May 2020

Reference of the PR19 final determinations: Introduction and overall stretch on costs and outcomes – response to cross-cutting issues in companies' statements of case

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This document provides an introduction to our response to the statements of case presented by disputing companies. This document also details how we have fulfilled our duties throughout PR19 and responds to issues raised by the disputing companies in relation to the overall level of stretch on costs and outcomes. Our response to issues raised by individual companies are also set out in the respective company specific 'Response to statement of case' documents.

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1. Introduction

Water companies need to step up

1.1 From the initial development of the PR19 methodology in 2015, we have been clear with companies that this price review was not going to preserve the status quo. The sector faces profound challenges, such as climate change, population growth and shifting customer expectations. To be in a better place to provide reliable and affordable services against these challenges, there is a need for the sector as a whole to strengthen its operational performance. Whilst there have been examples of good operational performance, there have been notable failures in places. The sector also has a reputational challenge if it is to gain customer trust. This involves a step up in responsible corporate behaviours, including strengthening its financial resilience. PR19 has challenged the companies to achieve this, without asking customers to pay extra for inefficiency or to accept lagging performance, or indeed to pay out inflated returns to investors.

1.2 Thirteen companies have accepted this challenge; four have not. We have reviewed each of the statements of case presented by Anglian Water, Bristol Water, Northumbrian Water and Yorkshire Water. These companies continue to believe that customers should pay more and receive less than our final determinations settled for them, and less than other companies are now undertaking to deliver. In many cases, the arguments and evidence that the disputing companies present mirror their submissions during the PR19 process, all of which we thoroughly reviewed in making our final determinations. Nonetheless, across the suite of documents we present as our response, we have endeavoured to address the statements of case in their entirety.[1]

PR19 allows companies to meet the challenge

1.3 We stand by our determinations. We have **allowed significant expenditure** of over £50 billion, including £13 billion to enhance the outcomes that matter to customers and the environment: on leakage and support for the vulnerable; on pollution and water resource planning; on affordability and long-term resilience. This is a price review that enables **ongoing, holistic and potentially transformative investment** by companies. We have challenged companies to go further, with investment plans for the long term. Our interventions also

[1] If there is a point that we have inadvertently not addressed, or which the CMA would like us to address in further detail, we are of course very happy to assist.

promote additional investment to address long-term drought resilience, and a £200 million innovation fund to encourage companies to collaborate with each other and with other companies in their supply chains.

1.4 This significant investment is needed, and must be used effectively and efficiently to deliver the right outcomes for customers and the environment. That is important because, for too long, water company performance has flatlined. PR19 sets the agenda and provides the investment for companies to turn that around.

We have conducted PR19 in the right way

1.5 The package we have set for 2020-25 is the result of **a comprehensive and exhaustive process of development, co-creation and analysis lasting over three years**. Every element of our work has been open and transparent. We have listened to the views of companies, their customers, companies' customer challenge groups (**CCGs**), consumer groups, environmental groups and wider stakeholders. We have then used the insights gained to inform our determinations.

1.6 The disputing companies contend that we have not met our **statutory duties** at PR19. The reality is that these are **disagreements as to the merits of our decisions, dressed up as legal points**. Throughout PR19, we have been motivated by all of our statutory duties, protecting customer interests and finding the right outcome in light of the duties in the round. This includes looking to the long term, and making sure companies can earn a reasonable return and can finance their functions.

1.7 That said, it is wholly consistent with our duties that customers should not pay more than a company's efficient costs. Similarly they should not pay more than what it should cost for an efficient company to raise finance, and should not carry the cost of a company's financing choices. Nor should customers of poorly performing companies have to put up with a lower level of service, or pay more for the same service that will be provided by the rest of the sector.

We welcome the redetermination process

1.8 We continue to **welcome the independent expertise that the Competition and Markets Authority (CMA) redeterminations will bring**, and remain committed to give the CMA all assistance we can throughout the process.

1.9 In considering the companies' statements of case, it is important to recognise that the disputing companies do not have an incentive to draw attention to instances where Ofwat may have made generous decisions. On the contrary, **the four companies will have raised issues in their statements of case on a selective, rather than comprehensive, basis**. We note that the redetermination process is not a facility for referring on specific issues, but one in which companies receive a full redetermination of their respective price controls.

1.10 As we submit our response, we also continue to recognise the ongoing situation regarding **Covid-19**. We note that the disputing companies acknowledge its potential impacts in their respective statements of case, though they do not address them. Though the effects of the pandemic on the water sector and the wider economy remain uncertain, we are working hard to understand the impacts and to support companies in their efforts to protect customers.

1.11 We note that the final determinations and regulatory framework include a number of mechanisms to protect both companies and their customers from material changes in circumstances. These include interim determinations, which allow us to change the level of price controls if particular thresholds are met. Companies are also protected from a range of risks through our framework, including cost sharing, inflation indexation, wage rates, tax rates and new costs of debt.

1.12 We consider that it is appropriate to have reasonable certainty around the impacts of Covid-19, before making associated adjustments as part of the redetermination process. In some areas, the effects of the pandemic may reduce as well as increase costs for companies. Where appropriate, we intend to take account of these impacts across the sector as part of the **PR19 reconciliation process** once we have clearer sight of the overall impact on the industry. We have highlighted specific areas where our final determinations might be impacted by the Covid-19 pandemic, including on the allowed return, labour and energy costs and growth rates.

1.13 Recognising the fast-moving nature of the crisis, we would welcome the opportunity to make further representations on the issue once the impacts of Covid-19 become clearer. We also continue to welcome any discussions around procedural impacts, should the CMA consider them appropriate.

Our response to the statements of case

1.14 On 2 April 2020 Anglian Water, Bristol Water, Northumbrian Water and Yorkshire Water provided us with their statements of case to the CMA in respect of their references of the 2020-25 price controls for redetermination. We have reviewed, and responded to, each disputing company's statement of case, including the new information presented.

1.15 We set out the suite of documents that constitutes our response to the companies' statements of case in Table 1.1.

Table 1.1: Our response to the statements of case – Suite of documents

Title	Description
Introduction, overall stretch on costs and outcomes and cross-cutting issues	Our response to cross-cutting issues raised by disputing companies, including: • how we met our statutory duties; and • our approach to setting the overall stretch across costs and outcomes.
Response to statement of case	A company-specific document, one for each disputing company, containing our response to the issues raised in the company's statement of case. We cross-reference to relevant sections in other documents where appropriate.
Cost efficiency – response to common issues	Our response to common issues relating to cost efficiency.
Outcomes – response to common issues	Our response to common issues relating to outcomes.
Risk and return – response to common issues	Our response to common issues relating to the balance of risk and return, the allowed return on capital and financeability.

1.16 However, unless we specifically indicate otherwise, our documents are intended to amplify or explain our final determinations and associated documents as published in December 2019. It is not intended that this submission should cover all of the issues, or in any way replace or reproduce the detail contained in the full set of documents which comprised the final determinations. All of the key materials which we used to reach our decisions have been published on our website. Those publications continue to represent the fullest account of why we made each of the decisions in our final determinations.

2. Executive summary

2.1 A number of the issues raised by the disputing companies are common across the four companies. This document sets out our response to the issues in relation to **meeting our statutory duties** and the **overall stretch we set across costs and outcomes**. Separate documents bring together common issues on the allowed return and financeability, cost efficiency, and outcomes.

Introduction to overall level of stretch

2.2 Water companies are monopolies, and do not face competitive pressure and the threat of entry which might otherwise drive them to improve service and efficiency. Also, while water companies should have better information than Ofwat on how much they can reduce costs or improve service levels, they may have little incentive to disclose this to us. In setting our final determinations, it was important that we set a **stretching but achievable level of overall challenge** to meet our duties in the round. This helps to ensure that current and future customers pay no more than efficient costs and receive high quality services from their water company.

2.3 Since privatisation, the water sector has made significant improvements in service delivery. However, in recent years **company performance has stagnated and even deteriorated** on a number of measures:

- since 2011, **productivity growth in the sector has effectively been zero**, even after allowing for quality improvements;[2]
- at PR14, more than half of companies achieved the historical upper quartile on the upper quartile common performance commitments by the first year of the price control – **then improvements stagnated** in 2017-18 and 2018-19;[3] and
- over the past two decades, despite material technological progress, the sector has achieved **little overall reduction in leakage**, and despite having achieved more than a 30% reduction in the decade following privatisation.

2.4 We also note that, in a number of areas, **some companies have performed relatively well in recent years**, while others have lagged behind. As a result,

[2] Frontier Economics, 'Productivity Improvement in the Water and Sewerage Industry in England since Privatisation – Final Report for Water UK', September 2017, p. 3, Figure 2.
[3] Ofwat, 'Service delivery report 2018-19', October 2019, p. 3.

overall sector performance tends to mask significant gaps in the relative performance of individual companies, including some considerable improvements. For example:

- Water supply interruptions performance between 2012-13 and 2016-17[4] ranged from the reductions of over 70% achieved by Dŵr Cymru and SES Water, to the total increases in supply interruptions sustained by three companies.
- South West Water reduced internal sewer flooding by 51% between 2015-16 and 2018-19.
- Northumbrian Water reduced pollution incidents between 2013 and 2018[5] by 71%.[6]

2.5 Moreover, some companies demonstrated at PR14 that **delivering high quality and high efficiency at the same time is achievable**. For example, Portsmouth Water and Wessex Water have achieved upper quartile performance on a number of service measures whilst also achieving high cost efficiency.[7] At PR19, some companies have challenged themselves by proposing base expenditure that was lower than their own historical spend by as much as 15.1%.[8]

2.6 It is important that price reviews set appropriately challenging performance and cost efficiency goals.

2.7 We have seen that companies, on average, have **tended to outperform the cost allowances** we have set in past determinations. This means that they have chosen not to spend all of the funding that Ofwat allocated to them in the final determinations which was meant to improve service quality, as well as maintaining and improving infrastructure. Anglian Water, Northumbrian Water and Bristol Water are among the companies with the highest outperformance

[4] We assess historical delivery of water supply interruptions between 2012-13 and 2016-17 to exclude the effect of freeze thaw in 2017-18 and subsequent recovery in 2017-19.
[5] We assess historical delivery of pollution incidents between 2013 and 2018 calendar years due to the Environment Agency's reporting and to capture a five-year period for comparability to the length of the price control.
[6] We compare historical company performance on these measures in PR19 final determinations: Overall level of stretch across costs, outcomes and allowed return on capital appendix, p. 29, Table 8.
[7] Ofwat, 'Reference of the PR19 determinations: Cross-cutting issues', March 2020, p. 20.
[8] Dŵr Cymru is reducing wholesale base expenditure by 15.1% compared to historical expenditure. See Table 5.3 in this document.

on their PR14 wholesale cost allowances, with outperformance levels of 9.2%, 9.0% and 4.2%, respectively.[9]

2.8 Where companies underspend their cost allowances, it is at the discretion of the company whether this excess allowance is invested into improving service delivery for customers. However, while overall sector performance has stagnated as we set out above, some companies have **continued to pay high dividends to investors** throughout the PR14 period. We address further the financing arrangements and dividends of the disputing companies in Chapter 2 of the 'Risk and return – common issues' document[10] and Chapter 6 of this document.

2.9 The **legitimacy of the water sector has been called into question** by corporate behaviours. These include the adoption of complex highly geared financial structures, payment of high dividends and loans from the regulated companies to shareholders, and service failures and misreporting. All disputing companies have significantly increased gearing and paid out proceeds to shareholders in earlier regulatory periods. We note that Northumbrian Water has paid out 15% dividends since the acquisition by CKI.

2.10 Independent reviews of water and other regulated sectors have **criticised regulators for repeatedly setting over-generous reviews**, resulting in investors earning excess returns and customers paying higher bills than necessary. Such returns can arise as a result of the asymmetry of information between companies and regulators, leading some commentators to suggest that regulators should take this into account in setting determinations.[11] While we take full responsibility for the approach we have taken throughout PR19, it would be wrong for us to have ignored such criticism. We have taken these views into account as one factor in developing our approach, just as we have considered the views of companies and other stakeholders through consultation and co-creation.

2.11 This stagnating sector performance, despite significant improvements since privatisation, led us to conclude that **there needed to be a step change** and the sector needed to be reinvigorated.

[9] Ofwat, 'PR19 final determinations: Overall stretch on costs, outcomes and cost of capital policy appendix', December 2019, p. 21, Figure 3.
[10] Ofwat, Reference of the PR19 final determinations: Risk and return - response to common issues in companies' statements of case', May 2020, Chapter 2.
[11] National Infrastructure Commission, 'Strategic Investment and Public Confidence', October 2019, p. 15; S. Wright et al. 'Estimating the cost of capital for implementation of price controls by UK regulators', March 2018, pp. 73-75.

2.12 We designed the 2019 price review to provide **increased scope for companies to improve performance and efficiency** including:

- building on the **totex and outcomes framework** first introduced at PR14 to provide companies with increased flexibility to innovate and drive service improvement for customers. In both the water and energy sectors the introduction of the totex and outcomes approach has led to innovation and improvements in service;
- the extension in PR19 of the **increased upside incentives** introduced in PR14, with enhanced outcome delivery incentives (ODIs) for frontier-shifting performance and new outperformance incentives for the new customer service incentive;
- the introduction of a **£200 million innovation fund** in PR19 to promote innovation across the sector; and
- the introduction of **new markets for water resources, bioresources and direct procurement for customers** (competition for financing and construction of large infrastructure projects).

2.13 In our PR19 methodology, taking account of both the increased scope for innovation and efficiency and the issue of stagnating performance, **we set the sector a range of challenges.** These include: reducing leakage by 15% within base costs;[12] the move to forward looking upper quartile performance challenge for three out of the 15 common performance commitments;[13] and steps to improve operational resilience.

2.14 In our **back in balance statement**, we set expectations of increased transparency about how dividends and performance related executive pay are linked to service for customers, introduced a gearing sharing mechanism to share benefits of high gearing structures with customers, and provided increased clarity on our expectations of companies to demonstrate their financial resilience.

2.15 Our aim in the final determinations was to set a stretching but achievable level of overall challenge for the companies. Our aim is to **align the interests of companies and investors with those of customers**, by setting the appropriate balance of risk and return. By striking the right balance, customers will pay an efficient cost and receive high quality services, while investors

[12] Ofwat, 'PR19 final determinations: Overall stretch on costs, outcomes and cost of capital policy appendix', December 2019, p. 8.
[13] Northumbrian Water and South Staffs Water both have 16 common performance commitments as they have two separate leakage performance commitments. All other companies have 15 common performance commitments.

receive a reasonable return. Our approach is designed to satisfy our statutory duties taken in the round, in particular by ensuring that current and future customers pay no more than efficient costs and receive high quality services from their water company.

2.16 We are pleased that **13 companies have accepted the challenge** of PR19, and have committed to improving performance for customers and the environment while operating efficiently. We are disappointed that the four disputing companies have not yet accepted that challenge. Each of the disputing companies, to a greater or lesser degree, refers to the overall level of stretch of the price control as an important issue in their reference. This covers a variety of specific issues they have in relation to different elements of the price control, and in particular in relation to costs, outcomes and risk and return.

2.17 The overall level of stretch imposed by the price control is **a combination of the level of stretch across both costs and outcomes**. Contrary to arguments made by some disputing companies, it does not include the allowed return on capital. The allowed return is set on the basis of market evidence, and so reflects the prevailing market conditions and cost of debt and equity, rather than the challenge we set companies. **Nor did we aim for a particular level of customer bills** as part of the price review. The level of bills is a product of the different elements of the price review, which in turn contribute towards the company's revenue allowance.

