne by investors.
- c) Beta re-gearing: Ofwat's calculation of beta is based on observed market betas adjusted for actual gearing and then re-gearred to assumed notional gearing levels. This approach risks inconsistencies with the underlying principles of the CAPM. In its provisional findings in the NERL price control appeal, the CMA addressed this by basing beta and gearing assumptions directly on market data with no re-gearing adjustment. In its response to the CMA, Ofwat suggests that a similar approach represents a 'pragmatic solution'. We agree.

Cost of new debt outperformance wedge

Ofwat adjusts the index of debt costs for debt taken on in the price control period to reflect the fact that water companies are able to raise debt at lower than average cost (compared to other investment grade bonds of the same rating), Ofwat assumes that *"there is a degree of uncertainty over the ability of the sector to sustain current levels of outperformance in future"*. Ofwat applies an adjustment of 25bps compared to historical average outperformance levels of 31bps (2000-2018) and 44bps (2015-2018). It is inevitable that future debt costs are uncertain, but that does not justify a cautious approach, particularly when there is more evidence of a downward trend. We recommend that the CMA use an adjustment of 44bps is reasonable given the evidence.

An adjustment to the cost of embedded debt outperformance

In adjusting the index to calculate the efficient cost of existing debt, Ofwat applies an adjustment of 25bps, compared to historical average outperformance levels of 31bps (2000-2018) and 44bps (2015-2018). Ofwat appears to have incorrectly assumed that it is necessary to adjust historical levels of outperformance downwards to reflect future uncertainty (which can only apply to future debt). We recommend that the CMA use an adjustment of 31bps is reasonable given the evidence.

Inconsistency of beta and debt outperformance adjustment calculations

The beta estimate used in Ofwat's notional cost of capital is based on market data for 2 listed water companies – United Utilities and Severn Trent. These 2 companies also have some of the lowest gearing levels of all water companies. Ofcom's debt outperformance adjustment is based on the average outperformance by all water companies. However, given that companies with a lower level of gearing will, all other things being equal, be able to raise debt at a lower cost than more highly geared companies, the outperformance adjustment for companies with a lower level of gearing may be higher than the average of all companies.

We suggest that the CMA considers the need for a consistent approach to estimating beta and the debt outperformance adjustment and in particular whether the data used by Ofwat to calculate the debt outperformance wedge supports this and justifies a higher debt outperformance adjustment.

Total market return

Ofwat may have been generous in their assessment of the Total Market Return, by using long-run average returns on equities as a proxy for the Total Market Return, rather than long-run average returns on a much wider and more diversified portfolio of assets, as specified by the Capital Asset Pricing Model.

Retail margin adjustment

Ofwat's adjustment to the allowed return to take account of the separate margin calculated for retail activities is based on an assumption that the only working capital of the water companies is debtors. This fails to recognise that a substantial proportion

of retail customers pay in advance for water services and that in aggregate the working capital position of all companies is positive. Correcting for this error, by changing the margin from 0.04% to 0.09% reduces the retail margin adjustment. We also propose a change to the allowed retail margin (below) which would further reduce the retail margin adjustment.

3.1 Equity Beta

We argue that, based on the evidence available, the equity beta for water companies is lower than the estimate Ofwat used in their determinations. Firstly we look at the method Ofwat used to determine beta. Then secondly we an alternative approach looking at evidence that indicates that water companies are much lower risks than Ofwat's estimate suggests. We also consider the relationship between gearing and beta.

Equity beta duration of observations for beta estimate

In deciding the level of beta to use in calculating the cost of capital, Ofwat considers variability of returns measured on a daily, weekly and monthly basis using data gathered over one, two or five years.⁴⁵

In its draft determination, Ofwat used an estimate of 0.29 based on a 2-year daily beta range of 0.28-0.29. Ofwat's use of 2-year daily betas was based on advice from its advisors, Europe Economics, who stated that:

- *"the estimates based on daily data are better than the estimates based on weekly or monthly data as daily estimates they rely on larger sample sizes — confidence intervals are significantly narrower compared to those of estimates based on weekly or monthly data"* and
- *"the estimates based on 2-year trailing windows (see Figure 7.2) are better than those based on shorter and longer trailing windows as, on the one hand, they ensure robustness in terms of number of observations and, on the other, they reflect recent movements in betas"*⁴⁶

Ofwat noted that:

*"Our point estimate of 0.29 recognises the slightly higher figure derived using GARCH, which we consider to be less prone to daily volatility and more stable over time. We note however that the lower 1 year daily figures could result in a decline in the 2 year betas at the time we assess the cost of capital for final determinations – we will therefore update the calculation for final determinations"*⁴⁷

In its final determination, Ofwat updated its beta calculations to calculate a 2-year beta range of 0.25-0.26. However, it chose not to amend its beta estimate of 0.29 on the basis that:

"Our decision reflects caution over placing too much weight on recent 2 year daily data (given a pronounced recent fall), and hence we place some weight on 5 year data. We consider our estimate to be subject to considerable uncertainty, and do not discount the possibility that 2 year daily unlevered betas could subsequently move lower than our current assessment, given the current 0.20-0.21 range of 1 year

⁴⁵ Ofwat, *PR19 final determinations: Allowed return on capital technical appendix*, section 5.4.

⁴⁶ Europe Economics, *PR19 Initial Assessment of the Cost of Capital*, December 2017, page 57.

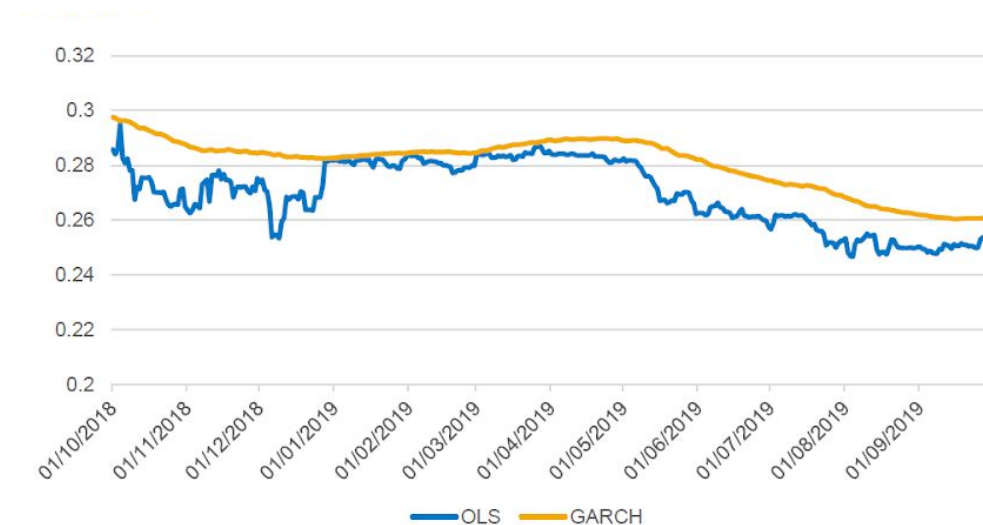
⁴⁷ Ofwat, *PR19 draft determinations: Cost of capital technical appendix*, page 56.

betas. We expect that the evolution of market data will provide firmer confirmation on the appropriateness of 2 year betas as a guide to the unlevered beta likely to prevail over 2020-25”⁴⁸

In addition, Ofwat argued that placing more emphasis on 5-year data was justified on the basis of its approach in PR14, stakeholder representations and other recent regulatory decisions.

Ofwat’s updated 2-year daily beta analysis is shown in Figure 9 below.

Figure 9: Comparison of OLS and GARCH 2 year daily unlevered beta, 2018-2019



Source: Ofwat⁴⁹

Ofwat’s caution over using 2-year beta data is not justified for a number of reasons

Firstly, the trend of beta data in Figure 9 suggests that daily betas were below 0.29 for almost the entirety of the sampled period, and only above it on 1 day in the whole year and below it for the last 5 months – there is no evidence of betas increasing.

Secondly, there is no reason for Ofwat to be cautious. This simply risks providing shareholders with an unnecessarily high return – the very issue which Ofwat should be trying to address.

Thirdly, the statistical and forecasting advantages of using 2-year, rather than 5-year data are clear – there is no reason to believe that a cautious approach is warranted

Fourthly, if anything the evidence suggests that betas could move below this value. As Ofcom itself notes:

“daily unlevered betas could subsequently move lower than our current assessment, given the current 0.20-0.21 range of 1 year betas.”⁵⁰

Ofwat’s arguments that it should place more emphasis on 5-year betas on the basis of consistency with its approach in PR14 and other recent regulatory decisions are

⁴⁸ Ofwat, PR19 final determinations: Allowed return on capital technical appendix, page 67.

⁴⁹ Ofwat, PR19 final determinations: Allowed return on capital technical appendix, Figure 5.9.

⁵⁰ Ofwat, PR19 final determinations: Allowed return on capital technical appendix, page 67.

misplaced. The principle of consistency in regulation is based on an assumption that it is in consumers' interests for the regulatory regime to be stable enough to allow regulated firms to raise finance at the lowest cost, thus supporting lower prices. The principle is satisfied if the broad approach to regulation is consistent (such as allowing firms to recover their costs and earn a fair return on capital). It does not require a commitment to the historical approaches to detailed assumptions in the cost of capital. Regulators should have the flexibility to respond to changing evidence, academic thinking, and market circumstances. Decisions of other regulators can be useful, providing ideas and benchmarks, but they are no more than that, and do not justify unnecessary caution.

For these reasons, an unlevered beta estimate of 0.255 (the mid-point of Ofwat's updated 2-year daily beta analysis) should be adopted.

Equity beta - aligning risk and return/allowed return on capital

In Citizens Advice's view, a key way in which Ofwat's final determination over-estimated the return on capital necessary to provide a reasonable level of return was that Ofwat's return on capital approach materially overstated the water companies' non-diversifiable risk (as proxied by beta).

Water company non-diversifiable risk (beta)

Beta is a measure of the non-diversifiable risk (also known as systematic risk) faced by investors in the water sector. Investors will accept lower returns for equities (or debt or other assets) with a lower beta, as such investments help to reduce the overall volatility of a well-diversified investment portfolio. Beta is therefore a material input for determining water companies' allowed return on capital.