Overall level of stretch across costs and outcomes

2.18 In most cases, the disputing companies **did not present significant new evidence** relating to the stretch across costs and outcomes in their statements of case. Where new evidence has been presented, we have sought to address it in this document. At final determination, we fully considered the companies' arguments made in their representations on the draft determinations. We briefly recap below our assessment of the overall level of stretch across costs and outcomes as part of the PR19 process.

2.19 At final determination, we initially set the level of challenge on each company's cost allowance and outcomes package separately. We then reviewed our position, having considered the overall stretch across costs and outcomes, both at a sector and individual company level.[14] In doing so, we **recognised the**

[14] Ofwat, 'PR19 final determinations: Overall stretch on costs, outcomes and allowed return on capital policy appendix', December 2019, p. 4.

important interactions between both elements, and that they needed to be considered together to confirm that the price control was both stretching and achievable. That said, we **do not consider there is necessarily a trade-off** between the two elements and we consistently find evidence that companies can perform well on both costs and outcomes. This is because some improvements to outcomes can be made by better management and operation of the business – improving both service and cost efficiency. For example better customer service can often reduce the cost of handling customer complaints and contacts.

2.20 We **set cost allowances** on the basis of the forward-looking efficient cost of providing the required level of service to customers. These allowances consist of an allowance for base (business-as-usual) costs, and the additional cost for service enhancements, such as from a change in statutory requirements. We set these base costs on the basis of:

- the historical costs achieved by the best-performing companies in the sector, creating a 'catch-up efficiency challenge' for less efficient companies; and
- the frontier shift, which refers to the expected productivity improvement over the price control period.

2.21 This means that poorer performing companies face a catch up challenge as well as a frontier shift challenge. As the CMA will of course be aware, this is similar to what happens in a competitive market, in which less efficient companies face loss of market share and profits if they cannot match competitors. Incentive regulation attempts to mimic the outcome of a competitive market and to ensure that customers, who cannot choose their supplier, are not disadvantaged by being served by less efficient companies. It is important that **customers of poorer performing companies should not receive a lower level of service** or pay extra for the costs of catching up with reasonable levels of service.

2.22 As part of our **outcomes package**, we set performance commitments to reflect stretching but achievable performance from within base costs, and to take account of expected improvement from enhancement allowances. In our final determination, we used forward-looking business plan forecasts and historical data to set stretching but achievable performance commitments.

2.23 We considered how far each performance commitment was achievable individually, as well as in conjunction with the other performance commitments across the package. In their statements of case, the disputing companies frequently make representations around the three common upper quartile performance commitments. It is important to note in the context of overall stretch that these performance commitments **form part of a wide-ranging package** which we consider stretching but achievable in the round.

2.24 In our final determinations we reviewed the overall stretch across costs and outcomes to ensure that it was stretching and achievable, taking into account company representations on our draft determinations. We made a series of adjustments which, overall, **reduced the level of stretch on companies**. These included the following:

- We reduced our frontier shift estimate from 1.5% to 1.1% per year;
- We provided additional funding to reduce leakage for better performing companies (including Bristol Water and Anglian Water); and
- We reviewed and reduced the stretch on water supply interruptions and other performance commitments. The stretch on internal sewer flooding and pollution incidents was consistent with historical performance and company forecasts, and so the stretch was reasonable and achievable.

2.25 In coming to our final determinations decision we took into account that:

- Historical evidence shows that **some companies currently achieve good performance on both outcomes and cost efficiency**, with examples of companies performing in the upper quartile on costs and outcomes.
- At PR14 **we did not provide additional funding** to achieve historical upper quartile performance commitments. Most companies have achieved their PR14 upper quartile common performance commitments, as well as outperforming on their upper quartile based cost allowances.
- Improvements in service quality and outcome performance were not fully captured in frontier shift efficiency estimates, and we expected some improvement in quality over time without increasing cost. We allowed enhancement costs where there was good evidence that further improvements in service require an efficient company to incur higher costs.
- **Companies are able to earn ODI outperformance payments** for going beyond stretching but achievable service levels.

Our response to issues raised by the disputing companies

2.26 We set out in the remainder of this document our response to the arguments made by the disputing companies around meeting our statutory duties and the overall level of stretch we set in our final determinations. We summarise below the contents of each following chapter in this document.

3. Meeting our duties: The requirement to exercise regulatory judgement, and to do what we consider best calculated to meet our objectives, is an explicit feature of our statutory duties. Although the disputing companies allege that we have not met our duties on a wide range of issues, the reality is that these are simply **disagreements as to the merits of decisions that we made in our final determinations** using the exercise of our regulatory judgement.

We did not have any overriding short-term aim as the companies claim, but **took a balanced view of our duties as a whole**. It is a false dichotomy to suggest that the choices available to Ofwat (and now, therefore, to the CMA) are between achieving short-term savings and delivering long-term investment. Challenging companies to demonstrate that their proposed expenditure is efficient is **intrinsic to our primary statutory duties**. Nothing in the resilience objective relieves the companies of the requirement to demonstrate such efficiency, or offers a blank cheque for future expenditure. It can also safely be assumed that no customer wants to pay for inefficiency.

We do not accept that our final determination for any of the companies was in breach of the financing duty. **We provided adequate funding for an efficient company with the notional capital structure.** That was a proper discharge of our duty. Where a company has chosen to adopt a different capital structure, is inefficient, or because of its past poor performance receives underperformance ODI adjustments or other penalties, it will need to – and should – make its own adjustments to live within the funding envelope provided. To put it plainly: companies cannot, by pointing to our financing duty, divest themselves of the responsibility that they themselves bear for ensuring their own financeability.

4. Overall level of stretch: The overall level of stretch for the price control is the combination of the stretch across costs and outcomes. Contrary to representations from some disputing companies, we do not consider that the allowed return on capital affects the overall level of stretch, as it is based on market evidence. Nor does the reduction in bills increase the stretch, as some companies suggest. Bills are a function of the decisions we take that result in a total revenue allowance. The overall level of stretch on costs and outcomes in PR19 is similar to PR14, with the key difference being that we have 'baked in' the performance improvements we expect companies to make in the price control. Our stretch on outcomes is similar to that which has been achieved in PR14.

5. Why do we want a step change? Productivity growth in the sector has stagnated for some time, and is lower than relevant comparator sectors.[15] In recent years, overall sector performance on a number of key service delivery measures has also stagnated. At the same time, some companies have proved that considerable service improvements are deliverable, and many have accepted levels of stretch higher than that placed on the disputing companies. The PR19 framework facilitates this step change through continuation of the totex and outcomes regime, a new £200 million innovation fund, facilitation of new markets and better targeted incentives. If companies don't make this step change now then their ability to provide reliable and affordable water and waste services to future generations, in the face of climate change and population growth, will be compromised.

6. Has there been historical outperformance that needs to be reset? Some disputing companies suggested that there should not be a step change as there is not historical outperformance that needs to be reset. Our proposal for a step change is not based on whether there has been systematic outperformance of previous price controls. Nonetheless, historical performance is informative in particular on how companies respond to the challenges that we set.

Over 2015-2019 companies have generally outperformed their base return, with Anglian Water, Northumbrian Water and Yorkshire Water having a total shareholder return in excess of 10%. Anglian Water and Northumbrian Water have returned dividends significantly in excess of the allowed return in both 2010-15 and 2015-19. Over 2015-19, thirteen companies have reported outperformance against the financing measures, and ten companies on the operational measures.

Over the last four price controls companies have on average outperformed (underspent) against their expenditure allowances, including each of the disputing companies. Anglian Water and Yorkshire Water have outperformed their totex allowance in each of the previous four price control periods, and Northumbrian Water has outperformed its totex allowance in three of the previous four price controls. Overall, companies have outperformed on the three upper quartile performance commitments. This includes Anglian Water, Northumbrian Water and Yorkshire Water.[16]

[15] Ofwat, 'Reference of the PR19 final determinations: Cost efficiency - response to common issues in companies' statements of case', May 2020, Chapter 2, Table 2.1.
[16] Ofwat, 'Reference of the PR19 final determinations: Risk and return - response to common issues in companies' statements of case', May 2020, Chapter 2, Table 2.1.

7. Our approach and final determinations reflect the linkages between costs and outcomes: Each of the disputing companies alleges, to varying degrees, that we have not sufficiently taken into account the linkages between service quality and cost efficiency. As set out above **we have undertaken a wide range of analysis to make sure that cost and service proposals were appropriate**.

Some of the disputing companies challenge our analysis which shows that companies can achieve good cost efficiency and good outcome performance. We have updated our analysis to address the points raised by disputing companies. Contrary to what some disputing companies claim, we have not observed an inverse relationship between historical cost efficiency and good outcome performance. We recognise that improving outcome performance may impose some costs on companies. Nevertheless, some companies have managed to achieve both high service quality and cost efficiency. In summary, the **potential impact on costs should not be used as an excuse for companies achieving a lower level of service quality than their peers**.

Some companies are above or at our efficient cost benchmark and perform well on outcomes. For wholesale water, both Portsmouth Water and South Staffs Water are efficient and are upper quartile for supply interruptions, with both companies already meeting the PR19 2024-25 supply interruptions performance commitment level.[17] For wholesale wastewater all of the three efficient companies perform well on service quality.[18] Wessex Water is upper quartile for both internal sewer flooding and pollution incidents, and has already met the 2024-25 performance commitment level for internal sewer flooding.[19] Northumbrian Water has met the 2024-25 performance commitment level for pollution incidents, and Severn Trent Water is the fourth ranked company on both internal sewer flooding and pollution incidents.[20]

The disputing companies contend that our frontier shift productivity improvement double counts improvements in quality. Productivity measures do not properly adjust for changes in quality, and so **quality improvements can be additional to efficiency improvements**. In addition a number of companies have, are, or are forecast to be by 2019-20, performing better than their 2024-25 performance commitment level. The stretch in ongoing outcomes performance therefore reflects catch up rather than frontier shift, and does not

[17] See Table 7.2 and Table 7.4 in this document.
[18] See Table 7.3 in this document.
[19] See Table 7.3 in this document.
[20] See Table 7.3 in this document.

double count efficiency improvements. Our productivity assumption takes into account the additional stretch on leakage.

The **overall stretch on costs and outcomes for the disputing companies is lower than it is for a number of companies that accepted the final determination**.[21] The thirteen companies that accepted our final determinations in the round have accepted it on the basis that the overall level of stretch is achievable for them (e.g. they could meet their performance commitments within the funding allowed). We consider that our overall level of stretch is also achievable for the four disputing companies.

[21] See Tables 5.3, 5.4 and 5.5 in this document.

3. Meeting our duties

Introduction

3.1 We have explained throughout the PR19 process[22] how our decisions accord with our duties, in delivering against the four key themes that we set for the price review.[23] Nevertheless, for ease of reference we start by setting out what the duties comprise and how we have approached fulfilment of our duties in PR19.

3.2 We then turn, in the sections of this chapter that follow, to some of the main respects in which we and the companies differ as to whether the duties have been met, namely:

- The duties and strategic priorities;
- Time frame (short term v long term);
- Prioritisation of objectives (consumer v resilience);
- Cost allowance v outcomes;
- The financing duty and financeability; and
- The role of customer preferences.

3.3 The companies allege that we have not met our duties (and/or have failed to give appropriate weight to, or to have regard to, particular duties) on a wide range of issues. These include, for example, the level at which the allowed return should be set;[24] the credit rating by reference to which financeability should be assessed;[25] the assessment of the drivers of costs of asset maintenance;[26] and whether base cost allowances suffice to cover sewer flooding mitigation.[27]

3.4 We do not consider that it is helpful or accurate to characterise each such disagreement as a 'hard-edged' question about whether we have failed to meet our statutory duties. The reality is that these are simply **disagreements as to**

[22] Ofwat, 'Delivering Water 2020: Our final methodology for the 2019 price review', December 2017; Ofwat, Initial Assessment of Plans, January 2019; Ofwat, Draft Determinations, July 2019; and Ofwat, 'PR19 final determinations: Policy summary', December 2019.
[23] Namely: great customer service; long-term resilience in the round; affordable bills; and innovation.
[24] Yorkshire Water, 'Statement of Case' , April 2020, p. 16, paragraphs 46 and 50.
[25] Bristol Water, 'Statement of Case' (Revised) , April 2020, pp. 24-26, Section A - 3.4.
[26] Anglian Water, 'Statement of Case (Corrected)', April 2020, p. 11-2, paragraphs 59 and 64.
[27] Northumbrian Water, 'Statement of Case', April 2020, p. 34, paragraph 138 and p. 36, paragraph 147.

the merits of decisions that we made in our final determinations. The decisions in question were taken in the light of all of the circumstances (including our experience of the sector and the evidence submitted to us), and as part of the balance that we struck between various policy considerations; in short, they were the result of an exercise of discretion.

3.5 The CMA, too, will be exercising its discretion in the way that it considers is best calculated to meet the statutory duties and accords with the UK Government's strategic priorities and objectives.[28] The CMA will have before it information that was not available to us at the time of our final determinations, and will have to take that information into account. It may be that the CMA, after considering all of the information and circumstances, reaches a different view on certain points to that which we reached or decides to strike a different overall balance. That is simply a reflection of the nature of the many (and complex) decisions that are taken in reaching a final view on each company's price controls. It does not detract in any way from the fact that we have given careful and conscientious consideration to our statutory duties and are confident that we have fulfilled all of them.

The duties and strategic priorities

3.6 Ofwat's statutory duties under section 2(2A) of the Water Industry Act 1991 (**the Act**) require us, in summary, to set price controls in the manner we consider is best calculated to:

- further the **consumer objective** to protect the interests of consumers, wherever appropriate by promoting effective competition;
- secure that water companies properly carry out their **functions**;
- secure that the companies are able (in particular, by securing reasonable returns on their capital) to **finance the proper carrying out of those functions**; and
- further the **resilience objective** to secure the long-term resilience of companies' systems and to secure that they take steps to enable them, in the long term, to meet the need for water supplies and wastewater services.

[28] Although section 2B of the Water Industry Act 1991 also refers to the strategic priorities published by the Welsh Government, these are not directly relevant to the determination of price controls for Anglian Water, Bristol Water, Northumbrian Water and Yorkshire Water. Our focus below is therefore on the UK Government's SPS.

3.7 In addition to these primary duties, Ofwat is also, under section 2(3) of the Act, required to act in the manner we consider is best calculated to:

- promote **efficiency and economy** by companies;
- secure that **no undue preference or discrimination** is shown by companies in fixing charges, or in relation to the provision of services;
- secure that **consumers' interests are protected where companies sell land**;
- ensure that **consumers' interests are protected in relation any unregulated activities** by companies; and
- contribute to the achievement of **sustainable development**.

3.8 Ofwat is also required, under section 2(4) of the Act, to have regard to the principles of **best regulatory practice** (including the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed).

3.9 Finally, Ofwat is required under section 2A of the Act to set price controls for all four disputing companies in accordance with the statement of strategic priorities and objectives of the UK Government. The UK Government's statement (**SPS**), published in September 2017, set the following priorities:[29]

- **securing long-term resilience**;
- **protecting customers**; and
- **making markets work**.

Meeting our duties

3.10 There are **four important points** to which we submit the CMA should have particular regard when considering how to apply the duties set out above.

3.11 **First**, as the CMA observed in the Bristol Water redetermination following PR14, there is no hierarchy among the principal duties: the requirement is to 'tak[e] the whole of section 2 into account, and not to apply individual duties (whether principal or secondary duties) in isolation' and 'the principal duties should each be given equal weight'.[30] Thus **the principal duties need to be**

[29] UK Government, 'The government's strategic priorities and objectives for Ofwat', September 2017.
[30] Bristol Water, 'Bristol Water plc – A reference under section 12(3)(a) of the Water Industry Act 1991', October 2015, p. 38, paragraph 3.4.

balanced evenly and all the duties taken into account to reach a determination in the round.

3.12 It follows that the role of Ofwat – and, in turn, of the CMA – is not to ascertain whether a set of bright-line tests has been met. Rather, this is an **exercise of regulatory judgement**, in which the regulator strikes a balance between the objectives set out in the Act read in the light of the SPS, the evidence and its own experience and expertise. The requirement for the exercise of judgement is clear in the wording of the statute: section 2 requires Ofwat to perform our duties 'in the manner which…it considers is best calculated' to meet the various objectives.

3.13 The companies pay lip service to this, but the effect of their submissions is to turn the exercise back from a discretionary one into a checklist of tests that (so they contend) the CMA has to meet. This applies particularly in relation to the finance and resilience objectives. It is, perhaps, most starkly illustrated by Yorkshire Water's interpretation of the finance objective (discussed in the section on 'The financing duty and financeability' below). Such an approach would be too crude, and the one we applied takes account of all relevant factors in the round, rather than seeking artificially to impose a bright line legal test.

3.14 The **second**, and closely related, point to note is that as well as requiring an exercise of discretion in striking a balance, the duties are **not mutually exclusive**. As should be apparent from our responses to the companies' submissions and from the cross-cutting documents, the objectives in the Act and in the SPS inter-connect to support the regulation of the water sector. Contrary to what the companies occasionally suggest, it is not a case of having to choose between promoting one objective over another.

3.15 A particularly striking example of such 'either/or' reasoning by the companies is the suggestion that Ofwat, choosing between the consumer objective and the resilience objective, preferred the former to the latter. For the reasons discussed in section below 'Prioritisation of objectives (consumer v resilience)', this suggestion is misconceived.

3.16 **Third**, in reaching our decision as to what balance to strike, we were entitled – indeed, required as a matter of public law[31] – to take into account **a wide range of relevant considerations**. The companies, again, mention this fact, but are selective as to which considerations they press on the CMA.

3.17 This applies particularly to the desire by some of the disputing companies to dismiss or downplay, as a factor relevant to our final determinations, concerns that previous price reviews may have struck a balance that favoured the interests of the companies (and their investors) too highly relative to the interests of their customers. As we explain further in 'Cost efficiency – common issues'[32] and in Chapter 5 below, recent years have seen a combination of stagnant productivity in the water sector and comfortable outperformance by most companies against their PR14 cost allowances. This has given rise to concern as to whether previous settlements were sufficiently stretching – a concern that is shared by independent third parties, such as the **National Audit Office**[33] and the **National Infrastructure Commission**.[34]

3.18 Northumbrian Water suggests that this concern has received too much weight in our final determinations and seeks to downplay such third-party reports as 'external and historical factors' that should not be allowed 'unduly' to influence Ofwat. (Indeed, the company even goes so far as to suggest that Ofwat is '[s]eeking a claw-back in respect of historic settlements'.[35])

3.19 We do not agree that companies' track records – their historical investments, how their actual costs have compared to forecasts, their service performance etc. – are considerations that should receive little weight. We disagree strongly with the suggestion that we have sought to 'claw-back' in respect of historic settlements, or that our consideration of these external reports amounts to evidence of us seeking to do so. Making a prospective decision does not entail ignoring past performance but learning from it. It is appropriate for us to take this into account in deciding the level of overall stretch for PR19. Indeed, it

[31] The same requirement to have regard to all of the relevant circumstances is also reflected in the wording of Condition B of the companies' licences, which provides that Ofwat '*shall*' determine price controls 'having regard to all the circumstances which are relevant in the light of the principles which apply by virtue of Part I of the Water Industry Act 1991 in relation to the Water Services Regulation Authority's determinations, including, without limitation, any change in circumstance which has occurred since the last Periodic Review or which is to occur': see paragraph 8 of Condition B in Bristol Water's licence and paragraph 9 of Condition B of the licences of the other disputing companies.
[32] Ofwat, 'Reference of the PR19 final determinations: Cost efficiency - response to common issues in companies' statements of case', May 2020, Chapter 2.
[33] National Audit Office, 'The economic regulation of the water sector', October 2015.
[34] National Infrastructure Commission, 'Strategic Investment and Public Confidence', October 2019.
[35] Northumbrian Water, 'Statement of Case', April 2020, p. 34, paragraph 138.

would be remiss of us to do otherwise. It would also be remiss of us not to take into account reports and views of expert third parties that have a bearing on the matters we are required to consider.

3.20 **Fourth**, and finally, it follows from the foregoing that each determination by Ofwat is **highly fact- and context-specific**. While there may be aspects of prior Ofwat or CMA decisions (for example, the CMA's observations referred to above as to the weighting of the various duties) which may be useful starting points for consideration by us (and the CMA), each determination is a fresh decision. Each is taken in the light of the most recent evidence[36] and each reflects our evolving views on issues such as costs of capital, econometric modelling techniques, etc., formed in consultation with the companies and other relevant stakeholders through the process of the development of the methodology for, and implementation of, the price review.

3.21 Thus even if Anglian Water's claim that Ofwat has, in PR19, 'departed from the previous price control approach or made significant changes to its approach between its initial assessment of plans, draft determination and final determination assessments'[37] were correct (which it is not), it would not follow that such changes were a breach of regulatory best practice. As the BEIS 'Principles for Economic Regulation' acknowledge, 'the framework of economic regulation needs capacity to evolve to respond to changing circumstances and continue to be relevant and effective over time'.[38] We consider that, far from being a breach of regulatory best practice, the fact that we have developed our approach and thinking to reflect the lessons learned from PR14, our consultations through PR19 and the evolving issues for the sector is plainly a strength of our decision-making, and a reflection of our experience and specialist understanding of the sector. For Anglian Water to suggest otherwise is wholly without merit. Regulatory certainty does not require matters to be fixed for all time, and whilst there is a balance to be struck between certainty and flexibility, Ofwat is right to learn from experience and adapt accordingly.

Time frame (short-term v long term)

3.22 All of the companies either state or imply that Ofwat's focus in PR19 was short-term – to prefer the immediate interests of customers in reduced water bills

[36] This includes, in some cases, evidence from the companies that is submitted very close to the final determination deadline.
[37] Anglian Water, 'Statement of Case' (Corrected), April 2020, p. 109, Chapter C, paragraph 464.
[38] BEIS, 'Principles for Economic Regulation', April 2011, p.5.

over their longer-term interests in sustainable and resilient networks.[39] For Yorkshire Water, Ofwat's objective was 'focusing on reduction in customer bills'; for Northumbrian Water this was the 'central and controlling focus' of our determination; and for Anglian Water it was a 'priority' towards which our final determination was 'heavily weighted'.

3.23 The suggestion, whether implicit or explicit in these submissions, is that we have taken a narrow view of the consumer objective (and/or taken an inappropriately short-termist view of the objective) because we did not properly consider both the short- and long-term interests of consumers as the objective requires,[40] so giving rise to a form of inter-generational unfairness.

3.24 The submissions are ill-founded. We did not have any overriding short-term aim as the companies claim, but took a balanced view of our duties as a whole. Three points may be noted at the outset.

3.25 **First**, the companies largely rely on mere assertions, unsupported by evidence. Anglian Water alone attempts to support its argument with reference to quotations selected from speeches by Ofwat's Chairman.[41] But these do not prove what is claimed for them. They demonstrate only that, because the cost of capital was falling and there was scope for greater efficiency by the companies, there would be 'headroom' for reductions in bills as well as 'other customer priorities there may be around resilience and service'.

3.26 Plainly this does not reveal any overriding aim of reducing bills. It shows only that Ofwat thought there would be an opportunity to do so generated by falling costs and efficiency gains. And it expressly balances this against the desirability of longer-term investment and service improvements.

3.27 **Second**, affordability was indeed, and rightly, one of our key themes for PR19. Water is an essential service, giving rise to unavoidable costs which constitute a significant element of household expenditure for many customers. The need for water charges to be affordable flows from the consumer objective, and has particular importance for low-income or vulnerable customers, as is made clear in the SPS. Even before the current Covid-19 situation arose (which, as we have acknowledged in the introduction above, is likely to have substantial

[39] See, for instance: Anglian Water, 'Statement of Case' (Corrected), April 2020, p. 7, Chapter A, paragraphs 31-45; Northumbrian Water, 'Statement of Case', April 2020, p. 34, paragraph 138; Yorkshire Water, 'Statement of Case' , April 2020, pp. 17-8, paragraph 55; and Bristol Water, 'Statement of Case' (Revised) , April 2020, p. 16, paragraph 14.
[40] Water Industry Act 1991, Section 2(5A).
[41] Anglian Water, 'Statement of Case' (Corrected), April 2020, p. 7, Chapter A, paragraphs 32-34.

impacts on the economy and customers), it was already the case that some 3 million households struggled to pay their water bills.[42] We consider, as we expect the CMA will also wish to do, that ensuring affordability should be a basic objective of any price control.

3.28 In PR19 we have supported affordability for those struggling to pay through an increased emphasis on companies providing support to these customers, and increasing the uptake for social tariffs. Nevertheless, the companies' proposed level of offer of the social tariffs by 2025 is 1.4 million customers, i.e., less than half of the 3 million who struggle to pay their water bills. Consequently, affordability for all remains a very important consideration. However, how we have approached affordability for all in PR19 is not by targeting particular bill levels or making specific reductions in allowances for affordability. Instead we have used our bottom up building blocks approach, and scrutinised each element to ensure that when they are put together the revenues companies recover from their customers are no more and no less than they need to be to deliver their services to their customers, in line with all of our duties in the round. Where we challenged companies in PR19 to improve their costs performance, the driver for savings was not affordability but efficiency, as is explained in our PR19 methodology.[43] To put it differently, **affordable bills were an outcome of our price review process: specific levels of bill reduction were not (indeed, could not have been under our methodology) targeted in and of themselves** during that process.

3.29 Nevertheless, and without in any way detracting from what is set out above about the importance of affordability, it was by no means our only consideration. Affordability was only one of four themes we set ourselves for PR19, the others being **great customer service, long-term resilience in the round, and innovation.**[44] These four themes show that we certainly did not have an undue focus on reducing bills, and instead were concerned to ensure our final determinations were shaped by a balance of factors reflecting the interests of customers, not only now but in the future.

3.30 **Third**, the public statements made by Ofwat throughout the PR19 process were consistent with this balanced approach to meeting our objectives in the round. For instance, our former Chief Executive Cathryn Ross said:

[42] Ofwat, PR19 final determinations: Overview of companies' final determinations, December 2019, p 16.
[43] Ofwat, 'Delivering Water 2020: Our final methodology for the 2019 price review', December 2017, pp. 147-148.
[44] Ofwat, 'PR19 Final Determinations: Policy summary', December 2019, p. 19.

'The good news is that, as I have set out, I think that right now the sector has the best opportunity in decades to address its critics.

In part this is about the opportunity companies have in PR19 to deliver on the 'what' – to do more for customers and society – to engage with customers on how that headroom created by lower financing costs and efficiency improvements **is distributed between lower bills, improvements in service and improvements in resilience**.'[45]

3.31 And David Black, our Senior Director of Water 2020, said:

'Bills aren't the only thing that matter to customers. We look at resilience in the round, which includes operational, financial and corporate resilience.'[46]

Efficiency and evidence

3.32 In their submissions the companies create a false dichotomy by suggesting that the choices available to Ofwat (and now, therefore, to the CMA) are between achieving short-term savings and delivering long-term investment.

3.33 In reality, **the question is always whether the expenditure proposed by the companies is efficient**, whether that expenditure be directed to more immediate operational issues or developing/taking forward longer-term investment. Spending on projects that are more expensive than necessary means higher costs to customers in the short term **without** improvements to service in the long term.

3.34 Our statutory objective (and that of the CMA) to protect the interests of future consumers does not immunise the companies against the need to demonstrate the efficiency of their proposed expenditure. Indeed, one of the reasons why it is important for us to scrutinise whether claimed expenditure is efficient is that once expenditure becomes 'built into' a company's regulatory capital value (**RCV**) then that expenditure will be paid for not only by current customers, but by future customers potentially for many decades to come.

[45] Ofwat, Speech by Cathryn Ross, Moody's 2017 UK Water Sector Conference, 17 October 2017.
[46] Speech by David Black, Westminster Energy, Environment and Transport Forum, 14 June 2018.

3.35 Thus, **customers both now and in future are entitled to expect that they should fund only expenditure that is efficiently incurred**. We agree with the statement by the CMA in the Bristol Water determination of 2015 that

'…we considered that the duty of securing that the functions and activities of a water company are properly carried out and the duty to further the consumer objective themselves implied that we should consider the need for these functions to be carried out efficiently, irrespective of the further duty to actively promote economy and efficiency.'[47]

3.36 This provides the answer to any suggestion that by focusing on the requirement for companies to evidence the efficiency of their expenditure, Ofwat elevated a secondary duty to promote efficiency and economy[48] over its primary duties.[49]

3.37 Challenging companies to demonstrate that their proposed expenditure is efficient is, **as well as being intrinsic to our primary statutory duties, also required of us under the SPS**. For example, under the priority of securing long-term resilience, the SPS provides that

'Ofwat should challenge the water sector to plan, invest and operate to meet the needs of current and future customers, in a way which offers best value for money over the long term.'[50]

3.38 Companies have every reason to want to inflate their totex allowances. But **it is consistent with the basic disciplines of good regulation to test their claims and expect to see the evidence to support them**. Such an expectation is consistent with the best interests of the companies' customers (who, as noted above, are entitled to expect only to fund efficiently-incurred expenditure); does not indicate a 'controlling focus' on bills or failure to make provision for future resilience; and does not equate to unwillingness to fund investment on the basis of **properly-evidenced** need.

3.39 We were right – and the CMA would also be **right – to place the onus on the companies to provide sufficient evidence** to prove that the allowances they wish to claim represent efficient expenditure. Asymmetry of information favours the companies who are best placed to demonstrate both the need for their

[47] CMA, 'Bristol Water plc – A reference under section 12(3)(a) of the Water Industry Act 1991 – Report', October 2015, p 38, paragraph 3.4.
[48] Water Industry Act 1991, Section 2(3)(a).
[49] Yorkshire Water, 'Statement of Case' , April 2020, pp. 17-18, paragraph 55.
[50] UK Government, 'The government's strategic priorities and objectives for Ofwat', September 2017, box below paragraph 8.

plans and the true cost of those plans, but are not ordinarily fully incentivised to do so. This asymmetry is exacerbated by the lack, both in the price review process and in these references, of an equivalently well-resourced consumer advocate to challenge the companies' plans and their proposed costs – in other words, an equal voice to put the opposite case.

3.40 During the PR19 process the companies had **at least three opportunities to provide this information** – in their initial business plans, in revised business plans following our initial assessment, and following our draft determination. **Wherever a scheme was required under the WINEP or other statutory obligation, we allowed funding for it to be delivered efficiently**. Where appropriate, we also allowed funds representing the efficient costs of non-mandatory schemes that could be shown to represent an improvement and had customer support. In either case we further expected companies to demonstrate that the proposed solutions represented the best option for their customers, namely through appropriate identification of options and cost benefit analysis and customer engagement.