Accordingly, Ofwat's estimated water companies' allowed equity beta using a regression-based analysis of daily returns data for listed water companies compared to the FTSE All Share Index over a 2-year period. Ofwat thereby estimated water companies' unlevered equity beta⁵¹, debt beta⁵², total asset beta⁵³, and notional equity beta⁵⁴. Ofwat's final determination comprised an unlevered equity beta of 0.29, debt beta of 0.125, and asset beta of 0.36, and notional equity beta of 0.71.

In Citizens Advice's view, Ofwat's beta determinations materially overstated water companies' non-diversifiable risk, as they imply that investors in water companies face a level of non-diversifiable risk far greater than the actual level borne by investors.

⁵¹ A measure of non-diversifiable risk faced by equity investors in water assuming zero debt.

⁵² A measure of non-diversifiable risk faced by debt investors in water.

⁵³ A measure of non-diversifiable risk faced by equity investors in water assuming zero debt, adjusted for the debt beta.

⁵⁴ A measure of non-diversifiable risk faced by investors in water, assuming gearing at Ofwat's notional level of 60%.

Any firm with a positive beta implies a pro-cyclical financial risk profile, i.e. that the firm's financial performance varies positively with the wider economy. In contrast, a firm with negative beta implies a counter-cyclical risk profile, i.e. that varies negatively with the economy. Hence, a firm with an unlevered equity beta of 0.29, asset beta of 0.36, and notional equity beta of 0.71 means that the firm's risk profile varies pro-cyclically with the wider economy to a substantial degree, for example, that a 1.00-percentage point increase in the UK economy would imply a 0.36-percentage point increase in water companies' profit before interest costs, or 0.71-percentage point increase in profit to shareholders, on average. In Citizens Advice's view, this is not plausible. On the contrary, England and Wales water companies' financial performance is not procyclical to any material degree, for a combination of reasons.

First, water is fundamentally a non-cyclical industry, with neither revenues nor costs likely to vary materially or at all with the wider economy⁵⁵. Second, the underlying feature of UK economic regulation is that non-diversifiable risk is almost entirely borne by customers, rather than by investors. In addition, the majority of diversifiable risk (also known as idiosyncratic risk) is also borne by customers rather than investors. Third, PR19 adds a series of new mechanisms that further shift risk from investors to customers.

For example, as regulatory economist Professor Dieter Helm has noted:

*"The overwhelming financial value in most utilities is in the accounting number—the [regulatory capital value]. This is guaranteed by the financing duty on the regulator, so that equity risk lies with customers, not shareholders."*⁵⁶

This contrasts with the standard *"your capital is at risk"* risk warning disclosed to retail equity investors. In practice, the chief risk borne by investors in the water companies is of ineffective management. This should be entirely within investors' control.

The National Audit Office reports that water companies – and water company lenders – themselves say that they are positive about the stability and certainty that the UK water regulatory regime provides⁵⁷.

Correspondingly, Ofwat's PR19 final determination describes in much detail how water company investors are afforded considerable risk protections:

- *"Water companies and their investors already benefit from significant risk protection [...] We have added additional uncertainty mechanisms at final determination, which further reduce risk exposure of water companies."*⁵⁸
- *"Companies and their investors in this sector have significant protection from risks compared to companies operating in a wholly competitive environment."*⁵⁹

⁵⁵ The only likely components of pro-cyclical water company performance are bad debt risk, and extreme weather risk, and political risk (to the extent that such political risk impacts both water companies and the wider economy in the same direction). Much or all of such risk is nevertheless diversifiable from the perspective of the typical global investors in UK water companies.

⁵⁶ Commentary: Special administration, financing functions and utility regulation, Dieter Helm, 2008.

⁵⁷ The economic regulation of the water sector, National Audit Office, 2015, para. 14.

⁵⁸ Aligning risk and return technical appendix, pages 5.

⁵⁹ Aligning risk and return technical appendix, pages 17.

- *“The revenue risk faced by water companies is low as a result of the reconciliation mechanisms and regulatory protections in place.”⁶⁰*

Such investor risk protections include⁶¹:

- Cost sharing incentives including all water company allowed expenditure (i.e. total expenditure, “totex”)
- Inflation indexation of companies’ regulatory capital value and allowed revenues
- Reconciliation and adjustment mechanisms that protect investors from changing wage rates, new cost of debt, business rates, abstraction charges, tax rates, and demand volume
- Allowances for special cost factor claims
- Outcome delivery incentives (ODIs), which create financial or non-financial incentives for companies to outperform and avoid underperformance
- Allowed adjustments between pay-as-you-go (PAYG) costs and regulatory capital value run-offs, to increase company financial flexibility
- Customer and developer experience measures, to create incentives for outperformance
- Gearing outperformance sharing mechanism, which intends to share the benefits of higher gearing with customers
- Price-limit reopeners (also known as Ofwat interim determinations)

The specific additional PR19 “uncertainty mechanisms” comprise⁶²:

- Caps and collars on potentially financially significant performance commitments “to mitigate extreme cashflow and bill volatility”
- Caps and collars to financially material and/or highly uncertain performance commitments
- The option for companies the option to ask Ofwat to defer excess “delivery incentive adjustments” to a subsequent year
- Reconciliation mechanisms for changes in business rates and abstraction licence charges
- Bespoke “notified items” for several companies, including at least 2 of the disputing water companies (Anglian Water and Bristol Water)

Ofwat and Ofgem have also previously highlighted that: *“[Water and energy] companies’ exposure to unanticipated cost shocks is limited to the extent that there are regulatory mechanisms that can be used to deal with them for example in the water sector the interim determination and substantial effect mechanisms”* noting of course that *“these mechanisms are not designed to subsidise inefficiency”⁶³*.

For comparison, we note the CMA’s recent NERL/CAA Regulatory Appeal Provisional findings report’s assessment of non-diversifiable risk of NERL’s business⁶⁴. In this, the

⁶⁰ Aligning risk and return technical appendix, pages 33.

⁶¹ See PR final determinations: Policy summary, Ofwat, 2019, page 27-28, 58; Aligning risk and return technical appendix, page 17, 45; and Putting the sector in balance, page 14-15.

⁶² For example, Aligning risk and return technical appendix, page 83.

⁶³ See for example, Financing Networks: A discussion paper, Ofgem and Ofwat, 2006, para. 71.

⁶⁴ NATS (En Route) Plc /CAA Regulatory Appeal: Provisional findings report, Competition & Markets Authority, 2020.

CMA highlights the considerable difference of risk faced by NERL's business (of volume risk related to air travel demand) and the risk faced by water utilities (of little if any volume risk)⁶⁵. In addition, the CMA report notes Economic Insight's⁶⁶ observation that such volume risk is itself a function of the way airports (or water companies) are regulated⁶⁷. The CMA also notes the general difficulties of measuring regulated company betas⁶⁸.

By comparison, the most likely non-diversifiable revenue risk for water companies is customer bad debt. For example, Ofwat notes that for the "water resources" and "network plus" price controls, minimal revenue is at risk, "because the revenue forecasting incentive mechanism allows companies to adjust for over/under recoveries", whereas for the retail price controls, the revenue risk associated with these is bad debt, albeit "which companies are strongly incentivised to manage"⁶⁹. According to Ofwat, the proportion of households with default (i.e. bad debt) is 0.067%⁷⁰. However, even in the event of a dramatic rise of default resulting from an economic downturn (such as the COVID-19 pandemic), say by 250%, would still have only a small impact on water company revenues (a reduction of just 0.2%⁷¹) and profits (a reduction of 1.1%⁷²) – and a corresponding small impact on return on capital (of 0.03%-points⁷³) and return on regulatory equity (of 0.12%-points⁷⁴). If such a downturn corresponded to an economy-wide reduction in corporate profits of 10% or greater, as suggested by various recent forecasts⁷⁵, this would imply a water company asset beta of at most 0.1⁷⁶ and corresponding equity beta of at most 0.3⁷⁷.

This of course means explaining why Ofwat's estimates of water company betas are much higher than implied by the underlying non-diversifiable risk faced by investors. In Citizens Advice's view, this is chiefly because Ofwat's estimated betas reflect the non-diversifiable risks faced by short-term investors rather than long-term investors.

Indeed, Ofwat should have determined the non-diversifiable risk faced by long-term investors, not short-term investors. For example, Ofwat's PR19 final determinations emphasise the importance of long-term financing to the water sector and that the

⁶⁵ Provisional findings report, para. 12.46.

⁶⁶ Also adviser to the 4 disputing water companies.

⁶⁷ Provisional findings report, para. 12.70.

⁶⁸ Provisional findings report, para. 12.57.

⁶⁹ PR19 final determinations: Aligning risk and return technical appendix, page 33-34.

⁷⁰ PR19 final determinations: Securing cost efficiency technical appendix, Table A2.3, page 173.

⁷¹ Namely, the default rate (0.067%) multiplied by 250%.

⁷² Namely, the reduction in revenues divided by the share of revenues attributable to capital, of 14.9%, i.e. ratio of projected allowed return on capital revenue to water company wholesale and retail revenues for 2020-25 (source: PR19 final determinations: Company-specific Allowed revenue appendices).

⁷³ A reduction from projected Ofwat rate of return of 2.96% (CPIH basis) to 2.93%, reflecting that return on capital represents.

⁷⁴ A reduction from projected return on regulatory equity of 4.19% (CPIH basis) to 4.07% (assuming 60% notional gearing).

⁷⁵ For example, The 90% economy that lockdowns will leave behind, The Economist, 30 April 2020.

⁷⁶ The ratio of reduction in water company profits to market-wide profits.

⁷⁷ Reflecting notional water company gearing of 60% (omitting the debt beta, which would otherwise reduce the notional equity beta).

water companies should not be reliant on short-term investment⁷⁸. Likewise, the recent cost of capital report for the UKRN also recommends a *“fairly long horizon, for example, 10 years”*, for estimating regulated companies’ allowable returns, on the basis of not wanting to create a *“disconnect between the horizons of the (notional) investor and the expected life of the assets employed”* (which are particularly long-lived in the water sector)⁷⁹ Moreover, the UKRN report stresses that “if [UK utility regulators] are concerned to assess the nature of systematic risk at long horizons, [they] should ensure that our estimation techniques are consistent with that horizon [whereas, in contrast...] what is now standard practice in beta estimation: the use of relatively short (2- 5 year) samples of, usually daily data [...] reflects the relatively short-term objectives of most users of estimated betas in the finance industry”⁸⁰.

In Citizens Advice’s view, the reason why the non-diversifiable risk faced by short-term investors in water companies is higher than for long-term investors is because the short-term variation in equity (and debt) prices are significantly correlated with overall market indices (as compared to longer-term correlation of share prices and, moreover, of underlying financial performance).