3.41 The value of this process of scrutinising the evidential basis for the companies' claims is demonstrated by the **narrowing, during the course of the process, of the gap that initially existed between the companies and Ofwat on the initial assessment of business plans**.[51] (It is also reinforced by the sector's history of outperformance relative to cost allowances, as referred to above.)

3.42 But **some claims were simply not supported by sufficient evidence**. Anglian Water, for example, sought allowances that considerably exceeded its historic levels of expenditure. This required clear justification, and the onus was on the company to provide it. We judged that the evidential base for its claims was inadequate. The long-term effects of not applying an appropriate evidential challenge to claims of this nature would be to impose significant costs on customers, without corresponding benefits, that it is not in their interests to be required to pay.

3.43 The companies' real complaint is simply that Ofwat's funding was less generous than they would like. They seek to frame this argument in legal terms

[51] Ofwat, 'Reference of the PR19 final determinations: Explanation of our final determination for Anglian Water', March 2020, pp 4-5; Ofwat, 'Reference of the PR19 final determinations: Explanation of our final determination for Bristol Water', March 2020, pp. 3-7; Ofwat, 'Reference of the PR19 final determinations: Explanation of our final determination for Northumbrian Water', March 2020, pp 4-6; Ofwat, 'Reference of the PR19 final determinations: Explanation of our final determination for Yorkshire Water', March 2020, pp. 7-8.

by stating it in the language of the statutory duties. But in reality there is no legal point to be made.

3.44 We plainly directed ourselves properly as to our duties, as we said we did,[52] including as to both their long- and short-term aspects. Where we did not accept claims for allowances, we did so because the evidence to support them was inadequate. Any price reduction which flows from our determinations is no more than the consequence of those efficiency challenges, and of the lower cost of capital based on the latest market data. In other words, it is not the case that Ofwat has sought to impose or targeted a particular level of savings; rather, **the level of savings is the *result* of the process of proper analysis of companies' claims and of the use of market data**.

3.45 Finally and on a related note, we reject the suggestion that the introduction of the resilience objective changes the analysis, or supports the companies' arguments, on the importance of properly-evidenced need and efficiency of spending. This is dealt with more fully in the section immediately below.

Prioritisation of objectives (consumer v resilience)

3.46 It is suggested by some companies that Ofwat favoured certain of its statutory objectives (in particular the consumer objective) over others (in particular the resilience objective).

3.47 In consequence it is wrongly claimed by Northumbrian Water that 'Ofwat has not adequately discharged its duty to further long-term resilience'.[53] In similar terms Yorkshire Water seeks to imply – relying on a blatant mischaracterisation of our position – that we treated resilience as if it were not a necessary element of the price control settlement ('Furthering the resilience objective is not discretionary').[54]

3.48 These arguments are entirely ill-founded for at least three reasons.

3.49 **First**, they are just the time frame complaint, which is addressed immediately above, framed in different terms. The complaint is wrong for all of the reasons already given.

[52] Ofwat, 'PR19 final determinations: Policy summary', December 2019, pp. 18-20, paragraph 1.5.2.
[53] Northumbrian Water, 'Statement of Case', April 2020, p. 31, section 3.1.
[54] Yorkshire Water, 'Statement of Case' , April 2020, pp. 15-16, paragraph 45.

3.50 **Second**, the references to the resilience objective in particular, and the express or implied argument that Ofwat has failed to discharge its duty in relation to that objective, are misplaced for at least the following reasons:

- Resilience as a duty may be comparatively 'new' in the sense of having an explicit statutory basis only from 2014 – although it should be noted that the duty was in place in time to form part of the legal framework for the Bristol Water 2015 determination – but it is not a novel issue. It was already implicit in the functions objective and the obligation to protect the interests of future, as well as current, consumers. Ofwat has always treated it as an important element of its other duties, and embedded it in its decision making.
- Resilience has received particular focus in Ofwat's work over the last five years, both by reference to the implementation of the resilience duty itself but also the more general 'resilience thinking' grounded in our duties as a whole.[55]
- The requirement for resilience does not entail an obligation to accept companies' proposed business plans uncritically without assessing their efficiency or requiring that they are supported by adequate evidence. Companies cannot appeal to 'resilience' as a means of avoiding the need to comply with the basic disciplines of good regulation.
- As noted above, **long-term resilience in the round** was one of Ofwat's four key themes for PR19, and our methodology and each of our decision documents provides a clear audit trail of how the need for resilience has been recognised and given effect throughout the process.[56]

3.51 **Third**, it should be noted that the resilience objective, though placed on Ofwat as part of its suite of statutory duties, is in practice directed as strongly at the companies themselves as at Ofwat (and now the CMA).

3.52 The second limb of the objective is expressly framed in these terms – 'to secure that undertakers take steps for the purpose of enabling them to meet, in the long term…'. It includes in particular promoting 'the taking by them of a range of measures to manage water resources in sustainable ways, and to increase efficiency in the use of water and reduce demand for water…'.[57]

[55] For instance: Ofwat, 'Resilience Task and Finish Group – Final Report', December 2015, and 'Resilience in the Round: Building resilience for the future', September 2017
[56] For example, see Ofwat, 'Reference of the PR19 final determinations: Overview', March 2020, pp. 45-46.
[57] Water Industry Act 1991, Section 2(2DA)(b).

3.53 Parliament, in enacting the duty, was plainly concerned about the extent of the companies' short-term focus at the expense of long-term planning, a fact which naturally does not emerge from their submissions. But to frame the objective as one which places obligations solely on Ofwat is to misinterpret its underlying purpose and effect.

3.54 In the light of this, we expected the companies when submitting their initial business plans to show strong evidence of their own identification of risks and solutions within the context of resilience. Our assessment was that:

> 'The best companies – South West Water and United Utilities [two fast track companies] – assess and prioritise a wide range of risks, provide a clear line of sight between risks they face and the measures that they propose, and include a range of solutions including those involving the natural environment and behavioural change.'[58]

3.55 As this indicates, the best companies demonstrated that they had identified effective and efficient ways of managing future resilience risks. The plans put forward by most companies were not, however, of the same quality.

3.56 At the initial assessment of plans we had significant concerns around companies' ability to demonstrate that they had a framework in place to secure long-term resilience in the round.

3.57 As a result, we asked the companies to develop specific action plans to demonstrate that tangible measures were in place for implementation of their resilience frameworks. Even though we found some examples of good practice – including from Anglian Water and Bristol Water – most companies, including all of the disputing companies, needed to develop their plans in more detail to build confidence around their robustness and deliverability.[59]

3.58 It is therefore important to recognise that the resilience objective reflects the obligations that properly sit with the companies themselves, including the need for them to find efficient solutions to long-term problems of demand. It is not always simply a matter of spending more money on enhancement projects and even in those cases where greater spending is appropriate to fulfil the

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[58] Ofwat, 'PR19 initial assessment of plans: Overview of company categorisation', January 2019, p. 18.

[59] See, for example: Ofwat, PR19 final determinations: Anglian Water final determination, December 2019, pp. 31-2, section 2.3; Ofwat, PR19 final determinations: Bristol Water final determination, December 2019, pp. 30-1, section 2.3; Ofwat, PR19 final determinations: Northumbrian Water final determination, December 2019, pp. 29-30, section 2.3; Ofwat, PR19 final determinations: Yorkshire Water final determination, December 2019, pp. 27-9, section 2.3.

objective, it remains subject to the need to evidence the efficient use of customer funding.

3.59 Nothing in the resilience objective relieves the companies of the requirement to demonstrate such efficiency, or offers a blank cheque for future expenditure.

Cost allowance versus outcomes

3.60 The companies all complain, expressly or implicitly, that the performance requirements imposed on them are out of balance relative to their allowances. In particular, they emphasise issues which they claim arise from (i) the performance commitment levels and (ii) the ODIs set by Ofwat in the final determinations.

3.61 Although the companies express their complaints in different language, two principal strands may be detected:

- In relation to the performance commitment levels, the companies' main complaint is about their achievability in the light of the costs that we have allowed. Anglian Water and Yorkshire Water express this in terms of an alleged 'disconnect'[60] between the cost allowances and the service quality improvements in the final determinations.
- In relation to the ODIs, the companies focus on our decision to have different rates for over- and under-performance payments, with Bristol Water framing the point in terms of asymmetric downside risk.[61]

3.62 As in the sections entitled 'Time Frame (short-term v long-term)' and 'Prioritisation of objectives (consumer v resilience)' above, in truth, the companies disagree with how we have exercised our judgement as a regulator. The essence of their complaint is that Ofwat's funding was less generous than they would like. The point may be couched in the language of breach of statutory duties (for example, as a breach of the financing duty[62]) but is simply a disagreement with the exercise of Ofwat's discretion on the merits.

3.63 We make **two overarching points** in response.[63]

[60] Anglian Water, 'Statement of Case' (Corrected), April 2020 p. 221, chapter F, section 3.1; and Yorkshire Water, 'Statement of Case' , April 2020, p. 45, paragraph 135.
[61] Bristol Water, 'Statement of Case' (Revised) , April 2020, p. 145, paragraph 606.
[62] Bristol Water, 'Statement of Case' (Revised) , April 2020, p. 142, paragraph 599.
[63] These are discussed further in this chapter and Chapter 4 of this document.

3.64 **First**, we – unlike the companies – are able to take an **expert, independent and objective view across the sector as a whole**, drawing on the representations and evidence from all of the individual companies (including the 13 companies who are not disputing their final determinations). We can also consider historical performance across the sector, and make comparisons of performance across companies (of which we have decades' of knowledge). Whilst to a considerable extent we are dependent on the companies to provide us with information about their business plans (hence the information asymmetry issue which we refer to elsewhere), more generally we have considerable experience of how cost allowances have translated into performance on a range of indicators. We are also able to draw in some respects on relevant experience from beyond the water sector. During this redetermination, the CMA will bring its own perspective and experience to bear on the complaints made by the companies about the balance between the performance requirements and the allowances. That is entirely as it should be.

3.65 We should emphasise that we have not only calibrated each of the performance commitment levels to be stretching but achievable, **but have also considered them as a package**, to ensure that they strike a fair and achievable balance in the round. In deciding where that balance lies, we have borne in mind our concern about the sector's stagnating performance and that companies have tended, during PR14, to underspend their cost allowances, which is informative on how companies have responded to challenges we have set in the past. It is of critical importance, particularly to the interests of customers, that there be sufficient stretch in PR19 in companies' performance levels that are set and we have sought to ensure that the stretch is achievable.

3.66 The companies are incentivised to focus on those aspects of the package that they view as unduly onerous, on areas in which they are relatively poor performers and to understate performance improvements that they might be able to achieve within their cost allowance in order both to obtain a more easily achievable set of performance levels and to minimise their downside exposure. The CMA will be aware, therefore, that the companies' submissions amount to **an attempt to unpick selected parts of the package without necessarily considering it in the round**.

3.67 **Second**, the companies' complaints about incentives for under- and over-performance must be viewed **in the light of the actual outcomes that are being incentivised and, again, the distribution of upside and downside risk across the package**.

3.68 The companies complain of asymmetrical incentives in relation to certain ODIs (i.e., penalties for under-performance without rewards for over-performance) but fail to acknowledge that **the appropriate distribution of risk and reward is driven by the nature of the outcome**. On issues such as asset health, water quality, etc., there is a real downside for (current and future) customers if companies fail to achieve their targeted levels of performance but, conversely, it would be inappropriate, or even impossible, to reward 'over-achievement' (particularly where the performance commitment level in question simply replicates a statutory requirement for 100% compliance).

3.69 It is somewhat disappointing to us, in this regard, that companies focus heavily on those areas where incentives are asymmetrical when **there are other outcomes in respect of which outperformance will be rewarded**. To give just three examples:

- The new C-Mex incentive has significantly increased the potential upside for companies in PR19 relative to PR14 and PR09 SIM incentive.[64]
- In PR19 we have introduced enhanced ODIs in respect of frontier-shifting performance, which companies have selected for areas where their performance is strongest.[65]
- At PR14 companies could not earn more than 2% of return on regulatory equity (**RoRE**) over the five year period, without agreement of Ofwat. At PR19 there is no such limit. Instead outperformance beyond 3% of return on regulatory equity (RoRE) each year must be shared equally with customers. While this reduces the rate at which very high outperformance can be earnt, there is no aggregate upper limit.[66]

3.70 In similar vein, it is also **disappointing that the disputing companies seek to use the asymmetric nature of financial ODIs as a basis for arguing that our approach to cost of capital (which is based on past performance) is invalid**.[67] There was already, in PR14, some asymmetry in relation to the financial incentives for service outperformance (i.e., performance levels for which the incentives were skewed to the downside)[68] and, as explained above, we have taken a number of steps to increase upside relative to PR14.

[64] Ofwat, 'PR19 final determinations: Customer measure of experience (C-Mex) and developer services measure of experience (D-Mex) policy appendix', December 2019.
[65] Ofwat, 'PR19 final determinations: Delivering outcomes for customers policy appendix', December 2019, pp. 118-126.
[66] Ofwat, 'Reference of the PR19 final determinations: Outcomes - response to common issues in companies' statements of case', May 2020, chapter 11.
[67] See 'Reference of the PR19 final determinations: Risk and return - response to common issues in companies' statements of case', May 2020, chapter 2.
[68] See 'Reference of the PR19 final determinations: Risk and return - response to common issues in companies' statements of case', May 2020, chapter 2, table 2.2.

Furthermore, company management has a material influence over its ODI performance, and companies have had significant opportunity through PR19 to convince us of the need to set performance commitment levels or over- and under-performance payment rates at different levels. This means that actual ODI performance is a company specific, diversifiable risk.

3.71 Returning to the importance of bearing in mind what outcome is being incentivised, and more fundamentally, some of the ODI under-performance payments relate to recovery of money in the event that the outcome which a company has proposed is not delivered. We see **no reason why customers should pay *not* to benefit from planned expenditures**.

3.72 **Third** and finally, as noted in section 'Prioritisation of Objectives (consumer v resilience)' above, the best companies demonstrated during PR19 that they had identified effective and efficient ways to deliver high service quality at the same time as being efficient. This is shown, for example, in the analysis of service quality and cost efficiency performance shown in Chapter 7 of this document.

3.73 This analysis shows that there is not an inverse relationship between cost efficiency and service quality, with some companies at or above our efficient cost benchmark performing well on outcomes (and, indeed, some already meeting the 2024-25 performance commitment levels). It is therefore, contrary to much of the unsubstantiated assertion in the companies' submissions, **possible for companies to perform well both on costs and outcomes**.

3.74 Accordingly, in relation to the balance between costs and outcomes, we again plainly directed ourselves properly as to our duties, and the companies' complaints about this are unwarranted.

The financing duty and financeability

3.75 All of the companies argue that Ofwat, in the final determinations, failed to satisfy the financing duty. This is the duty to:

'act in the manner that [Ofwat] considers best calculated…to secure that companies holding appointments…as relevant undertakers are able (in particular by securing reasonable returns on their capital) to finance the proper carrying out of those functions'.[69]

3.76 The opening words of the duty, which the companies decline to emphasise, are important. The duty required the exercise of our regulatory judgement, as it now (in this process) requires the exercise of judgement by the CMA.[70]

3.77 Having regard to the volume of the economic and financial analysis forming part of the PR19 determinations, the companies cannot credibly cast doubt on the fact that we have acted in the manner we considered best calculated to secure that companies are able to finance the proper carrying out of their functions (in particular by securing reasonable returns on capital). We did this by making sure that companies' allowed revenues, relative to efficient costs, would be sufficient for an efficient company to finance its investment on reasonable terms and therefore secure that it can properly carry out its functions. As before, whenever the companies argue that the duty has not been met, they are largely attempting to attach a legal cover to a disagreement about regulatory judgement.