This arises because substantial trading in equity and bond markets is in market indices (for example, the FTSE All Share Index), or near-100% components of such indices, in order to meet supply and demand for collective investment products, such as open-ended investment funds, exchange-traded funds (ETFs), and pension funds. Such collective investment products dominate overall equity and bond market holdings. This means that, in the short-term, the prices (and returns) of index constituent equities and bonds tend to move strongly together, independent of the non-diversifiable risk of individual firms in a given index. Only when individual stocks or bonds enter or exit an index is there a greater divergence in prices and associated returns. This, therefore, results in a bias in beta estimates towards 1 for all firms in a given market index, based on short-term price changes (such as daily returns), relative to the long-term underlying non-diversifiable risk.

The divergence between short-term and longer-term non-diversifiable risk also arises because of the effect of “mean reversion” in asset prices and returns. This is where prices tend to fluctuate about a mean level, or grow at a mean rate, (to some extent) rather than follow a “random walk”. In contrast, under a random walk hypothesis (also known as the Efficient Markets Hypothesis), changes in asset prices (i.e. returns) in one period are independent of changes in previous periods. The effect of mean reversion is that it compounds the index-effect above, resulting in even greater short-term co-movement of asset prices and likely overestimate of betas for lower-risk companies.

⁸¹

⁷⁸ For example, see Aligning risk and return technical appendix, page 7-8, 37.

⁷⁹ Wright, Burns, Mason and Pickford, Estimating the cost of capital for implementation of price controls by UK Regulators, report for UKRN, 2018, pages 7, 28-29 (the 2nd of the 10 key report recommendations)

⁸⁰ UKRN report, page G-139.

⁸¹ The extent of such mean reversion can be measured by comparing the variance of returns over different return periods. According to the Efficient Markets Hypothesis, the variance of returns should grow linearly with return period. In contrast, according to the Mean Reversion Hypothesis, the variance of returns should remain constant with return period. In practice, the variance of asset price returns is somewhere in between, i.e. neither linear nor constant.

It is notable that beta estimation was the most contentious question in the UKRN report, with distinctly differing views among the report's authors. For example, 3 out of the 4 main authors argue for the importance of using longer-term data and at lower frequencies, as being more relevant to the long term horizons applied by the regulators, and accordingly, that *"regulators should take very seriously the implications of lower values of equity betas, and hence asset betas"*⁸². In contrast, the fourth main author⁸³ seeks to dismiss such a position as "of interest [...but that the author] remains unconvinced".

Accordingly, the report goes on to highlight and recommend that:

*"[...] the estimation of beta is the one component of the cost of equity where the regulator must use its judgement and discretion [...and] This places an obligation on regulators to examine the evidence as a whole, not simply relying a single approach that results in outlying estimates, in order to retain the benefits of a stable and transparent approach to setting the [regulatory allowed return]. This approach has successfully driven down the [UK regulated utility cost of capital] over the past 25 years as the perception of regulatory risk has diminished, and this stability has also contributed to a stable commercial environment within which operators have made significant dynamic efficiency improvements."*⁸⁴

The UKRN report highlights that, when regulators use equity betas close to 1 (for example, as Ofwat has done at PR19, with a notional equity beta of 0.71), that this *"effectively minimises the role of the risk-free rate as a determinant of the cost of equity [and in particular...]. In a period during which the RFR has shifted so dramatically, this has potentially major consequences, which suggests that the estimation of beta should be critically reviewed"*⁸⁵, which is of relevance to all regulators.

The report then specifically asks why: *"If regulators wish to estimate the [cost of capital] appropriate to a relatively long horizon (say, 10 years), is it appropriate to estimate beta over such a short sample (often distinctly shorter than the horizon itself) and using high frequency (daily or weekly) data?"*⁸⁶ The report notes that the "benchmark case" in which the length or frequency of the sample used in estimation should not matter (and when high frequency estimation may be preferred) is when the returns on both the market and the individual stock are serially uncorrelated and have volatilities and correlation that are constant over time (known as non-heteroscedastic). However, if there is evidence that these conditions are not satisfied, then the length of the sample and the frequency with which returns are measured is likely to matter.

In addition, 2 of the reports' authors, Stephen Wright and Donald Robertson, specifically argue for estimation of beta based on "longer-term data and at lower frequencies", on grounds that this is "more relevant to the long horizons used by regulators", and that this "results in distinctly lower equity beta estimates", namely, of raw beta estimates in the range 0.3-0.5 (and towards 0.3 at lower estimation

⁸² UKRN report, page 9.

⁸³ Philip Burns of Frontier Economics, who might appear to have a strong interest in rejecting any approach that leads to lower beta estimates, given Frontier Economics' role advising many of the regulated water companies and other regulated utility companies.

⁸⁴ UKRN report, page 9.

⁸⁵ UKRN report, page 49.

⁸⁶ UKRN report, page 51.

frequencies), on the basis of United Utilities and Severn Trent Water, the same 2 listed water companies on which Ofwat relies for its beta estimates⁸⁷. This compares to Ofwat's considerably higher raw beta estimates of 0.58-0.66⁸⁸, and "updated final view" of 0.63⁸⁹. On the basis of such lower longer-run raw betas of 0.3-0.5, asset betas would fall from 0.36 to 0.21-0.30, notional equity betas from 0.71 to 0.33-0.55, and the overall allowed rate of return would fall between 0.5%-1.2%-points on all inflation measures, namely from 5.0% (nominal), 2.9% (CPIH), 1.9% (RPI) to 3.8%-4.5% (nominal), 1.7%-2.4% (CPIH), and 0.7%-1.4% (RPI).

SVT	β_{LR}	$\beta_{av} = \frac{Cov}{Var}$	$\beta_{SR} = \left(\frac{Cov}{Var} \right)$	β_{OLS}	$\overline{\beta_{roll}}$	$\beta_{roll,final}$
Daily	.44	.48	.53	0.53	0.56	0.67
Weekly	.36	.43	.51	0.46	0.50	0.74
Monthly	.40	.40	.54	0.36	0.41	1.0
Quarterly	.30	.30	.43	0.29	0.23	0.20

UU	β_{LR}	$\beta_{av} = \frac{Cov}{Var}$	$\beta_{SR} = \left(\frac{Cov}{Var} \right)$	β_{OLS}	$\overline{\beta_{roll}}$	$\beta_{roll,final}$
Daily	.43	.53	.54	.57	.57	0.66
Weekly	.37	.46	.53	0.50	0.52	0.75
Monthly	.37	.34	.49	0.36	0.41	0.90
Quarterly	.32	.30	.35	0.30	0.25	-0.00

Last, the UKRN report highlights that past research by Ofgem has made the case that on the basis of *a priori* reasoning – from first principles – that the risk profile of cashflows for regulated businesses is almost entirely idiosyncratic (i.e. diversifiable risk), namely, that such companies face almost no non-diversifiable risk, and therefore should be expected to have betas close to zero.

Accordingly, Citizens Advice agrees with the findings that:

- Regulators should take very seriously the implications of lower values of equity betas and asset betas, but does not believe that Ofwat has done so
- Estimation of beta is the one component of the cost of equity where regulators must use their judgement and discretion, including an obligation to examine the evidence as a whole, and does not consider that Ofwat has done this
- When regulators use an equity beta close to 1 that this has potentially major consequences, implying that the estimation of beta must be critically reviewed
- If regulators wish to estimate the allowable rate of return appropriate to a relatively long horizon, then it is not likely to be appropriate to estimate beta over a short sample period and using high frequency data
- Returns on the market and individual stocks are serially correlated and/or heteroscedastic over time, and therefore that the length of the investment horizon will affect the nature of systematic risk over that horizon
- From first principles, the longer-term non-diversifiable risk in a regulated water company is likely to be close to zero, and therefore the corresponding equity (and debt) betas should also be close to zero

⁸⁷ UKRN report, page 9 and Appendix G (Beta Estimation for CAPM-WACC at Long Horizons).

⁸⁸ PR19 final determinations: Allowed return on capital appendix, page 64.

⁸⁹ PR19 final determinations: Allowed return on capital appendix, page 69.

Accordingly, Citizens Advice considers that **Ofwat should have applied a raw equity beta of at most 0.30** – not 0.63 using the contested re-gearing approach, which we also identify flaws with below – and corresponding asset beta of 0.21 and notional equity beta of 0.33.

Gearing and Beta

In calculating beta for the cost of capital calculation, Ofwat calculates an equity beta for the notionally efficient company's cost of capital using beta data for quoted equity stock of companies, 'de-gears' it to remove the effect of borrowing on the equity risk (using 'observed' gearing of 54.2%) to calculate beta for the company as a whole (ignoring the financing structure) and then calculates a 're-gearred' equity beta (using the assumed notional gearing level of 60%).⁹⁰

In its report for the UKRN, Wright et al consider the approach of 'de-gearing' and 're-gearing'. Three of the authors (Mason, Pickford and Wright) disagree with re-gearing using the notional level of gearing, preferring the actual level of gearing. Using the illustrative example of Severn Trent And United Utilities (the 2 companies used by Ofwat to calculate beta in the allowed rate of return in PR19), the report notes that the observed actual equity beta for both companies is 0.67 (using 10-year daily data), but that de-gearing and re-gearing (using a notional gearing of 65% (Ofgem's previous gearing assumption) rather than the actual (lower) gearing level led to 're-gearred' equity betas of 0.84 and 0.83 – significantly higher than the actual equity beta.⁹¹

The report notes that:

"MPW [the three authors] would argue that in the case of these two companies this calculation is indeed purely notional. The equity beta for these companies can be, and has been, directly estimated in the data, and it is this value, not the notional value quoted above, that determines their marginal cost of equity capital in the CAPM framework. If, for example, United Utilities needs to raise equity capital to finance an increase in its Regulated Capital Value, it is the equity beta of its quoted shares that will determine the expected return on this new equity, and hence the cost of new equity capital. Thus MPW argue that "re-gearing" does not constitute a valid argument for assuming values of equity beta outside the range of econometric estimates."