3.78 However, there is another persistent feature of the companies' submissions. They all draw a straight line between the financing duty on the one hand and a company-specific financeability analysis (based on interest cover ratios) on the other. It is either said or strongly implied that these two things can be equated, so that if a company appears to be under some pressure – at a preferred credit rating and on a particular financial metric – Ofwat must be in breach of its financing duty.

3.79 This point is put most starkly in the submissions by Yorkshire Water, where the financing duty is interpreted as a two-stage test expressed in the language of profits, cash flows and investment grade credit ratings – 'Failure to meet at least one of these limbs would mean that the efficient firm is not 'financeable'.'[71]

3.80 This conflation of the statutory duty with financial metrics is made repeatedly throughout companies' submissions; indeed, seeking to add weight to this

[69] Water Industry Act 1991, Section 2(2A)(c).
[70] Northumbrian Water claims that Ofwat's financing duty imposes a 'higher standard' than the equivalent duty on Ofgem in the electricity sector 'which is only to 'have regard to'. (Northumbrian Water, 'Statement of case', April 2020, p. 179, paragraph 983.) However, the quoted text is both selective and taken out of context. The precise formulation is 'have regard to…the need to secure that licence holders are able to finance [etc.]…' (section 3A(2)(b) of the Electricity Act 1989, emphasis added). Read fully and in context, it is not a diluted version of the duty on Ofwat.
[71] Yorkshire Water,'Statement of Case' , April 2020, p. 16, paragraphs 46-47.

argument, some of the disputing companies have chosen to characterise the duty as the 'Financeability Duty',[72] language that is never used in the Act.

3.81 Yorkshire Water claims that its two-stage test is 'the established interpretation of this primary duty'.[73] But no legal precedent 'establishing' the interpretation is cited and none exists. In fact, this interpretation is subject to two errors.

3.82 **First**, it seeks to read into the statute things which are not there. The wording of the financing duty has not changed materially since the Water Act 1989 under which the water industry was privatised.[74] There is no evidence that Parliament, at privatisation, was thinking of the application of interest cover ratios or alternative financial metrics to the water sector. Nor was it likely to have done so. The use of those metrics came later, as regulatory methodologies developed. There is no basis for reading them into the statute as if they reflected Parliamentary intention. The words of the financing duty mean what they say in plain English – no more and no less.

3.83 **Second**, this interpretation seeks to reconstitute the financing duty as a sequence of binary pass or fail tests, editing out the need for regulatory judgement that is made explicit in the statutory language. The intended implication is clear: if a financial ratio appears under strain by reference to a credit rating agency's expectations, that means that Ofwat has failed one or other of the tests and must be in breach of the duty. There is no basis for this approach in the statute. It is misconceived, and it would be inappropriate for the CMA to adopt it.

Financeability

3.84 The CMA has previously considered the meaning of the term financeability in relation to a different sector in the Firmus case:

'a term used by regulators to decide if a firm has the ability to pay off its providers of debt and equity finance…it is generally assumed that financeability is achieved when the rate of return (or WACC) has been set at a high enough

[72] For example, Anglian Water, 'Statement of Case' (Corrected), p. 106, Chapter C, paragraphs 444-447.
[73] Yorkshire Water, 'Statement of Case' , April 2020, p. 16, paragraph 46.
[74] Section 7(2)(b) of the Water Act 1989, which was subsequently carried forward into the Water Industry Act 1991.

rate, such that the revenues and therefore cash flows made by the firm are sufficient to pay investors and lenders.'[75]

3.85 This entails, in itself, much more than a mere analysis of financial metrics –

'…financeability analysis should not be focused solely on the outturn financial ratios and whether these are in-line with the investment grade thresholds set by the rating agencies. Rather, the interpretation of these ratios should instead be considered 'in the round'…'[76]

3.86 In addition, companies can be expected to take reasonable steps to adjust their own positions, including their capital structures, if necessary to secure their own financeability. For instance:

'Overall, our view is that it is likely that FE would be financeable at [the notional assumed] 55% gearing. Moreover, if FE does face financeability issues, the [Utility Regulator] was not wrong to assume that FE can address this by reducing gearing to 45%.'[77]

3.87 We do not accept that our final determination for any of the companies was in breach of the financing duty. In particular, we note the following three points.

3.88 **First**, we provided adequate funding for an efficient company with the notional capital structure. That was a proper discharge of our duty in a way that ensures objectivity and neutrality as between different organisational or funding models.

3.89 **Second**, our PR19 methodology allowed short-term financeability constraints to be addressed by advancing revenue through the mechanism of PAYG or RCV run-off adjustments. This improves cashflows without coming at a long-term cost to customers.

3.90 **Third**, where a company has chosen to adopt a different capital structure, is inefficient, or because of its past poor performance receives underperformance ODI adjustments or other penalties, it will need to – and should – make its own adjustments to live within the funding envelope provided. To put it plainly:

[75] CMA, 'Firmus Energy (Distribution) Limited v Northern Ireland Authority for Utility Regulation - Final determination', June 2017, p. 173, paragraph 7.60.
[76] CMA, 'Firmus Energy (Distribution) Limited v Northern Ireland Authority for Utility Regulation - Final determination', June 2017, p. 181, paragraph 7.98.
[77] CMA, 'Firmus Energy (Distribution) Limited v Northern Ireland Authority for Utility Regulation - Final determination', June 2017, p. 188, paragraph 7.123.

companies cannot, by pointing to our financing duty, divest themselves of the responsibility that they themselves bear for ensuring their own financeability.

3.91 The concept that we set our determinations by reference to a notional capital structure is long standing, has been applied consistently over successive price control determinations, and is well-understood by the companies themselves. It is consistent with our duties and with an appropriate allocation of responsibility. Customers are not able to influence a company's capital and financing choices, so companies must be responsible for their own choices around capital and financing structures, within the framework of the price review, the licences and company law. They must bear the consequences of their decisions.

3.92 In contrast, setting a determination that takes account of some selected features of a company's actual structure or performance would materially dilute the incentive on companies to raise debt efficiently, and for management to be accountable for its actions over the long term.

3.93 In reality, Ofwat will have complied with its financing duty as part of compliance with all of the statutory duties taken in the round where it has made appropriate judgements to (i) allow a company with a notional capital structure its efficient costs, (ii) set an allowed return that is appropriate and in line with investor expectations based on market data, and (iii) provided adequate cashflows, such that when all the individual components of the companies' business plans are taken together, an efficient company can generate cash flows sufficient to meet its financing needs. Where that has occurred, then each company should be financeable.

3.94 Invoking the existence of the financing duty cannot absolve a company of the need to take responsibility for its own performance against its performance commitment levels or for the consequences of it chosen capital structure.

3.95 In practice, the companies' criticisms amount in substance to no more than disagreement with the use of our discretion in relation to certain key elements of our final determinations. These criticisms are addressed more fully in the 'Risk and return – common issues' document and in company-specific documents.[78]

3.96 In any event, the criticisms do not amount to reasons why our approach is unsound in principle, or why the parameters that were chosen for the purpose

[78] Ofwat, 'Reference of the PR19 final determinations: Risk and return - response to common issues in companies' statements of case', May 2020, Chapters 2 and 4.

of the financeability assessments were unreasonable. And the arguments on these issues are neither clarified nor advanced by framing them in terms of the statutory financing duty, in particular when subject to the misinterpretation that a number of the companies have sought to impose on it.

Financial resilience

3.97 Anglian Water argues that Ofwat has misinterpreted its 'Resilience Duty' – i.e. the statutory duty to further the resilience objective[79] – by incorrectly reading into it a requirement for financial resilience when the objective is in fact concerned only with operational resilience. It suggests that this led us into error in our final determinations 'in particular through its gearing outperformance sharing mechanism' and other measures to address a threat to financial resilience.[80]

3.98 By contrast, it might be noted that Bristol Water, which submits that '[s]ecuring financial resilience is therefore an important factor for Ofwat in meeting its resilience duty', appears to regard a financial resilience requirement either neutrally or even as being welcome.[81]

3.99 Anglian Water's purpose is to suggest that certain features of our final determination that it did not like – most notably the gearing outperformance sharing mechanism – are recent innovations that can be traced back to a legal misinterpretation of a relatively new duty, and should therefore fall away if that interpretation is corrected. However, this argument is entirely misconceived, for four reasons.

3.100 **First**, in support of its case that Ofwat is 'stretching its interpretation of the duty', Anglian Water quotes from the Ofwat publication Towards Resilience, as follows:

'We recognise the 'resilience duty' has specific legal meaning as set out above. But we also recognise that resilience thinking…has a broader application in helping us understand risks to the systems and services that customers rely on. As such, we see the broader concept of resilience as providing useful insights

[79] Water Industry Act 1991, Section 2(2A)(e) and Section 2(2DA).
[80] Anglian Water, 'Statement of Case' (Corrected), p. 103, Chapter C, paragraphs 430-431.
[81] Bristol Water, 'Statement of Case' (Revised) , April 2020, p. 179, paragraph 32.

into how we deliver our strategy and move towards our shared vision of trust and confidence.'[82]

3.101 The quotation, which speaks for itself, is inconsistent with the company's argument. In the quotation **we were clearly distinguishing the resilience duty, which has a specific legal meaning (as stated) in line with the statutory intention, from the wider concept of 'resilience thinking'**. Resilience in this much wider sense provides an organising concept which draws together the strands of various aspects of our work, many of them of long-standing.

3.102 **Second**, there is **no novelty in the concept of resilience in general, or financial resilience in particular, having a role within sector regulation**. To take just one example, for instance, Anglian Water, like other water companies, has for many years – considerably predating the introduction of the resilience duty into the Act – been subject to a condition of its licence which states that:

> 'I13. The Appointee shall at all times act in the manner best calculated to ensure that it has adequate:
> I13.1 financial resources and facilities;
> I13.2 management resources; and
> I13.3 systems of planning and internal control,
> to enable it to secure the carrying out of the Regulated Activities including the investment programme necessary to fulfil its obligations under the Appointment(s).'[83]

3.103 This is 'resilience thinking' – expressly incorporating financial resilience – but it was neither dependent on the introduction of the resilience duty nor on the use of resilience terminology. It can readily be grounded in the requirements of more longstanding statutory provisions such as the consumer and functions duties. It has never previously been the subject of dispute.

3.104 **Third**, Anglian Water's **claim that the gearing outperformance sharing mechanism flowed from the resilience duty (and, it is implied, that duty alone) is factually inaccurate**. It is unsupported by any quotation from the documents in which the policy was consulted and decided upon,[84] because no

[82] Ofwat, 'Towards resilience: how we will embed resilience in our work', December 2015, p. 5.
[83] Ofwat, 'Consolidated working version of the Appointment Anglian Water Services Limited as a water and sewerage undertaker', February 2020, Condition I13 (Ring-Fencing), although this condition was historically part of Condition F.
[84] Ofwat, 'Putting the sector back in balance: Consultation on proposals for PR19 business plans', April 2018; 'Putting the sector in balance: position statement on PR19 business plans', July 2018.

supporting quotation exists. On the contrary, a reading of those documents makes plain that the mechanism was grounded in Ofwat's duties taken in the round, including in particular (if emphasis were needed) in the consumer duty – the policy being concerned in particular to ensure that customers both share in the benefits achieved by companies, and are compensated for the risks incurred, when their gearing exceeds the notional level.

3.105 **Fourth**, **financial resilience may be viewed as a feature of the resilience duty**, properly understood. There are two limbs to the resilience objective as set out in statute. We agree that the first of these (a) is drafted in such a way as to be directed towards what Anglian Water calls 'operational resilience'. This sets out the overall goal. However, the second limb (b), which is concerned with how that goal is achieved, uses broader language including a reference to 'long-term planning and investment by relevant undertakers', in which the concept of financial resilience could readily sit.

3.106 The opening words of the second limb of the definition are: '…to secure that undertakers take steps for the purpose of enabling them to meet, in the long term, the need for the supply of water and the provision of sewerage services to consumers'. As this makes clear, although the objective is placed on Ofwat (and the CMA, in this process), it is concerned with actions that the water companies themselves need to take for the purposes of ensuring the resilience of their own long-term plans. In this respect the second limb has some similarity and overlap with the pre-existing functions duty.

3.107 Consequently, taking all of these points together, Anglian Water's claim that measures designed to promote (and to require the companies to ensure) financial resilience derive from a misinterpretation of the resilience duty – and therefore represent legally invalid components of the final determinations – are plainly misplaced. We made no claim that the decisions which the company complains of were grounded solely in the resilience duty. We did not need to do so. And in the case of the gearing outperformance sharing mechanism we would not have done since the mechanism is designed to, and does, meet the statutory duties as a whole and not just one component of them.

3.108 **In conclusion**, financial resilience (whether or not expressed in those terms) is a concept of long standing which has always found support in the legislation, in particular in our statutory duties, and the conditions of companies' licences (which have been given effect under the legislation). Limb (b) of the resilience duty can therefore be viewed as supporting what was already clear in terms of the companies' own obligations. To that extent, it was and remains an entirely appropriate consideration for Ofwat, as it should now also be for the CMA.

The role of customer preferences

3.109 Some companies suggest that Ofwat has failed to satisfy its duty in relation to the consumer objective because it has not adopted preferences indicated by their customers through the customer engagement process. Specifically:

- Anglian Water states that 'Ofwat has compromised its consumer duty by disregarding the preferences which the Company's customers have clearly expressed'[85] and 'Ofwat has effectively replaced customers' views with Ofwat's own narrow understanding of what customers *ought* to want'.[86]
- Northumbrian Water claims that 'FD19 disregards consumer preferences in a number of key areas…our customers clearly told us they would want to have flat bills and the security of knowing that critical resilience had been enhanced'.[87]

3.110 These submissions reflect either a misapprehension, or a misrepresentation, of the purpose of companies' customer engagement programmes.

3.111 In our PR19 methodology we set out our expectations that companies should demonstrate ambition and innovation in their approach to engaging customers as they develop their business plans. This included direct engagement with customers to develop a package of performance commitments and ODIs.

3.112 We expected customer challenge groups (CCGs) to provide independent challenge to companies and independent assurance to us on: the quality of a company's customer engagement and the degree to which this is reflected in its business plan. As we explained in our Reference of the PR19 final determinations,[88] we did not expect CCGs to endorse a company's overall business plan, nor did we expect them to act as a substitute for the views of customers. We are currently considering the future role of CCGs (or equivalent) for PR24, including how to better promote the independence of CCGs from companies.

3.113 As we set out in our Final Methodology,[89] the customer research provided by companies is just one of the inputs we asked companies to consider in setting stretching performance commitment levels (including cost benefit analysis, comparative information, historical information, minimum improvement

[85] Anglian Water, 'Statement of Case' (Corrected), April 2020, p. 8, Chapter A, paragraph 42.
[86] Anglian Water, 'Statement of Case' (Corrected), April 2020, p. 98, Chapter C, paragraph 401.
[87] Northumbrian Water, 'Statement of Case', April 2020, p. 34, paragraph 138.
[88] Ofwat, 'Reference of the PR19 final determinations: Overview', March 2020, p. 33.
[89] Ofwat, 'Final Methodology Appendix 2 Delivering Outcomes for Customers', December 2017, p. 50

possible, maximum level attainable and expert knowledge). Accordingly, in assessing companies' proposed performance commitment levels we have applied a wider set of tests than just evidence of customer support.

3.114 The Methodology also stated clearly that customer engagement was not intended to replace either the role or judgement of Ofwat. It incorporated a series of principles of good customer engagement, the seventh of which was that:

> '[t]he final decision on price limits is entrusted to Ofwat. We will use a risk-based approach to challenge company plans if this is necessary to protect customers' interests.'[90]

3.115 This approach recognises that there are areas where customers are not best-placed to determine whether a company's business plan is appropriate. For example, this is particularly the case for determining whether companies' proposed performance commitments are stretching but achievable. Customers do not have access to the in-depth analysis of comparative and historical performance information and engineering expertise that Ofwat has applied to assess performance commitment levels.

3.116 It is important to recognise that companies' customer research varies in quality and can only ever imperfectly capture customers' actual preferences. It would therefore be a derogation of our responsibility as a prudent regulator not to scrutinise and, where appropriate, challenge the results of companies' customer research, based on the wider set of information available to Ofwat (such as historical and sector comparative information). We also consider the extent to which the companies have used the information for their business plans.

3.117 In our exercise of judgement, we had full regard to customer preferences. Such preferences were instrumental in shaping the final determinations. But we were not required to (and indeed could not) treat them as constraining our discretion or limiting our ability to respond appropriately in the context of the other evidence (or paucity of evidence) before us. In particular, customers' stated preferences should not be confused with judgements as to the efficiency or otherwise of companies' proposed plans. Customers are not well-placed to

[90] Ofwat, 'Delivering Water 2020: Our final methodology for the 2019 price review', December 2017, p. 26.

make such judgements. But it can safely be assumed that no customer wants to pay for inefficiency.

3.118 Accordingly, broad indications of customer preference obtained as part of an engagement process should certainly serve to shape company business plans. But they do not relieve the companies of the need to evidence either the need for or efficiency of their proposed expenditure. Nor does broad customer support immunise company business cases from appropriate regulatory scrutiny and challenge.

3.119 Therefore, to the extent that the companies' submissions imply that Ofwat had – and, it would appear to follow, the CMA has – no discretion to depart from the output of their customer engagement surveys, they are unsustainable.

3.120 We were entitled, in particular, to conclude that no customer really wants to pay for expenditure that is inefficiently incurred – and, in line with our duties as a whole, to set allowances accordingly.

4. Overall level of stretch

Our final determination

4.1 In our final determinations we set out that we considered the overall level of stretch to be a combination of the level of stretch on costs and outcomes. We considered that the allowed return on capital did not increase or decrease the overall level of stretch, as the allowed return was based on market evidence and we have not aimed up or down.

4.2 In the final determinations we noted that we had reduced the level of stretch on companies compared to our draft determinations. These included reducing our frontier shift estimate from 1.5% to 1.1% per year, refining our approach to base cost modelling by including 2018-19 data, amending the way that catch-up and frontier shift efficiency are applied, providing additional funding to reduce leakage for better performing companies, reviewing the stretch on water supply interruptions and other performance commitments and adjusting collars to limit penalties in early periods on specific outcomes.[91]

4.3 In the final determinations we stated that the overall level of stretch across costs and outcomes was stretching but achievable. Stretching performance commitments were based on company forecasts of the forward looking upper quartile, evidence of historical improvements and benchmarking across companies. Cost allowances were based on historical cost based benchmarks with a frontier shift. We assessed the overall level of stretch based on historical performance and company forecasts and found that the combination of stretching but achievable outcome performance commitments and efficient cost allowances were achievable as a whole for an efficient company.

Issues raised by disputing companies

4.4 Both Northumbrian Water[92] and Yorkshire Water[93] state that we have increased the level of stretch compared to PR14, and that it is greater than that in energy

[91] Ofwat, 'PR19 final determinations: Overall stretch on costs, outcomes and cost of capital policy appendix', December 2019, p. 2.
[92] Northumbrian Water, 'Statement of Case', April 2020, pp. 61-62 and 98, paragraphs 277-278 and 482.
[93] Yorkshire Water, 'Overview of the reasons why we have rejected the Final Determination', April 2020, slide 21.

controls. Both companies suggest a variety of metrics to assess the overall level of stretch:

- the choice of catch up efficiency benchmark (Northumbrian Water);
- the level of frontier shift challenge (Northumbrian Water);
- totex per customer (excluding WINEP) (Yorkshire Water);
- the stretch on the three upper quartile performance commitments (both companies);
- the stretch on asset health performance commitments (Yorkshire Water);
- the reduction in the cost of equity increases stretch (both companies);[94]
- the reduction in bills as part of PR19 (Northumbrian Water);[95]
- increase in equity at risk (Yorkshire Water); and
- a reduction in interest cover ratios (Yorkshire Water).[96]

Our response

4.5 We continue to consider that the overall level of stretch for the price control is defined by the combination of the stretch across costs and outcomes. We set out our reasons that the other metrics used by Northumbrian Water and Yorkshire Water are not relevant to the level of stretch.

4.6 **Our allowed return on capital does not increase or reduce the level of stretch**. In theory the allowed return could increase or reduce the overall level of stretch if a regulator "aims off" and adjusts the allowed return to reflect expected performance or asymmetric information and not just reflecting market evidence. In the final determinations we set the allowed return on capital consistent with market evidence. We therefore do not increase or weaken the level of stretch we require of companies due to our allowed return. We note that independent reviews[97] and other regulators[98] have considered that it is appropriate to discount the allowed return to take account of asymmetric information and expected outperformance. We have not done so in PR19 final

[94] Northumbrian Water, 'Statement of Case', April 2020, p. 98, paragraph 482; and Yorkshire Water 'Statement of Case' , April 2020, p. 82, paragraph 277.
[95] Northumbrian Water, 'Statement of Case', April 2020, p. 121, paragraphs 587-588.
[96] Northumbrian Water, 'Statement of Case' , April 2020, pp. 16, 74, 79-80 and 82, paragraphs 48-49, 235, 265 and 277.
[97] National Infrastructure Commission, 'Strategic Investment and Public Confidence', October 2019, pp. 15-16.
[98] Ofgem, 'RIIO-2 Sector Specific Methodology Annex: Finance', December 2018, p. 52, paragraph 3.162.

determinations, but believe the CMA should consider this issue as part of their redetermination.

4.7 Additionally if the balance of risk and return across costs and outcomes was skewed to the upside or downside – for example if the stretch was too great or too little – and this risk was not diversifiable, then this could in theory increase or reduce the required allowed return on capital. However we consider that our overall package is stretching and achievable, and the expected outturn for an efficient company should be our allowed return on capital. We therefore do not consider that it is necessary or appropriate to adjust the allowed return to reflect the level of stretch on outcomes and cost efficiency.

4.8 Northumbrian Water[99] and Yorkshire Water[100] have suggested that the reduction in the allowed return on equity reflects an increase in the level of stretch. We disagree as the reduction in the allowed return reflects prevailing market evidence. If we were to follow what the disputing companies are suggesting, it would mean that we should add a premium to the allowed return to offset the increased level of stretch. We consider the level of stretch is appropriate and well justified: it would be wrong to ask customers to pay more because disputing companies claim to be unable to meet the level of stretch faced by the rest of the sector.

4.9 Yorkshire Water states that an increase in the equity at risk represents an increase in the stretch between PR14 and PR19.[101] For Yorkshire Water the company states that their equity at risk has increased by 70% between PR14 and PR19.[102] This claimed increase in the equity at risk reflects the company's view of the change in the overall balance of risk and return (i.e., the balance of risk for the company was skewed to the downside). While, as we set out above, a change in the balance of risk and return could result in an increase in stretch, **we do not consider that Yorkshire Water's representation of the change in the balance of risk and return for an efficient company is credible or accurate**. Further detail is provided in 'Risk and return – common issues'.[103]

[99] Northumbrian Water, 'Statement of Case', April 2020, p. 98, paragraph 482.
[100] Yorkshire Water, 'Statement of Case' , April 2020, pp. 42 and 82, paragraphs 142(e) and 277.
[101] Yorkshire Water, 'Overview of the reasons why we have rejected the Final Determination', April 2020, slide 21.
[102] Yorkshire Water, 'Statement of Case' , April 2020, p. 76, paragraph 246.
[103] Ofwat, 'Reference of the PR19 final determinations: Risk and return - response to common issues in companies' statements of case', May 2020, Chapter 5.

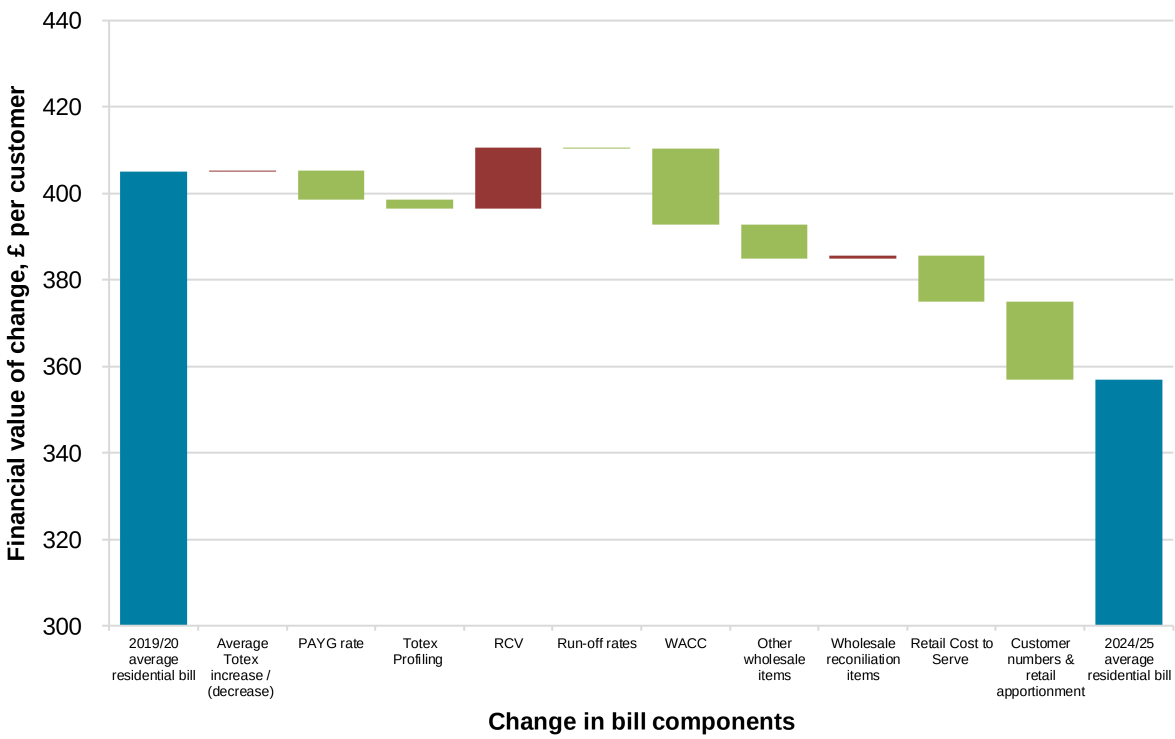
4.10 Yorkshire Water also states that the level of stretch has increased as financial headroom as described by the adjusted interest cover ratio has declined.[104] As we set out in length in the 'Risk and return – common issues',[105] Yorkshire Water and the other disputing companies are financeable. The financial ratios we have used already incorporate sufficient headroom for financeability reasons. It is not the role of the final determinations to increase headroom on a notional basis beyond that required for financeability reasons. Customers should not pay extra for companies who adopt highly geared structures and/or past performance failures.

4.11 Northumbrian Water states **that the reduction in bills increases the stretch.**[106] **This is categorically incorrect.** Bills, or more properly total revenues (as we are setting revenues and not price controls), are a function of the decisions that we take on the individual building blocks of expenditure, allowed return and the amount of money recovered in period and over time. Bills are therefore a product of the other decisions and not an end in themselves. It is not the case that Ofwat has targeted a percentage bill reduction. We have made decisions on each of the individual building blocks and ensured that the overall level of stretch across these building blocks is stretching and achievable.

4.12 The key drivers of the reduction in bills in PR19 are the reduction in the allowed return on capital and retail costs, and an increase in customer numbers (as fixed costs get shared across a larger number of customers), as shown in Figure 4.1. As you can see from this diagram, there is a small increase in our totex allowance compared to PR14 on a like for like basis.

[104] Yorkshire Water, 'Statement of Case' , April 2020, pp. 22-23, paragraph 70.
[105] Ofwat, 'Reference of the PR19 final determinations: Risk and return - response to common issues in companies' statements of case', May 2020, Chapter 4.
[106] Northumbrian Water, 'Statement of Case', April 2020, p. 8, paragraph 41.

Figure 4.1: Bill movement between PR14 and PR19



* Analysis based on water and sewerage companies excluding TTT

The level of stretch on costs and outcomes

4.13 The disputing companies present a misleading picture on the overall level of stretch on costs and outcomes.

4.14 **The level of stretch on costs is best described as the impact of our interventions on the level of costs** rather than whether the catch up efficiency challenge is set at the upper quartile, or 3rd or 4th company as suggested by Northumbrian Water,[107] or totex spend excluding WINEP costs as suggested by Yorkshire Water.[108]

4.15 The overall level of efficiency challenge will be specific to each price control and the circumstances and spread of efficiency across companies at the time. Nevertheless we have compared the level of stretch between PR19 and PR14.

4.16 Yorkshire Water's use of totex excluding WINEP is misleading. While a comparison of the change in base totex is potentially informative (and is set out in the next chapter) overall totex includes a wide range of enhancement

[107] Northumbrian Water, 'Statement of Case', April 2020, pp. 56-57, paragraph 255.
[108] Yorkshire Water, 'Statement of Case', April 2020, p. 89, paragraph 306.

expenditure including supply demand balance and resilience and is not limited to WINEP where Yorkshire Water has one of the largest programmes in relative scale for PR19. In terms of total expenditure our final determinations give Yorkshire Water around 10% more than historical expenditure.[109]

4.17 Examining the change in the choice of catch-up benchmark can be misleading and the level of challenge will depend on the distribution of efficiency scores of companies. **In PR19 the level of catch-up challenge has decreased compared to PR14**, despite moving from an upper quartile efficiency benchmark in PR14 to the 4th company on water and 3rd company on wastewater in PR19.

Table 4.1: Comparison of the wholesale water catch-up challenge

Price review	Benchmark	Catch-up challenge
PR19 Final Determinations	4th company	4.6%
PR19 Final Determinations	Upper quartile	3.9%
PR14 Final Determinations	Upper quartile	6.5%

Table 4.2: Comparison of the wholesale wastewater catch-up challenge

Price review	Benchmark	Catch-up challenge
PR19 Final Determinations	3rd company	2.0%
PR19 Final Determinations	Upper quartile	1.2%
PR14 Final Determinations	Upper Quartile	10.4%

4.18 Just comparing the catch-up challenge across PR19 and PR14 could be misleading as PR14 we did not include an adjustment for frontier shift. As shown below the **combined challenge of frontier shift and catch-up efficiency is similar between PR14 and PR19**.[110] Companies have tended to outperform the PR14 settlement by an average of around 1.4%. Our overall level of challenge on base costs for PR19 is only 0.4% below company business plans.