*"Furthermore, MPW argue that **since it seems clear that re-gearing assumed asset betas using notional leverage values is inappropriate for listed companies, it is hard to argue that it is an appropriate technique for unlisted companies [emphasis added]**. Since unlisted companies make up the great majority of UK regulated companies this is a potentially important issue."⁹²*

One author (Burns) disagrees with the other 3 authors on the basis that, *inter alia*, the use of actual observed equity betas which are conditional on company-specific levels of gearing for those companies which are listed. This creates potentially significant endogeneity problems and increases scope for regulatory gaming (i.e. in determining the appropriate comparator companies). However, Burns does agree that *"in situations*

⁹⁰ Ofwat, PR19 final determinations: Allowed return on capital appendix, Table 5.10.

⁹¹ Wright, Burns, Mason and Pickford, Estimating the cost of capital for implementation of price controls by UK Regulators, report for UKRN, 2018, page 56.

⁹² Wright, Burns, Mason and Pickford, Estimating the cost of capital for implementation of price controls by UK Regulators, report for UKRN, 2018, pages 56-57.

where there is a material difference between actual and notional gearing, regulators should carefully consider the specific method for re-levering”

In provisional findings for the NEL PR3 redetermination, the CMA notes that the effect of re-gearing, for the cost of capital parameters it considered, was that the cost of capital increased with gearing – which goes against the CPAM theory (which, in simple terms is that the cost of capital does not vary with gearing). Accordingly, the CMA decided to reduce the notional gearing of 60% to the level of the sample companies (30%) in its cost of capital calculations.⁹³

In its submission to the CMA, Ofwat considers this issue and suggests that:
*“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.”*⁹⁴

The arguments for using the actual observed betas and gearing levels rather than using notional estimates are compelling - though even here, we note that this could over-estimate beta, as listed betas for companies with non-regulated parts to their business will be higher than for a pure regulated business.

Using the actual level of observed betas (0.63) and gearing (56.4%) rather than Ofwat’s assumptions for the notional company (0.71 and 60%) would mean a drop in the overall allowed cost of capital of around 0.2% representing over £800m during the price control.⁹⁵

3.2 Cost of new debt outperformance wedge

In calculating the cost of companies’ debt to include in the allowed return, Ofwat uses a benchmark index of A and BBB-rated bonds. It then adjusts this benchmark by an outperformance ‘wedge’ to reflect the fact that historically yields on investment grade bonds issued by water companies have been lower than the market average.

Ofwat’s analysis of historical outperformance of the index by water company bonds issued between 2000 and 2018 is shown in Table 1 below.

⁹³ Competition & Markets Authority, *NATS (En Route) Plc /CAA Regulatory Appeal, Provisional findings report*, 24 March 2020, pages 157-158.

⁹⁴ Ofwat, *Reference of the PR19 final determinations: Risk and return - response to common issues in companies’ statements of case*. Paragraph 3.82.

⁹⁵ Ofwat, *PR19 final determinations: Allowed return on capital technical appendix*, Table 5.1.

Table 1: Water company bond outperformance relative to index

	Number of instruments	Average outperformance (basis points)
2000	2	6
2001	3	34
2002	4	46
2003	6	32
2004	4	35
2005	5	44
2006	4	29
2007	3	60
2008	-	n/a
2009	8	61
2010	1	-51
2011	1	8
2012	5	27
2013	4	13
2014	1	48
2015	-	n/a
2016	8	44
2017	5	39
2018	1	50
Whole period average:		31
Post 2015 average:		44

Source: Ofwat⁹⁶

Table 1 shows that the average outperformance of water bonds over the period 2000 to 2018 was 31bps, and over the period 2016 to 2018 was 44bps.

In its calculation of the cost of water companies' new debt, Ofwat assumes outperformance of 25bps. Ofwat recognised that this adjustment is conservative:

*"Overall, we consider that this analysis represents compelling evidence in support of a larger 'outperformance wedge' than the 15 basis point estimate used for our 'early view'. We have accordingly revised our estimate upwards to 25 basis points. **The analysis we have carried out supports a larger figure** [emphasis added], however we have picked our estimate to reflect the fact that not all years were marked by outperformance, and there is a degree of uncertainty over the ability of the sector to sustain current levels of outperformance in future."*⁹⁷

There is inevitably a degree of uncertainty over future bond yields, but Ofwat's caution is unnecessary:

- There is only 1 year in the period reviewed in which issued water company bonds do not outperform the index - and that was for only 1 bond
- Rather than the level of outperformance falling (as Ofwat's assumption implies) the evidence indicates it is increasing (based on data for 2014 – 2018)

⁹⁶ Ofwat, *Draft determinations: Cost of capital technical appendix*, July 2019. Paragraph 4.2.3.

⁹⁷ *Ibid*, Paragraph 4.2.3.

- Absent of any evidence that future bonds may have a lower level of outperformance, it makes sense to assume the long run of historical outperformance will continue, at least for those companies with efficient financing structures⁹⁸

To set efficient levels of cost for new debt it would be reasonable to assume that historical outperformance of the index will continue. Furthermore, it would be reasonable to assume that the outperformance levels for efficient companies would continue at the more recent higher levels – justifying an adjustment of 44bps.

3.3 An adjustment to the cost of embedded debt outperformance

Ofwat applies a similar outperformance adjustment to the cost of existing or ‘embedded’ debt as it has to new debt.⁹⁹

Ofwat appears to have incorrectly assumed that it is necessary to adjust historical levels of outperformance downwards to reflect future uncertainty (which can only apply to future debt). An adjustment of 31bps is reasonable given the evidence.

Ofwat does not explain why they use the same outperformance adjustment (25bps) for embedded debt as they use for new debt given their concern about future costs does not apply to historical debt costs - they are known with certainty. The argument to use actual levels of outperformance set out in paragraph 2.2.5 applies even more so to the cost of embedded debt.

A reasonable adjustment to the cost of embedded debt would be the average level of outperformance over the 19-year sample period - 31bps.

3.4 Inconsistency of beta and debt outperformance adjustment calculations

Ofwat’s current approaches to calculating the cost of debt outperformance adjustment and estimating beta are inconsistent in a way that may overstate the cost of debt in the calculation of allowed return of the notional firm.

The beta estimate used in Ofwat’s notional cost of capital is based on market data for 2 listed water companies – United Utilities and Severn Trent. These 2 companies also have some of the lowest gearing levels of all water companies. Ofcom’s debt outperformance adjustment is based on the average outperformance by all water companies. However, given that companies with lower levels of gearing will, all other things being equal, be able to raise debt at a lower cost than more highly geared companies, the outperformance adjustment for companies with a lower level of gearing may be higher than the average of all companies.

We suggest that the CMA considers the need for a consistent approach to estimating beta and the debt outperformance adjustment and in particular whether the data used

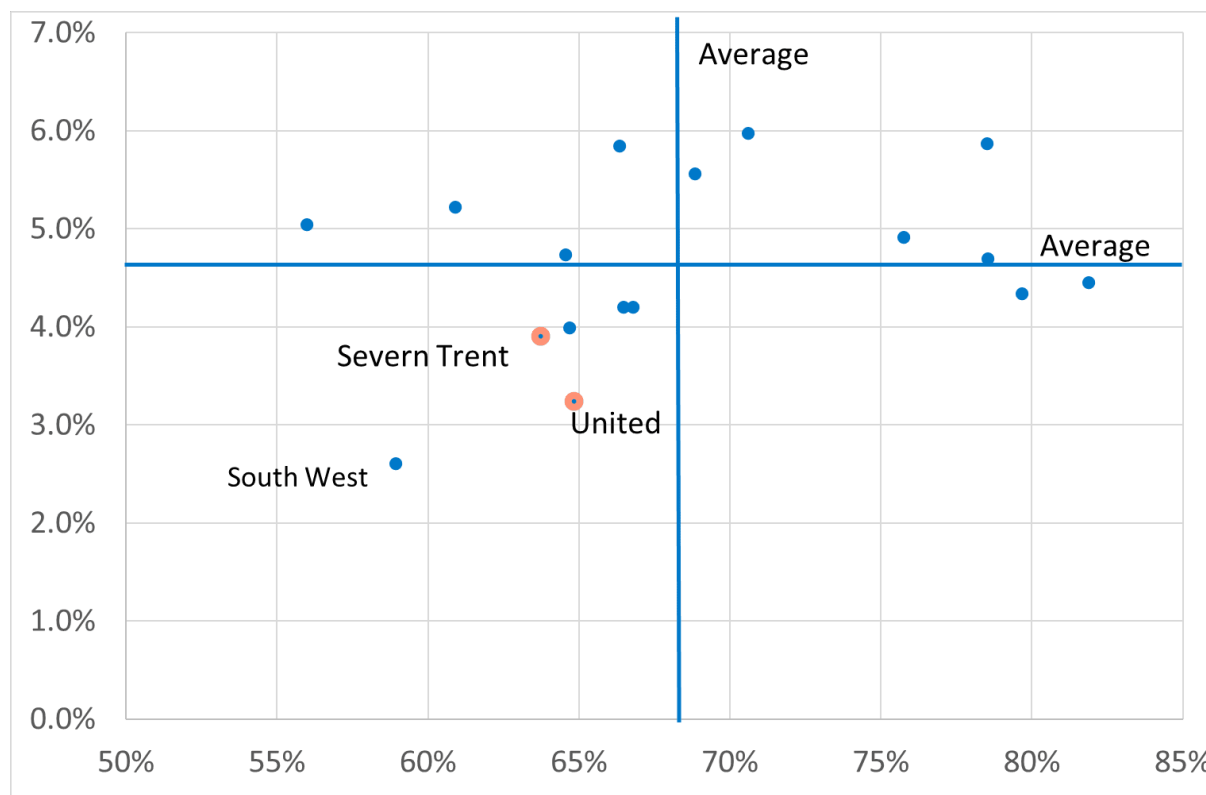
⁹⁸ Water companies that choose to set a higher level of gearing are likely to face higher debt costs than others.

⁹⁹ Ofwat, Draft determinations: Cost of capital technical appendix, July 2019. Page 67.

by Ofwat to calculate the debt outperformance wedge supports this and justifies a higher debt outperformance adjustment.

A company's actual cost of debt will depend on a wide range of factors including gearing, and perhaps most importantly the timing of its debt. However, as Figure 8 below shows, the actual borrowing costs of the 2 companies used to estimate beta in the notional firm were the second and third lowest of all companies, and significantly below the average.

Figure 8: Costs of debt (actual 2019 in nominal terms) and 2019 gearing



Source: Ofwat data¹⁰⁰

Figure 8 also demonstrates that not all differences in borrowing are explained by differences in gearing (for example differences in the dates of when debt was raised).

Ofwat does not publish disaggregated company-level data for its debt outperformance adjustment, and so it is not possible to recalculate the debt outperformance adjustment consistent with the beta estimate using data for only United Utilities and Severn Trent (and taking into account timing differences). We suggest that the CMA considers the need for a consistent approach to estimating beta and the debt outperformance adjustment and, in particular, whether the data used by Ofwat to calculate the debt outperformance wedge supports this.

3.5 Total Market Return

¹⁰⁰ Ofwat spreadsheet, *FMR-Report-2018-19-charts- and-underlying-data* supporting its *Monitoring financial resilience* report January 2020

In Citizens Advice's view Ofwat's approach has also likely overstated the Total Market Return (TMR) used for determining allowed water company returns. Total Market Return (TMR) is the total yield required by investors to invest in a well-diversified benchmark index.

Ofwat defines TMR as its estimate of the return investors expect in 2020-25 from being invested in a diversified basket of UK equities, based on a combination of ex-post, ex-ante, and forward-looking approaches from a range of sources. Ofwat's final determination comprises a TMR of 8.63% on a nominal basis and 6.50% on a real (CPIH) basis and 5.47% real (RPI) basis.

These estimates compare to the CMA's Provisional findings report in NERL/CAA, where the CMA provisionally finds a TMR in the range 5% to 6% on a real (RPI) basis. The CMA found a real (RPI) TMR of 5.1% to 5.9% based on an ex-post approach and real (RPI) TMR of 4.1% to 6.5% on an ex-post approach. The CMA rejected forward-looking approaches to estimating the TMR.

We note that both Ofwat's and the CMA's estimated TMR are based on the underlying sources and approach recommended in the UKRN cost of capital report that *"regulators should base their estimate of the TMR on long-run historic averages, taking into account both UK and international evidence"*¹⁰¹, which itself is based on *"a methodology in which [the TMR] that is, the expected real return on investments in the equities of a firm with a [beta] of precisely one, should be assumed constant, and set in the light of realised historic real returns in a range of stock markets, over long samples [and that] this methodology is about deriving an estimate of the [TMR, while...] it does not claim to be a precise description of the actual [TMR] (which is of course not directly observable)."*¹⁰²

However, in Citizens Advice's view, the TMR should not just be based on the average returns on UK equities, but on the average returns on a wider and more diversified asset portfolio, including bonds, property, infrastructure, private equity, and other such assets that are readily available to the typical investors in UK water companies. Such a portfolio is necessarily more diversified than equities alone, therefore a much better fit for the CAPM's requirement that the "market portfolio" should represent the most diversified (and readily available) portfolio of investments. Such a portfolio is also likely to exhibit lower average returns than equities alone, owing to the inherently geared nature of equities on average.

Correspondingly, estimation of water company betas with respect to UK equities alone is likely to result in overestimation of the relevant non-diversifiable risk. This is because the risk associated equities – assumed by the UKRN report as having a beta of 1 – itself represents a diversifiable risk, especially from the perspective of highly sophisticated global investors. Hence, water company betas estimated with respect to UK equities should represent at most an upper bound estimate.

As evidence of the long-run average returns on such a wider portfolio of assets, Citizens Advice recommends in particular the research of Professor Thomas Piketty,

¹⁰¹ Wright, Burns, Mason and Pickford, Estimating the cost of capital for implementation of price controls by UK Regulators, report for UKRN, 2018, page 48.

¹⁰² UKRN cost of capital report, page 36.

who finds that the real “pure return on capital” – a measure based on long-run directly observable historic averages of return on capital¹⁰³ – is currently in the range 3-4%, namely: *“From the eighteenth century to the twenty-first, the pure return on capital [in Britain, France, the two countries with the most complete historical data] has oscillated around a central value of 4-5 percent a year, or more precisely an interval of 3-6 percent a year. [...] It is possible, however, that the pure return on capital has decreased slightly over the long run: [...] in the early twenty-first century it seems to be approaching 3-4 percent. [...] In any case, this virtual stability of the pure return on capital over the very long run (or more likely this slight decrease of about one-quarter to one-fifth, from 4-5 percent in the eighteenth and nineteenth centuries to 3-4 percent today) is a fact of major importance to this study.”*¹⁰⁴

Professor Piketty’s measure is based on the method of comparing directly observed and recorded national income from capital, with recorded national wealth, to derive the average rate of return on all capital (such as including land and real estate, infrastructure, private equity, and other non-listed assets, rather than just the estimated return on public equity alone)¹⁰⁵. As above, the CAPM specifies that the relevant “market investment portfolio” should ideally include all available assets (rather than just equities), as such a portfolio will inevitably be more diversified than a portfolio of equities alone. We note in particular that such widely diversified assets portfolios are readily available to the typical investors in UK water companies, who generally include international banks, asset managers, pension funds, and other global corporations¹⁰⁶.

Adjusting this to the same basis as Ofwat’s and the CMA’s estimated TMR suggests that Ofwat’s TMR of 6.50% (real-CPIH basis) and 5.47% (real RPI basis) is too high, and should be closer to 4%. This would result in a reduction of the allowed water company cost of capital of 0.4%-0.7%. **We recommend that the CMA should take this evidence of overall lower TMR into account when estimating TMR for the redeterminations.**

3.6 Retail margin adjustment to cost of capital

In its calculation of the allowed rate of return, Ofwat makes an adjustment to the cost of capital applied to the assets of the wholesale operations to take account of the separate profit margin applied to the companies’ retail operations – the ‘retail margin adjustment’. Ofwat’s adjustment reduces the allowed return on capital to calculate a wholesale allowed return on capital which reflects the lower level of systematic risk in the wholesale business compared to the retail business.¹⁰⁷

Ofwat’s calculation of a retail margin adjustment of 0.04% is shown in Table 2 below.

¹⁰³ Defined as the long-run average real return to capital, comprising the sum of non-financial assets (such as land, property, and other directly owned assets) plus financial assets (such as equities, bonds, savings, pension funds, and other financial investments), less financial liabilities, net of investment management costs.

¹⁰⁴ See Capital in the 21st century, Thomas Piketty, 2013 (section: The Return on Capital in Historical Perspective).

¹⁰⁵ See <http://piketty.pse.ens.fr/capital21c>.

¹⁰⁶ For example, see list of UK water company owners/parents at en.wikipedia.org/wiki/United_Kingdom_water_companies.

¹⁰⁷ Ofwat, PR19 final determinations: Allowed return on capital technical appendix, paragraph 4.3.3.

Table 2: Retail Margin Adjustment

		Ofwat calculation
Fixed Assets	A	£38m
Cost of financing fixed assets	B	5.02%
Required revenue for return in retail fixed assets	C = (A x B)	£19m
Average annual debtor days	D	£4m
Average annual turnover	E	£11,989m
Days in year	F	£365m
Average annual working capital requirement	G = (D / F) x E	£1,314m
Working capital financing rate	H	3.06%
Required revenue for return on working capital	I = G X H	£40m
Total retail specific capital costs	J = C + I	£60m
Retail margin allowed revenue apportioned to households	K	£93m
Required return for additional systematic risk	L + K - J	33
Average RCV	M	84,125
Retail margin adjustment	N = L / M	0.04%

Source: Ofwat¹⁰⁸

Ofwat's calculation of the retail margin adjustment assumes that the retail business has a working capital requirement of 40 days of turnover which is "from April revised business plans". Ofwat's use of a simple debtor days retail working capital requirement fails to take account of the fact that a significant proportion of retail customers pay in advance for water services and these advance payments represent a negative working capital (or creditor) balance which needs to be included in the calculation. The level of advance payments, together with a calculation of average payment days is shown in Table 3 below.

Table 3: Debtors and Advance Payments 2021

	Total revenue (£m)	Debtors (£m)	Debtor days	Advance receipts (£m)	Advance receipts days	Net debtors/ advance receipts days
Affinity Water	233	29	45	41	64	-19

¹⁰⁸ Ibid, page 15, Table 4.1: Revised retail margin adjustment calculation for 2020-25.

Anglian Water	1000	128	47	265	97	-50
Bristol Water	90	11	45	13	53	-8
Dŵr Cymru	609	45	27	49	29	-2
HD	18	2	42	2	41	1
Northumbrian Water	537	66	45	13	9	36
P'mouth Water	30	2	20	6	73	-53
Portsmouth Water	30	2	20	6	73	-53
SES Water	52	10	72	9	63	9
Severn Trent	1278	150	43	147	42	1
South East	185	22	42	20	39	3
South Staffs Water	101	12	43	19	69	-26
South West Water	396	56	51	5	5	46
Southern Water	608	129	78	84	50	28
Thames Water	1,678	182	40	63	14	26
United Utilities	1,265	106	31	122	35	-4
Wessex Water	387	46	43	37	35	8
Yorks. Water	850	10	4	4	2	2
Average			41		44	-3

Source: Ofwat¹⁰⁹, Citizens Advice analysis

Table 3 shows that for all companies sampled the net of debtor days and advance receipts is less than 40, and on an unweighted average is less than 0 – i.e. on average

¹⁰⁹ Ofwat final determination financial models, data taken from 'Retail_Residential' worksheet.
<https://www.ofwat.gov.uk/final-determinations-models/>

companies have a negative working capital requirement – they have received more cash in advance than unpaid invoices.

Applying the average of -3 days of working capital requirements into Ofwat's calculation doubles the required retail margin adjustment from 0.04% to 0.09%, as shown in Table 4 below.

Table 4: Revised Retail Margin Adjustment

Value	Formula	Ofwat calculation	Revised Calculation
Fixed Assets	A	£386m	£386m
Cost of financing fixed assets	B	5.02%	5.02%
Required revenue for return in retail fixed assets	C (A x B)	£19m	£19m
Average annual debtor days	D	£40m	£-3m
Average annual turnover	E	£11,989m	11,989m
Days in year	F	£365m	£365m
Average annual working capital requirement	G = (D / F) x E	£1,314m	£-99m
Working capital financing rate	H	3.06%	3.06%
Required revenue for return on working capital	I = G X H	£40m	£-3m
Total retail specific capital costs	J = C + I	£60m	£16m
Retail margin allowed revenue apportioned to households	K	£93m	£93m
Required return for additional systematic risk	L + K - J	£33m	£77m
Average RCV	M	£84,125m	£84,125m

Retail margin adjustment	$N = L / M$	0.04%	0.09%
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Source: Ofwat¹¹⁰, Citizens Advice calculation

While the adjustment to the allowed rate of return is small in percentage terms it equates to £75 million per annum in allowed revenue, a sufficiently large saving to customers to warrant an adjustment.