[109] Ofwat analysis of company data
[110] The PR14 models also included a time trend. This captured a combination of factors including real price effects, changes in efficiency and changes in quality not explained by other explanatory variables. The improvement in quality standards over the course of PR14 is likely to have increased the time trend, making it difficult to separately identify the impact of individual factors.

Table 4.3: Overall catch-up and frontier shift challenge across PR14 and PR19

Price review	Catch-up and frontier shift
PR19	7.8%
PR14	8.5%

4.19 **The scope of outcomes at PR19 is far greater than the three forward looking upper quartile performance commitments** – water supply interruptions, internal sewer flooding and pollution incidents. The disputing companies suggest that the level of stretch on outcomes is defined by stretch on the three upper quartile performance commitments alone, (or these three performance commitments, leakage and three asset health performance commitments in the case of Yorkshire Water). However, there are actually 15 common performance commitments[111] and on average each company has around 40 performance commitments. To form a full view on stretch one would need to consider the stretch on all performance commitments. Therefore focusing on the three upper quartile performance commitments alone is likely to overstate the overall level of stretch on outcomes. On asset health and leakage we have increased performance commitment levels to expect improvement. The level stretch on asset health commitments for Yorkshire Water reflects the company's relatively poor performance in this area.[112]

4.20 **Nevertheless, the stretch on the three upper quartile performance commitments is similar to what has been achieved in PR14**. While the PR14 performance commitment levels we set were lower than the improvement we are setting in PR19, companies have tended to outperform those performance commitment levels. The overall stretch across the three PR19 upper quartile performance commitments is similar to what has been achieved for these commitments during PR14.[113] The key difference between PR19 and PR14 is that we have taken into account the improvement that we expect

[111] Northumbrian Water and South Staffs Water both have 16 common performance commitments as they have two separate leakage performance commitments. All other companies have 15 common performance commitments.
[112] In PR19 we stated that we would treat asset health commitments in the same way as all other common measures. As set out in Ofwat, 'Delivering Water 2020: Our methodology for the 2019 price review – Apprendix 2: Delivering outcomes for customers', December 2017, p. 57, we consider that 'there is scope for companies to challenge themselves to improve their asset health performance given the improvements we have seen in the sector's performance since privatisation and that at PR14 many of the asset health performance commitments involved stable performance rather than improvements'.
[113] There were five upper quartile performance commitments in PR14. These included water quality contacts and mean zonal compliance. We are not setting upper quartile performance commitments for water quality contacts and mean zonal compliance for PR19.

companies to make over the period when setting performance commitment levels, based on outturn performance in PR14.

Table 4.4: Stretch on upper quartile performance commitments in PR14 and PR19

Price review	Time period[114]	Stretch
PR14 stretch achieved		
Water supply interruptions	2012-13 to 2016-17	40%
Internal sewer flooding	2014-15 to 2018-19	26%
Pollution incidents	2013 to 2018	39%
Overall		35%
PR19 stretch		
Water supply interruptions	2019-20 to 2024-25	41%
Internal sewer flooding	2019-20 to 2024-25	41%
Pollution incidents	2019 to 2024	30%
Overall		37%

The overall level of stretch across PR19 and PR14

4.21 Based on the above we consider that **the overall levels of stretch across costs and outcomes is similar across PR14 and PR19,** with the key difference being that we have 'baked in' the performance improvements we expect companies to make across the three upper quartile performance commitments.

[114] For PR14, historical performance for each area of service is measured from the earliest year for which consistent data is available or to capture a consistent period of time for comparison with the PR19 stretch. Performance is measured up to 2018-19, with the exception of water supply interruptions (where performance is measured up until 2016-17 to exclude the effect of freeze thaw in 2017-18). Note also that pollution incidents is reported on a calendar year basis.

5. Why do we want a step change?

Our final determination

5.1 In our PR19 methodology we stated that 'Companies will need to deliver a step change in efficiency to provide more for customers and the environment, while reducing bills'.[115]

5.2 In our introduction to the CMA, we stated that '[w]e signalled that the PR19 settlement would be a step change for the sector. We concluded that, despite significant progress since privatisation, performance improvement across many areas in the water sector had stagnated and needed to be reinvigorated. We set expectations that the water sector needed to deliver significant improvements in service delivery, customer service, efficiency and a more resilient and reliable supply of water over the 2020-25 period and beyond'.[116]

5.3 We stated that the sector faces profound challenges, such as climate change and population growth. Customers' demands are changing and the services water companies provide must keep pace with them, whilst remaining affordable for all.

5.4 An increasing number of our stakeholders have expressed concerns about corporate behaviours such as high gearing, high dividends and high executive remuneration. A number of reviews have also emphasised the negative impact of some companies' corporate behaviours on the overall legitimacy of the sector. These have been accompanied by service failures including major pollution incidents, interruptions to supply and failure to reduce leakage.

5.5 In PR19 we aimed to ensure that water companies operate first and foremost in the interests of their customers and the environment, and designed a regulatory framework that linked financial returns to service delivery.

5.6 In our view these challenges require a step change for the sector. Without a step change, the industry's ability to provide reliable and affordable water and waste services to future generations, in the face of these challenges, would be compromised. Without it, the water industry would not keep pace with societal and customer expectations. We would risk stagnation of the quality of service

[115] Ofwat, 'Delivering Water 2020: Our final methodology for the 2019 price review', December 2017, p. 14.
[116] Ofwat, 'Reference of the PR19 final determinations: Overview', March 2020, p. 8, paragraph 2.1.

delivered to customers, rising bills and continued environmental damage. As set out in the overview of our introduction to the CMA,[117] to support this we identified the following considerations that we took into account when setting this challenge for companies:

- Water company performance has stagnated in recent years – and we have seen some notable failures in service delivery;
- Changes to the regulatory framework since 2015 including totex and outcomes, focused price controls, new markets for water resources, bioresources and direct procurement for customers and the innovation fund enable companies to step up performance and efficiency;
- Some companies have shown that significant improvements in performance are achievable, while others have voluntarily, from the start of the process, committed to doing so as part of their PR19 business plans;
- Water sector productivity has shown little improvement in recent years; and
- Water companies have not always taken the interests of customers or wider society into account in making their financing decisions.

Issues raised by disputing companies

5.7 Northumbrian Water states that the step change implied by PR19 is not justified as:[118]

- Ofwat's argument that there is a 'productivity gap' in the sector is incorrect;[119]
- Some other network industries have seen systematic outperformance but this is not a basis for applying a more challenging approach to the water sector;[120] and
- Northumbrian Water is already an efficient company with strong service performance – the step change is even more unjustified.[121]

5.8 We respond to the points raised on our evidence base for a step change below, building on the evidence we previously provided to the CMA. We first examine water sector productivity, then outcomes performance, the facilitating changes for a step change brought in by the PR19 framework and finally the level of

[117] Ofwat, 'Reference of the PR19 final determinations: Cross-cutting issues', March 2020.
[118] Some of these points are also made either expressly or by implication by other disputing companies.
[119] Northumbrian Water, 'Statement of Case', April 2020, pp. 58-60, paragraphs 264-276.
[120] Northumbrian Water, 'Statement of Case', April 2020, pp. 60-61, paragraphs 277-279.
[121] Northumbrian Water, 'Statement of Case', April 2020, p. 61, paragraphs 280-282.

change we are asking of each company as part of PR19, and in particular the disputing companies. We address Northumbrian Water's point on whether there has been historical outperformance in the water sector in the next chapter of this document.

Our response

Water sector productivity growth has stagnated in recent years.

5.9 Despite substantial improvements in water sector productivity post privatisation, productivity growth has stagnated in recent years. The Frontier Economics study for Water UK[122] found that water sector total factor productivity, a measure of productivity growth, grew by 3-4% per year post privatisation, as shown in Table 5.1 below. However, since 2011, productivity growth has effectively been zero, even after allowing for quality improvements.

Table 5.1: Annual water and sewerage sector total factor productivity growth estimates over price review periods

Period	Total factor productivity per year (no quality adjustment	Total factor productivity per year (quality adjustment)
1994-1995	2.9%	3.4%
1996-2000	2.2%	4.5%
2001-2005	0.7%	2.0%
2006-2010	1.4%	2.2%
2011-2015	-0.5%	-0.2%
2016-2017	-0.2%	0.0%
1994-2008 Business Cycle 1	1.6%	3.2%
2009-2017 Business Cycle 2 (ongoing)	-0.1%	0.1%
1994-2017	1.0%	2.1%

Source: Frontier Economics[123]

[122] Frontier Economics, 'Productivity Improvement in the Water and Sewerage Industry in England since Privatisation – Final Report for Water UK', September 2017, p. 3, Figure 2.
[123] Frontier Economics, 'Productivity Improvement in the Water and Sewerage Industry in England since Privatisation – Final Report for Water UK', September 2017, p. 3, Figure 2.

5.10 Northumbrian Water states that "[i]f the water sector can be shown to be materially underperforming relative to the levels of productivity improvement in other, comparable sectors across the UK economy then we would accept that there should be scope for productivity improvement in the sector and there could be justification for Ofwat's 'step change".[124]

5.11 In support of this Northumbrian Water compares performance in the water sector with the comparator group identified by Frontier Economics. The quote used by Northumbrian Water actually refers to performance over the entire period, including the substantial productivity growth in the post privatisation period, rather than more recent years where growth has been much lower, as shown in Table 5.2 below. 'Quality adjusted cumulative TFP growth in the water and sewerage sector is materially larger than amongst the comparator group, while a highly conservative comparison on a quality unadjusted basis illustrates similar cumulative TFP growth in water and sewerage compared to the comparator group.'[125]

Table 5.2: Annual water and sewerage sector total factor productivity growth estimates: 1994-2008 and 2009-2015

	1994-2008	2009-2015
Frontier Economics - water productivity (quality adjusted)	3.21%	0.14%
Frontier Economics - water productivity (not quality adjusted)	1.60%	-0.10%
Frontier Economics comparator group	1.69%	-0.28%
Overall UK	0.65%	-0.28%

Source: Frontier Economics[126]

5.12 Based on the analysis undertaken by Frontier Economics, we agree that productivity in the water sector has slowed in recent years. However unlike Frontier Economics, we consider that productivity growth is substantially slower than relevant comparator sectors.

5.13 The comparator sectors used by Frontier Economics are not appropriate. Frontier Economics includes postal services, telecommunications and repair of motor vehicles and motorcycles which do not appear to be directly relevant to water sector operations. They also include electricity, gas and water sectors where networks are regulated (and also had strong negative growth productivity

[124] Northumbrian Water, 'Statement of Case', April 2020, p. 60, paragraph 272.
[125] Frontier Economics, 'Productivity Improvement in the Water and Sewerage Industry in England since Privatisation – Final Report for Water UK', September 2017, p. 31.
[126] Frontier Economics, 'Productivity Improvement in the Water and Sewerage Industry in England since Privatisation – Final Report for Water UK', September 2017, p. 31, Figure 20.

growth over the period) and so will not provide an effective competitive comparative benchmark.

5.14 If instead we use a more appropriate comparative benchmark based on competitive sectors which undertake similar processes to the water sector, as developed by Europe Economics, then productivity growth across the comparator group exceeds that of the water sector. Over the post crisis period (2010-14) comparator sector productivity growth was 0.6% per year compared to little or no growth in the water sector.[127] Further details on assessment of productivity growth including the choice of comparator sectors is set out in Chapter 7 of our 'Cost efficiency – common issues' document.

Our proposal for a step change is not based on outperformance of the energy sector.

5.15 Northumbrian Water alleges that our proposal for a step change may have arisen in response to the outperformance seen in the energy sector.[128] As part of our assessment of scope for improvement in the water sector, we have drawn on evidence from the energy and other sectors. However our expectation for a step change is based on the circumstances of the water sector only. In our view it is essential that the sector improves productivity. This is consistent with the CMA's 2019-20 annual plan, in which it has prioritised helping to "address the UK's longstanding problem with low productivity".[129]

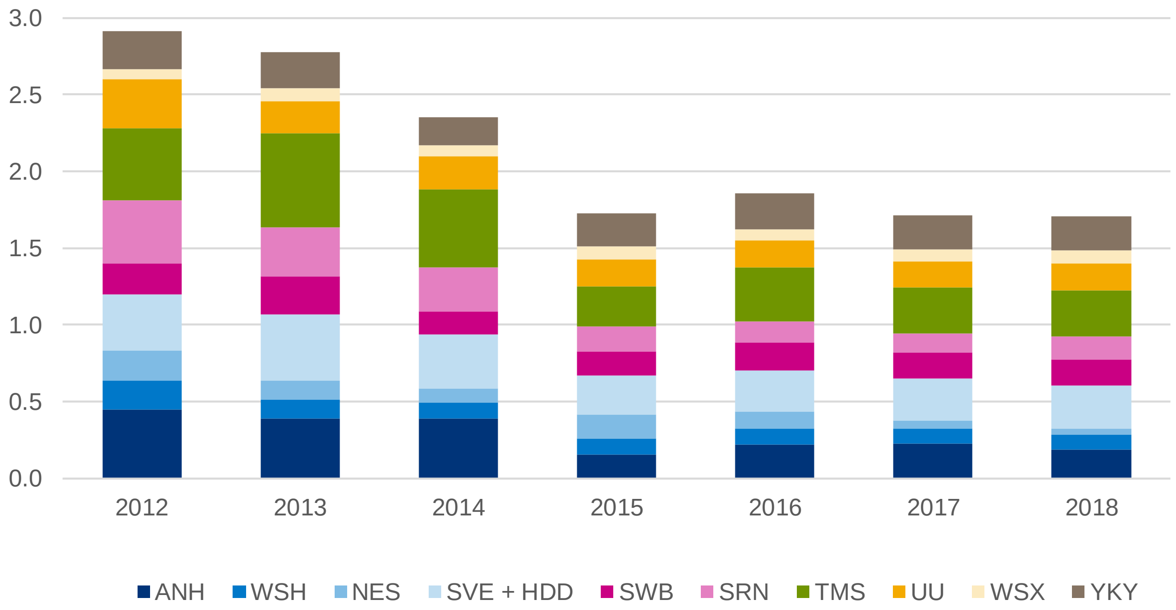
Water company performance has stagnated in recent years – and we have seen some notable failures in service delivery.