In section 6.1 below we argue that the allowed retail margin could be set higher. Ofwat's retail margin of 1% is arguably too low and results in an unnecessarily low retail margin adjustment and high return on capital employed. **We suggest that the CMA considers whether a higher retail margin is appropriate with a corresponding reduction in the allowed Return on Capital Employed (ROCE).**

Impact of Higher Gearing

Gearing outperformance sharing mechanism

In this section we discuss Ofwat's gearing outperformance sharing mechanism, reviewing its objectives and validity, and we suggest an alternative approach to stopping water companies becoming overly indebted.

Ofwat's final determination includes a mechanism for companies to share the claimed benefits of high levels of gearing with customers¹¹¹, on the basis that "*equity investors benefit from higher equity returns that are associated with their increased risk, but there is no substantive benefit passed to customers*"¹¹².

However, in Citizens Advice's view, Ofwat's mechanism should chiefly be viewed as a penalty to companies for having high levels of gearing (on top of other existing regulatory and market incentives for excessive gearing), which could operate contrary to Ofwat's statutory duties. Citizens Advice nevertheless agrees with Ofwat's identified risks to consumers of excessive gearing and suggests alternative ways to address this.

First, in setting the final determinations, Ofwat highlighted that companies must be able to finance their investment programmes and replace existing debt as it matures, and therefore, that Ofwat's financeability assessment considers whether the allowed revenues, relative to efficient costs, are sufficient for an efficient company to finance its investment on reasonable terms. Protecting the interests of existing and future customers.¹¹³ Ofwat carried out its financeability assessment on the basis of the

¹¹⁰ Ofwat, *PR19 final determinations, Allowed return on capital employed, December 2019*, Table 4.1, *Revised retail margin adjustment calculation for 2020-25*.

¹¹¹ See Aligning risk and return technical appendix, pages 7, 11, 125.

¹¹² *ibid*, page 127.

¹¹³ *ibid*, page 3.

notional capital structure, of 60% of the regulatory capital value (RCV) financed by debt and 40% by equity¹¹⁴.

In developing its approach, Ofwat expressed its concern about the risks of excessive gearing:

*"Companies and their investors retain all the benefits of high gearing arrangements, with little evidence of benefits to customers [and that] this could distort their incentives when choosing financing structures to select arrangements with excessive gearing, without fully considering potential impacts on customers and wider stakeholders."*¹¹⁵

*"A number of companies have withdrawn significant amounts of equity from the sector through the adoption of highly geared structures [and...] So highly geared structures have been used to reduce equity investment in the sector, rather than increase investment for the benefit of customers."*¹¹⁶

In addition, Ofwat explains that: *"Equity investors can generate higher returns for a given level of performance by replacing equity with debt (resulting in increased gearing)"*¹¹⁷.

However, Ofwat did not explain the nature of such *"benefits of high gearing arrangements"*. In general, the benefits of high gearing are lower corporation tax costs. These tax benefits are nevertheless already shared with customers in lower prices¹¹⁸. In general, the tax benefits of increasingly higher gearing are progressively offset by potential costs of bankruptcy, thereby leading to an "optimal" level of gearing that is neither too high nor too low, minimising the overall cost of capital¹¹⁹. In addition, with higher gearing, both the cost of equity and debt increase, reflecting the increasing riskiness of returns on both.

Ofwat is right therefore that equity investors can generate equity higher returns by replacing equity with debt. However, such higher returns come with greater risk and an associated higher cost of equity, as predicted by Ofwat's own risk and return approach¹²⁰. For example, Ofwat notes that *"adopting a higher level of notional gearing does not materially lower the cost of capital under [Ofwat's] approach to setting the cost of equity"*¹²¹. Hence, Ofwat's alleged benefit to investors of higher gearing may not actually exist, and therefore would represent an undue penalty on companies.

In addition, Ofwat's gearing outperformance sharing mechanism is somewhat at odds with Ofwat's repeatedly stated position that companies are responsible for their own choice of financing and capital structure and should bear the consequences of such choices¹²². In contrast, Ofwat's proposed mechanism implies that companies are not free to decide their own choice of financing and capital structure, and that they must adhere to Ofwat's determination of appropriate gearing levels.

¹¹⁴ *ibid*, page 4.

¹¹⁵ Putting the sector in balance: position statement on PR19 business plans, Ofwat, 2018.

¹¹⁶ Putting the sector in balance, page 49-50.

¹¹⁷ Putting the sector in balance, page 15.

¹¹⁸ See Putting the sector in balance, page 43.

¹¹⁹ See for example, Financing Networks: A discussion paper, Ofgem and Ofwat, 2006, para. 16.

¹²⁰ Namely, the Capital Asset Pricing Model (CAPM).

¹²¹ Putting the sector in balance, page 49.

¹²² For example, Policy summary, page 61; Aligning risk and return technical appendix, page 9.

We note that companies already have a requirement to maintain or to use reasonable endeavours to maintain an investment grade credit rating under the conditions of their licences, which should depend on avoiding excessive gearing¹²³.

Second, we suggest that the chief driver of highly geared structures and withdrawal of equity from the water sector has been the excessively high levels of returns that Ofwat has allowed water companies to earn. Such gearing and withdrawal of equity was, therefore, a mechanism for investors to capitalise – and crystallise – high allowed returns as an up-front capital dividend to investors (as Ofwat has recorded). Moreover, as Ofwat noted¹²⁴, large equity withdrawal from the sector has now substantially ceased. Hence, the benefits of highly geared structures have now been taken by previous cohorts of investors.

Third, we agree that excessive gearing could be harmful to customers (and/or taxpayers), and therefore that Ofwat may wish to discourage excessively high gearing levels.

Ofwat repeatedly stated its concern that *“some companies are not taking adequate steps to protect and maintain their financial resilience [and therefore] that certain companies may need to accelerate their plans or take additional action to improve financial resilience”*¹²⁵. In particular, Ofwat expressed concern that companies may not be in a position to meet their debt interest costs, that firms with high-cost debt may have low levels of headroom in financial ratios to withstand cost shocks, and that where companies adopt high levels of gearing, they may reduce financial resilience and transfer some risk to consumers in the event that a company fails.¹²⁶

We note close parallels between regulatory concerns about high gearing in water companies and corresponding concerns about high gearing of banks, especially following the 2007-08 global financial crisis. Namely that where either banks or water companies adopt high gearing levels, this may reduce their financial resilience and transfer risk to consumers in the event of failure. Indeed, it is notable that 1 of the chief post-financial crisis reforms of banking regulation has been the requirement for ring-fencing of UK domestic retail banking businesses. This concept of bank ring-fencing, along with bank resolution and special administration, was itself adopted from the water and energy sector.

The National Audit Office (NAO) report on water regulation makes a similar analogy between water companies and banks, noting that the essential nature of water services means that any disruption to supplies resulting from a company's financial or operational failure would be more serious for consumers than in most other industries, and that failure could also impose costs on taxpayers, as has happened in the case of failure in other essential services, notably banking and rail¹²⁷. The NAO report notes that the special administration regime for water was therefore designed to provide continuity of service if a company cannot pay its debts, and Ofwat requires

¹²³ See Aligning risk and return technical appendix, page 79.

¹²⁴ Putting the sector in balance, page 49.

¹²⁵ For example, Aligning risk and return technical appendix, page 10.

¹²⁶ Aligning risk and return technical appendix, page 103, 125.

¹²⁷ The economic regulation of the water sector, National Audit Office, 2015, para. 4.5.

companies to undertake “stress tests” of their financial position, in the same way as the Bank of England requires stress tests for banks¹²⁸.

Furthermore, the underlying regulatory concern with both water companies and banks is that the essential nature of their activities – and prospect of significant costs to society resulting from their potential failure – means that debt-holders might assume that they are protected in the event of failure. Accordingly, such debt-holders have limited incentives to prevent such failure. Correspondingly, equity-holders (and company management) have incentives to act in a way that might increase the probability of such failure (such as taking on high levels of debt and other risk-taking), known as “moral hazard” risk. For example, as highlighted in the 2006 Ofgem and Ofwat report:

“[...] the providers of [water or energy company] debt finance might think that a regulator’s duty to ensure that a regulated business can finance its activities will protect bond holders from the costs of financial distress. To the extent that there is remaining ambiguity over these matters it is helpful to clarify:

- *that interpreting a regulator’s duties as enabling licence holders to finance their activities in a way that encouraged operational or financial inefficiency would not be consistent with duties to protect consumers [...];*
- *if a company ends up in financial distress either because of a relatively poor operating performance or because of its decisions on financial structure then the regulator would regard these as costs that should be borne by the providers of debt and equity finance rather than consumers [...and];*
- *even if the failure of a regulated business were to cause wider disruption to debt markets the longer term interests of consumers would suggest that a regulator should not take action to subsidise the providers of debt finance.”*

¹²⁹

Likewise, the 2011 Independent Commission on Banking (which the government established to consider structural and non-structural reform to the UK banking sector following the 2007-08 global financial crisis) concluded that:

“The recommendations in [the Commission’s final] report aim to create a more stable [...] basis for UK banking in the longer term. That means much more than greater resilience against future financial crises and removing risks from banks to the public finances. [...] a package of measures is [therefore] needed that:

- *makes banks better able to absorb losses;*
- *makes it easier and less costly to sort out banks that still get into trouble; and*
- *so*
- *curbs incentives for excessive risk-taking.”*¹³⁰

Accordingly, in our view, the perceived problem of excessive water company gearing stems from the widespread assumption among water company debt holders that they will be protected in the event of company failure – i.e. by the government and the regulatory regime – and hence that debt holders have limited incentives to limit gearing levels or prevent other undue company risk taking, and hence that regulators have not sufficiently clarified any ambiguity as to such debt holder protection.

¹²⁸ NAO report, para. 14 and 4.18.

¹²⁹ Financing Networks: A discussion paper, Ofgem and Ofwat, 2006, para. 69.

¹³⁰ Independent Commission on Banking Final Report, 2011, page 7-8.

We suggest that Ofwat adopts similar innovations as adopted in the post-financial crisis banking regulation reforms, that were intended to avert the costs – to consumers – of excessive gearing and making water companies better able to absorb losses and curbing incentives for excessive water company risk-taking. In particular, along with the requirement for ring-fencing UK retail banking activities and limits on maximum bank gearing levels (which are already present for regulated water companies), the Independent Commission on Banking recommended a mandate for long-term unsecured debt that regulators could require to bear losses in resolution (known as “bail-in-able” bonds) and debt that is automatically convertible to equity in the event of predetermined financial thresholds being met (known as contingent convertible bonds, or “CoCos”), on the basis that such debt holders would then have a strong interest in guarding against downside risk¹³¹.

Accordingly, such regulatory requirements have the multiple intended advantages of: (1) creating a strong incentive on debt holders to prevent excessive gearing and/or other forms of excessive company risk-taking, (2) stopping equity investors and management from pursuing excessive gearing and other undue risk-taking, and (3) protecting customers and taxpayers from the risk of disruptive default, i.e. of risk to services to consumers and bail-out costs to taxpayers.

We believe that the CMA should consider the suitability of such mechanisms, in our view if applied to water companies these would be a more effective and equitable approach than Ofwat’s gearing outperformance sharing mechanism.

Gearing and impact on RORE

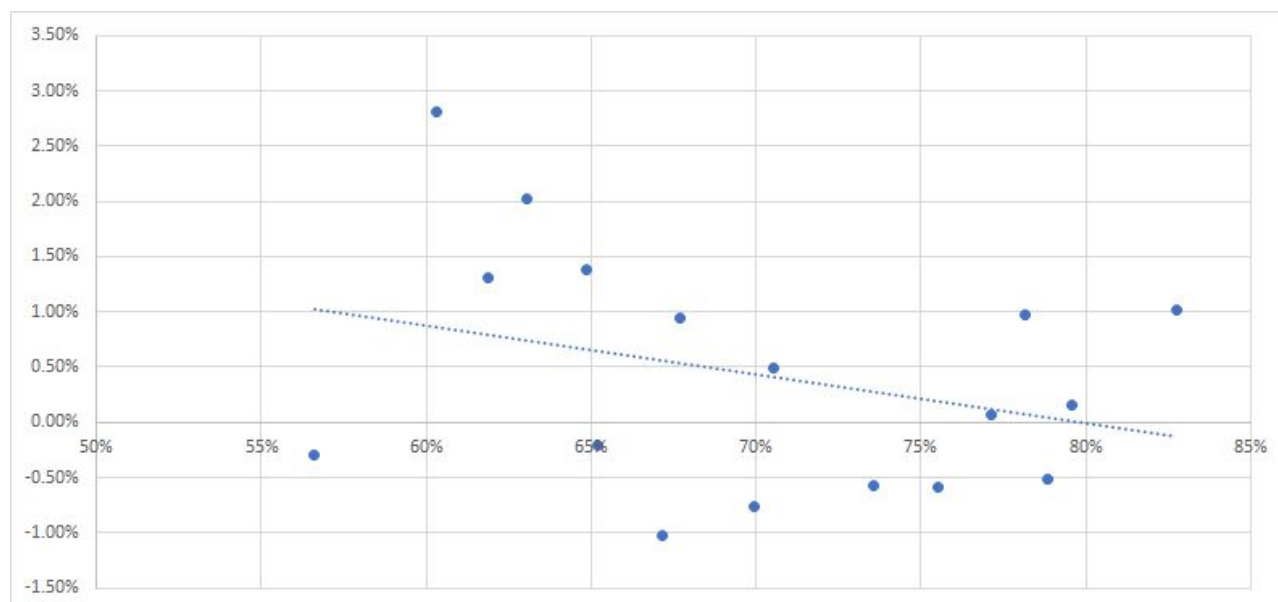
Return on regulated equity is a poor metric for a highly geared sector as discussed earlier in Section 3.1. RORE is calculated in relation to notional capital structure. The higher a company is geared, *ceteris paribus*, the higher its percentage debt costs will be. As RORE is calculated using actual percentage debt costs, highly geared companies will therefore have lower returns on regulated equity.

The water sector has been highly geared during PR19. The average gearing has been 70%, compared to notional gearing of 62.5%. 14 out of 17 companies have had gearing higher than notional gearing. 6 companies’ gearing exceeded 75% on average, during the price control.

This has had a meaningful effect on debt performance. There is a negative correlation (0.31) between debt outperformance and gearing, as you would expect to occur given the relationship specified above. Higher debt costs have a dampening effect on RORE, leading equity returns to look lower than they are, purely as an artefact of financing choices made by individual companies.

Figure 10: Debt costs vs gearing

¹³¹ See Independent Commission on Banking Final Report, 2011, page 13.



Source: Citizens Advice

Independent of financing, underperformance on the RORE metric is driven by poor performance on service incentives and expenditure. That tells us either that companies performed poorly in serving customers or hitting expenditure targets (with the exception of Welsh Water, who simply reduced customer bills directly which reduced their notional RORE) or it tells us that Ofwat had unrealistic expectations. What it does not tell us is whether the baseline cost of equity is set too high or too low.

We cannot analytically expect RORE performance to tell us anything about what the market cost of equity should be post-hoc. This is because the base cost of equity is the single biggest component of RORE; obviously, if it had been set at an appropriately lower level during PR19, company returns would also have been lower. But expected returns (as captured in the RORE calculation) would have been lower by the same amount, and we would observe a similar structure of out/under performance.

4. Financeability

The appealing water companies have argued that they are not financeable as a consequence under terms of the determination and that therefore Ofwat is in breach of its financeability duty.

Many of the companies' arguments relate to Ofwat's use of a notional, efficiently financed company to determine the allowed rate of return. While the companies do not disagree with the principle of using a notional company to calculate the cost of capital and assess financeability, they disagree with its application for various reasons, primarily that the interest rates on their existing debt are higher than assumed for the notional company.

We strongly agree with Ofwat that financeability should be based on the structure of a notional capital-efficient company, and Ofwat has met its duty to ensure companies are able to finance their activities. If an individual company is not efficiently structured, then that is for the company (and its shareholders) to address – any inefficiencies should not be paid for by consumers.

We do not agree with the appealing companies' submissions suggesting that they will not be able to finance their on-going activities or new investment, or even that there is a risk they will not be able to do. The consistently high rate of return by water companies suggests that there has been an overly generous buffer to protect financeability. We have not seen evidence that financeability will be at risk.

In our view it is for shareholders, not consumers, to manage the risks based on assumptions about rate of return, for companies to manage any legacy debt profiles, and shareholders to take the risk.

In assessing the water company arguments relating to financeability, we consider the fact that of the 17 water companies, 13 have accepted the price controls and allowed rates of return indicates that Ofwat's approach is reasonable. The 13 companies which accepted Ofwat's determinations would not have done so if the allowed returns did not enable them to continue to finance operations, raise new debt and pay a dividend. If 13 companies can do so, it is implausible that the 4 companies appealing the price control cannot do so. Any arguments that the allowed rates of return do not allow them to finance operations are simply not credible. The arguments mask the underlying objective to unnecessarily increase profits to shareholders.

There is significant evidence that investor appetite for UK water industry assets remains very high even after the allowed levels of levels of return in the PR19 price controls.

It should be beyond dispute that Ofwat's allowed rates of return are adequate for all water companies to finance themselves and are therefore in line with Ofwat's duties relating to financeability. The market provides all the necessary evidence:

For example, as Ofwat note in their submission to the CMA:

"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.”¹³²

All of the water companies, including the 4 who have appealed their determinations continue to be able to raise investment grade debt.

We do not agree with the appealing companies’ submissions suggesting that they will not be able to finance their on-going activities or new investment, or even that there is a risk they will not be able to do. We have not seen convincing evidence of this. If they were right, the financial markets would have reacted by slashing the prices for debt and equity. This has not happened. We view that the appealing companies’ claims for higher returns are not about financeability, they are claims for unnecessary higher returns for shareholders.

¹³² Ofwat, Reference of the PR19 final determinations: Cross-cutting issues, March 2020, paragraph 5.13.
<https://www.ofwat.gov.uk/wp-content/uploads/2020/03/Reference-of-the-PR19-final-determinations-Cross-cutting-issues.pdf>

5. Impact of COVID-19 on price controls

Summary

In this section we look at the impact on COVID-19 on the issues that are relevant to the price control. In our view these can be split into general issues impacting the overall price control methodology, and specific impacts which may have shifted some of the evidence or assumptions which could change the decisions that have been made.

The impact of the COVID-19 pandemic on financial markets has been dramatic with significant falls in share prices and interest rates.

Economic and financial markets remain uncertain over all time horizons with corresponding increased measures of risk in financial markets.

Commentators suggest that the impact of COVID-19 on water companies' financial performance will be mixed:

- It may be cheaper to raise debt finance
- Bad debt costs may increase
- Financial markets are currently viewing utilities positively and share prices have fallen much less than market averages

In these circumstances, it would be inappropriate to change the price controls' outcomes in reaction to changes in the economy:

- The price control is designed to set prices over a relatively long period of 5 years. The impact of COVID-19 over this period is impossible to forecast in a robust way.
- Given the levels of uncertainty, any adjustment at this stage may prove unnecessary and repeated 're-openings' of the price control would go against the regulatory principle of certainty.
- Any current market fluctuations may off-set each by future fluctuations within the price control period.
- In any event there are existing mechanisms and processes for re-opening of the price controls available to Ofwat and water companies: 'interim determinations' (IDoKs) and 'substantial effects determinations'.^{133, 134}

5.1 Impact of COVID-19 on financial markets

While future performance of financial markets remains uncertain, the impact of COVID-19 to date on debt and equity markets is illustrated in the charts below.

Risk-free rate

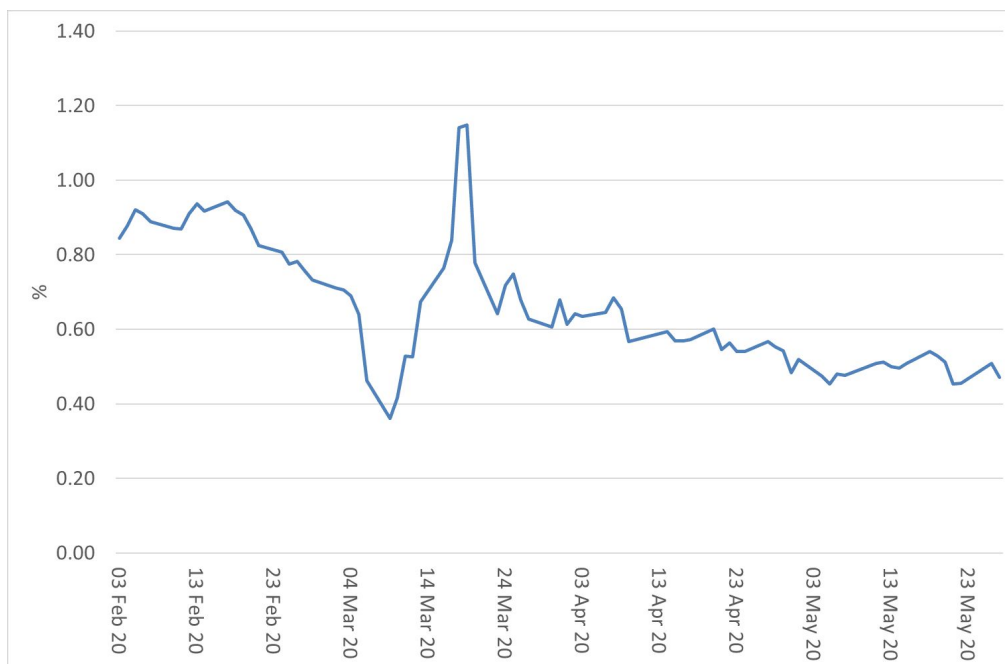
The price on government UK gilts has fallen in response to a drop in the base rate increased investor demand for gilts, as shown in Figure 11 below.

¹³³ <https://www.ofwat.gov.uk/regulated-companies/price-review/interim-determinations/>

¹³⁴

<https://www.ofwat.gov.uk/regulated-companies/price-review/substantial-effect-determinations/>

Figure 11: UK 15-year gilts yield (spot rate) 3 February 2020 to 27 May 2020



Source: Bank of England data

Equity markets

After sharp falls at the beginning of the pandemic, stock markets have recovered, but remain significantly lower than before the crisis, as illustrated in Figure 12 below which shows the FTSE 100 share index.

Figure 12: FTSE 100 Share index, 3 February 2020 – 27 May 2020

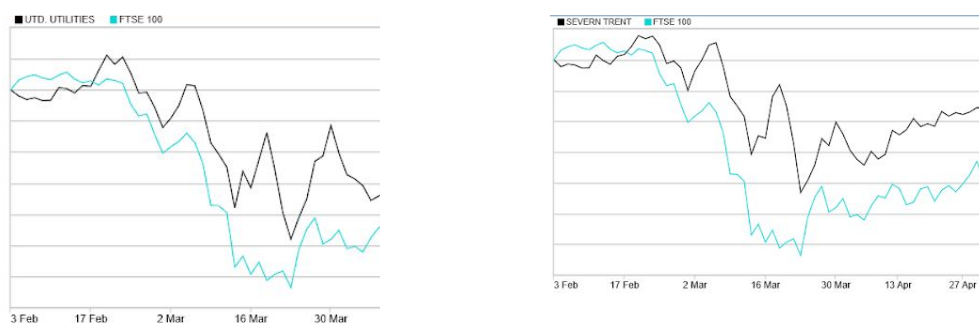


Source: London Stock Exchange

Water company share prices

In line with historical measures of beta, the share prices of water companies have dropped less than the overall market, as shown in Figure 12 below.

Figure 12: United Utilities, Severn Trent, share price compared to FTSE 100 3 February 2020 - 27 May 2020



Source: London Stock Exchange

The financial market data shown in the charts above indicates that the markets continue to show levels of volatility, and accordingly it is extremely difficult to know what, or at what level the markets may show some signs of stability.

On that basis it would not be appropriate to attempt to update the price control parameters, particularly for cost of capital to reflect updated forecasts.

Existing mechanism for opening price controls

There are established mechanisms and processes for re-opening of the price controls available to Ofwat and water companies: 'interim determinations' (IDoKs) and 'substantial effects determinations'.^{135, 136}

If market circumstances change and either Ofwat or the water companies consider it necessary to re-open the price controls to ensure regulatory objectives are met, then these mechanisms can be used. They provide an appropriate framework, including consultations, for such a decision.

¹³⁵ <https://www.ofwat.gov.uk/regulated-companies/price-review/interim-determinations/>

¹³⁶

<https://www.ofwat.gov.uk/regulated-companies/price-review/substantial-effect-determinations/>

5.2 Impact on consumer evidence and output cases

Both reports from Europe Economics and Sustainability First raise the issue of how COVID-19 may have impacted the underlying assumptions and consumer evidence supporting proposals and decisions in PR19.

It will be important for the CMA to consider the impacts on the following areas, some of which overlap with the impact on highly anticipatory investment (below):

- Customer willingness to pay for improvements to quality of service or the environment may be lower
- Consideration of affordability issues is especially important, given that many households are struggling financially
- During the crisis, there may be greater political sensitivity to any investment proposals that increase customer prices or allow companies to earn high returns

The CMA could carry out its own research to look at the impact of COVID-19 on consumer views, to help assess the impact on the evidence.

5.3 Highly anticipatory investment and COVID-19

Citizens Advice has been looking at the ways in which investment for highly anticipatory investment can be delivered in ways that most benefit consumers. We have focussed primarily on energy infrastructure, but recognise the close parallels with the water sector. We have attached an analysis that we commissioned from Europe Economics to look at a suite of different highly anticipatory investment vehicles, and some further analysis considering the ways in which the COVID-19 crisis affects our previous analysis of risk allocation mechanisms for highly anticipatory infrastructure investments. We have also attached our summary table of the different mechanisms.

The analysis identified a number of implications for firms seeking to justify highly anticipatory investments. In particular:

- Reductions in the demand caused by the COVID-19 crisis may weaken the case for highly anticipatory investment¹³⁷
- Customer willingness to pay for improvements to quality of service or the environment may be lower
- Consideration of affordability issues is especially important, given that many households are struggling financially
- During the crisis, there may be greater political sensitivity to any investment proposals that increase customer prices or allow companies to earn high returns
- Highly anticipatory investments need to be analysed against different COVID-19 scenarios, and ranges for estimated impacts are likely to be wider

¹³⁷ Our analysis focuses specifically on energy, although we consider there is equal applicability to water.

- The case for applying real options analysis is especially strong in the current context, with the value of the real option to wait now likely to be higher
- There may be impacts on the return that regulators need to allow companies to earn

The analysis also considered possible impacts on the most appropriate allocation of risk:

- Companies may need to take on a higher share of demand risk than previously, as many customers may be less able to bear risk due to the crisis, and may have become more risk averse
- Firms need to think carefully about how risks should be allocated between customer groups, including whether relatively more of the risk borne by customers can be allocated to future customers and to higher income customers

Based on this analysis for the suitability of the 15 risk allocation mechanisms, we conclude that the following risk allocation mechanisms may be particularly suitable in the light of the current COVID-19 crisis:

- Price control reopeners or interim reviews, to reflect the potential advantages of waiting until more information is available before firms commit to large irreversible investments
- Mechanisms that allow demand risk to be shared with firms, such as error correction mechanisms or capex triggers based on demand exceeding a specified threshold
- Caps and floors on returns from highly anticipatory investments, to avoid companies earning excessive returns during a time when many energy bill-payers are struggling
- Economic depreciation (in which depreciation revenue from customers is profiled over time in line with usage), to allocate more risk to future customers rather than current customers

Some of the other risk allocation mechanisms may continue to be relevant in specific circumstances. For example, ring-fenced funding from customers that use the new infrastructure may continue to be relevant in cases in which the infrastructure is discrete, with scope for separate user charges.

6. Areas CMA propose to deprioritise

The CMA approach indicates a number of areas that the CMA intends to deprioritise for the redeterminations. We think that 2 key areas should remain as priorities because of their impact on cost and importance for consumers.

6.1 Household and business retail

The non-household retail margin of 1% was proposed by Ofwat in its “early view” document and as Ofwat notes in its draft determination:

“No company objected to this figure, and two companies jointly commissioned a report which argued for a range of 0.7% to 3.1%, and which accepted 1.0% as a reasonable point estimate”¹³⁸

Similarly, at the final determination, the 1% retail margin was not contested by the water companies:

“We did not receive representations on our household or business retail margin assumptions or on our level of retail margin adjustment in response to our draft determinations.”¹³⁹

It is interesting to consider why the water companies did not challenge Ofwat’s proposed retail margin of 1% given that the companies’ own research on retail margins indicated that a much higher retail margin was justified.

The research by Economic Insight for the water companies considered 3 sources of data for determining retail margins:

- Comparator analysis – 3.1%
- Regulatory precedent – 0.9% - 2.6%
- ROCE Modelling 0.7% - 1.8%

The lowest estimate of ROCE calculations of 0.7% can be disregarded, on the basis that it was based on assumed cost of capital for a retail business of only 4% (nominal pre-tax terms). As noted by Economic Insight *“Our medium case, which on balance we think represents the most credible view, indicates a required margin of 1.5%.”¹⁴⁰* The “average (excluding those of low relevance)” of the regulatory precedents was 2.6%. So, based on the water companies’ own research a margin of 1.5% to 3.1% would be reasonable.

In the context of Ofwat’s price control framework, a higher retail margin has the effect of reducing the allowed rate of return. This is because it increases the retail margin adjustment (in the calculation shown in Table 4 above). For example, increasing the retail margin from 1% to 2% would more than double the retail margin adjustment from 0.09% to 0.20%.

6.2 Transparency around dividends

We think the CMA should consider looking at dividends and executive pay. The pay structures of CEOs and executive teams are frequently driven by profit and share performance. This puts a huge incentive on behaviours that maximise these areas above others, particularly consumer outcomes. We are pleased overall with the progress of Ofwat’s initiative to improve transparency and link to customer service delivery. However, we think the impact of COVID-19 on affordability, and enhanced

¹³⁸ Ofwat, *PR19 draft determinations: Cost of capital technical appendix*, section 2.3.

¹³⁹ Ofwat, *PR19 final determinations, Allowed return on capital employed*, December 2019, section 4.2.

¹⁴⁰ Economic Insight, report for Bristol Water and Wessex Water, Household Retail Margins at PR19, September 2017.

scrutiny of company behaviour mean that consumers are likely to be more concerned than before with these issues.

We note that much of the concern about dividends and executive pay could be addressed through the gearing mechanism that we are proposing (as an alternative to Ofwat's benefits of gearing sharing mechanism), as much of the poor corporate behaviour has been driven by the incentives for excessive risk-taking implicit in the current regulatory regime

We hope this response is clear. We would be very happy to have further discussions with the CMA about its contents.

Yours sincerely

Stew Horne

Head of Energy Networks and Systems