5.16 Despite improvements early in the 2015-20 period, overall water sector performance has recently stagnated and even deteriorated on a number of key measures. This has been accompanied by some prominent examples of companies failing to deliver for their customers and the environment, where we have needed to take enforcement action.[130] Sector performance on pollution incidents, for instance, has flatlined in recent years, as shown in Figure 5.1. In

[127] Europe Economics, 'Real Price Effects and Frontier Shift – Final Assessment and Response to Company Representations', December 2019, p 77, Table 3.13.
[128] Northumbrian Water, 'Statement of Case', April 2020, p. 61, paragraph 277.
[129] CMA, 'Competition and Markets Authority Annual Plan 2019/20', February 2019, p. 11.
[130] See Ofwat's final decision to impose a financial penalty on Southern Water Services Limited, Notice of Ofwat's imposition of a financial penalty on Thames Water Utilities Limited, Out in the Cold: Water companies' response to the 'Beast from the East' for further details

its most recent Environmental Performance Assessment (EPA), the Environment Agency called wastewater company environmental performance in 2018 'simply unacceptable' and the industry needed to make a 'significant improvement' to meet its expectations for pollution incident performance.[131]

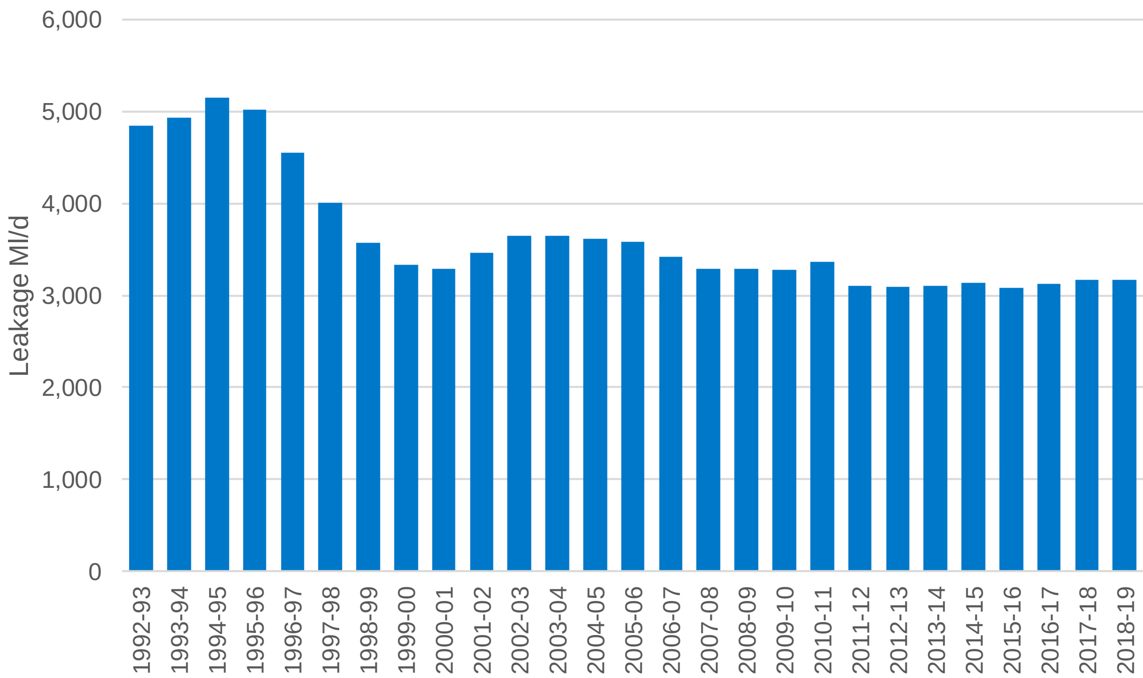
Figure 5.1: Total number of pollution incidents (thousands)



5.17 Performance on leakage has stagnated for considerably longer.[132] Over the past two decades, despite material technological progress, the sector has achieved little overall reduction in leakage at the sector level, despite having achieved more than a 30% reduction in the decade following privatisation (see Figure 5.2). Since 2012-13, overall leakage has increased by 2.3%. This trend has masked some large reductions in leakage from individual companies – showing that considerable reductions are possible – and substantial deterioration in other companies.

[131] Environment Agency, 'Water and sewerage companies' performance: 2018 summary', 2019, pp. 1 and 8.
[132] Ofwat, 'Reference of the PR19 final determinations: Cost efficiency - response to common issues in companies' statements of case', May 2020, Chapter 5.

Figure 5.2: Total leakage (Ml/day) 1992-93 to 2018-19[133]



5.18 No disputing company has suggested that sector level improvements have not stagnated over recent years. We continue to consider that this provides an opportunity for companies to step up their performance.

Some water companies have stepped up their performance in PR14.

5.19 In a number of areas, some companies have demonstrated substantial improvements, while others have lagged behind. As a result, overall sector performance tends to mask significant gaps in the relative performance of individual companies. For example:

- Water supply interruptions performance between 2012-13 and 2016-17[134] ranged from the reductions of over 70% achieved by Dŵr Cymru and SES

[133] Following a query to Anglian Water, the figures pre-2003-04 have been adjusted from previous published data to account for the impact of the 2001 census on the leakage performance of both Anglian Water and Northumbrian Water. Ofwat, 'Security of supply, leakage and the efficient use of water', December 2004, p. 26. Anglian Water's leakage figure for 1996-97 has been adjusted to reflect an amendment recognised in 1997-98. Ofwat, '1997-98 Report on leakage and water efficiency', October 1998, p. 11, note 3.
[134] We assess historical delivery of water supply interruptions between 2012-13 and 2016-17 to exclude the effect of freeze thaw in 2017-18 and subsequent recovery in 2017-19.

Water to the total increases in supply interruptions sustained by three companies.

- South West Water reduced internal sewer flooding by 51% between 2015-16 and 2018-19.
- Northumbrian Water reduced pollution incidents between 2013 and 2018[135] by 71%.[136]

5.20 No disputing company has challenged the substantial improvements made by some companies in recent years. We therefore see no compelling reason why lagging companies should not be able to make significant improvements. We also do not consider that customers of lagging companies should have to pay higher bills to receive service levels that have been achieved by other companies.

The PR19 framework helps to enable a step change in performance.

5.21 To enable companies to meet the challenge we set, we designed the PR19 framework to promote innovation and efficiency. We built on the totex and outcomes framework, first introduced at PR14, to provide companies with increased flexibility and freedom to adopt more efficient and effective means of delivering and drive service improvement for customers. In addition, we sought to more strongly link financial rewards to delivery and to reward frontier-shifting performance, for example through the introduction of enhanced ODIs.

5.22 As part of the final determinations companies benefited from a £200 million innovation fund to promote collaborative innovation and kick start a culture shift across the water sector.[137] This fund was set up to overcome the potential barriers to innovation in terms of: company culture, effective joint working and low risk appetite. By providing funding for innovation this reduces risks for companies where the commercial benefits of more transformative innovation may be less clear or may be spread over more than one control period. We recognised that not all innovation projects will be successful, and so we placed sharing of information, lessons learned and best practice at the heart of the competition. To encourage more effective joint working we called on water

[135] We assess historical delivery of pollution incidents between 2013 and 2018 calendar years due to the Environment Agency's reporting and to capture a five-year period for comparability to the length of the price control.
[136] We compare historical company performance on these measures in PR19 final determinations: Overall level of stretch across costs, outcomes and allowed return on capital appendix, p. 29, Table 8.
[137] Ofwat, 'Time to act, now: driving transformational innovation in the sector', December 2019, p. 3.

companies to come together to develop a joint innovation strategy and to consider how best to coordinate existing and future innovation activities.

5.23 Water resources and bioresources have scope to become more competitive. To encourage innovation and greater efficiency, as part of the PR19 regulatory framework we promoted markets in water resources and bioresources in England and, where it aligned with Welsh Government policy, in Wales, through:[138]

- separate binding price controls for bioresources and water resources, which sit alongside the existing separate binding price controls for water and wastewater networks plus and retail activities;
- information platforms and a bidding framework for water resources and bioresources; and
- a new water resources access pricing framework (in England only).

5.24 The separate binding price controls for bioresources and water resources allowed regulation and incentives to be better targeted to support company decision-making. For example in bioresources, we set a modified average revenue control, to help reveal more information about the volumetric unit costs of delivering bioresources services. The separation of retail controls in PR14 has led to a greater focus on retail operations and substantial improvements in efficiency, particularly for some companies, for example Southern Water proposed to reduce retail costs by more than 40% compared to historical expenditure.[139]

Some companies have stepped up as part of PR19 - The stretch on disputing companies is achievable and is lower than has been accepted by other water companies.

Stretch on costs

5.25 Northumbrian Water states it is an efficient company and is a strong performer on service and so further efficiency gains will be more challenging and there is no case for a step change for Northumbrian Water in 2020-25.[140]

[138] Ofwat, 'Delivering Water 2020: Our final methodology for the 2019 price review', December 2017, Chapter 6, pp. 87-112.
[139] Ofwat analysis of company data
[140] Northumbrian Water, 'Statement of Case', April 2020, p. 62, paragraphs 280-281.

5.26 In comparison to historical base costs, our final determinations reflected a 3.0% efficiency challenge over five years (after allowing for inflation) compared to historical expenditure.[141] Overall across the sector our base cost allowances were just 0.4% below company business plans.[142]

5.27 Table 5.3 sets out the stretch on base costs compared to company view August 2019 representation and historical expenditure for each company. Negative figures indicate that our cost allowances or company view are lower than historical or company view expenditure.

5.28 As part of PR19 **some companies stepped up as part of PR19** with Dŵr Cymru, United Utilities and Thames Water all proposing substantial reductions compared to historical base expenditure.

5.29 **For three out of the four disputing companies, the stretch for our final determination is less than the average industry** efficiency challenge of 3.0% compared to historical expenditure.

5.30 We do not consider that a 0.7% reduction on Northumbrian Water's base costs represents a step change in performance that it would not be able to achieve.

Table 5.3: Stretch on base costs (total and wholesale only)

Company	Stretch between company view (August 2019) and our final determination for total base costs (wholesale and retail)	Stretch between our final determination and historical wholesale base costs	Stretch between company view (August 2019) and historical wholesale base costs
Anglian Water	**-11.0%**	**-2.7%**	**15.7%**
Dŵr Cymru	-0.6%	-14.5%	-15.1%
Northumbrian Water	**-3.4%**	**-0.7%**	**1.4%**
Severn Trent / Hafren Dyfrdwy	5.2%	2.0%	-0.5%
South West Water	1.9%	1.5%	-0.2%
Southern Water	-2.2%	-1.6%	7.5%
Thames Water	4.8%	-1.2%	-5.1%

[141] See Table 5.3 in this document.
[142] See Table 5.3 in this document.

Company	Stretch between company view (August 2019) and our final determination for total base costs (wholesale and retail)	Stretch between our final determination and historical wholesale base costs	Stretch between company view (August 2019) and historical wholesale base costs
United Utilities	-1.2%	-11.8%	-9.9%
Wessex Water	-1.6%	2.2%	5.0%
Yorkshire Water	**-2.5%**	**-2.9%**	**2.2%**
Affinity Water	-1.0%	-3.1%	3.1%
Bristol Water	**-5.9%**	**-8.7%**	**-2.3%**
Portsmouth Water	11.2%	18.6%	4.3%
South East Water	-0.1%	6.8%	10.5%
South Staffs Water	1.9%	6.4%	6.4%
SES Water	-2.8%	-0.8%	2.0%
Industry	**-0.4%**	**-3.0%**	**-0.6%**

Note: We include enhancement opex in modelled base costs in column 3 and 4, to allow for comparison between historical and PR19 costs. We exclude enhancement opex when comparing companies' view and our final determinations of forecast base costs (column 2). Historical refers to last five years of actual performance (2014-15 to 2018-19). We merge SVT/DVW and SVE/HDD to allow for historical comparison given the reconfiguration of customer base within these companies. Source: Ofwat analysis.

Stretch on outcomes

5.31 Economic Insight (on behalf of Northumbrian Water, Yorkshire Water and Anglian Water) suggest that outcomes reflect a step change in the challenge for PR19, compared to PR14.[143]

5.32 A large part of concerns raised by the disputing companies is around the stretch on the three forward looking upper quartile performance commitments: water supply interruptions, internal sewer flooding and pollution incidents. As we have set out previously the stretch on these performance commitments is consistent with the stretch achieved in PR14.

5.33 For the disputing companies the stretch to 2024-25 performance commitment levels is generally consistent with what they have previously achieved in the

[143] SOC413 (Northumbrian Water) and Annex 06 (Yorkshire Water) - Economic Insight, 'Top-down analysis of the financeability of the notionally efficient firm', March 2020, p. 9 and Chapter 4.

PR14 period. Additionally, several of the disputing companies have either achieved or have forecast to achieve the required level of stretch in 2019-20:

- Anglian Water has met its 2024-25 performance commitment level on internal sewer flooding and on pollution incidents the company only requires an 8% improvement from its best performance year (2015-16) to meet its 2024-25 performance commitment level;
- Northumbrian Water has already met its 2024-25 performance commitment level on pollution incidents and water supply interruptions;
- Yorkshire Water forecast in its business plan that it would achieve the 2024-25 performance commitment level on water supply interruptions in 2019-20; and
- Bristol Water forecast a water supply interruptions 2024-25 performance commitment level of 1 minute and 48 seconds in its business plan,[144] which is well below the 5 minutes we included in the final determinations;

5.34 The exception to this is Yorkshire Water which made limited improvements on internal sewer flooding and pollution incidents in PR14 and has a significant improvement to make to catch-up with the rest of the industry.

5.35 The improvement in outcome performance for the disputing companies is similar to and in many cases lower than it is for the rest of the sector and so we consider that it is something that they should be able to achieve.

5.36 Tables 5.4 and 5.5 below compare the required performance improvement to 2024-25 performance commitment levels and the improvement companies have already achieved over PR14. **Green** shading indicates that the company has outperformed or is forecast to outperform the 2024-25 performance commitment level during the current price control period. We presented this analysis in our final determination.[145] We have expanded on it to show the stretch to 2024-25 performance commitment levels from best company PR14 performance, as using some of the company 2019-20 forecasts could present a misleading picture.

5.37 To illustrate, in its best performance year (2017-18) Anglian Water improved performance on water supply interruptions by 46% compared to 2012-13. This compares to a 55% improvement required between its forecast for 2019-20 and 2024-25 performance commitment level. However, the 2024-25 performance commitment level only represents a 32% improvement on its best performing

[144] Bristol Water, 'Bristol Water For All', September 2018, p. 13
[145] Ofwat, 'PR19 final determinations: Overall stretch on costs, outcomes and cost of capital policy appendix', December 2019, p. 29, Table 8.

year. This required improvement is lower than 8 other companies, 7 of which accepted the final determination.

Table 5.4: Comparison of water performance improvement required to 2024-25 levels and PR14 improvement

Water Supply Interruptions				
Company	Stretch to 2024-25 performance commitment level		PR14 Improvement from 2012-13[146]	
	From Sept 2018 Business Plan 2019-20 forecast	From best company year in PR14	To best sector year (2016-17)	To best company year in PR14
Anglian Water	**-55%**	**-32%**	**-15%**	**-46%**
Dŵr Cymru	-58%	-59%	-77%	-77%
Hafren Dyfrdwy	-58%	20%	35%	-73%
Northumbrian Water	**0%**	**105%**	**-65%**	**-65%**
Severn Trent Water	-43%	-51%	-65%	-65%
South West Water	-35%	-37%	-20%	-43%
Southern Water	-19%	-29%	-61%	-61%
Thames Water	-53%	-53%	-21%	-21%
United Utilities	-58%	-45%	-24%	-49%
Wessex Water	-59%	-15%	-47%	-76%
Yorkshire Water	**25%**	**-28%**	**-4%**	**-32%**
Affinity Water	-17%	-61%	8%	-35%
Bristol Water	**-59%**	**-60%**	**-47%**	**-47%**
Portsmouth Water	25%	43%	3%	-13%
South East Water	-50%	-61%	-2%	-2%
South Staffs Water	-29%	18%	-47%	-57%
SES Water	79%	67%	-71%	-80%
Industry	**-41%**	**-38%**	**-40%**	**-51%**

Source: Ofwat analysis using data from the service delivery report[147]

[146] We measure water supply interruption performance from 2012-13, as this is the earliest year for which consistent data is available.
[147] Ofwat, 'Service delivery report data – 2018-19', October 2019.

Table 5.5: Comparison of wastewater required improvement to 2024-25 levels and PR14 improvement

Company	Internal Sewer Flooding				Pollution Incidents			
	Stretch to 2024-25 performance commitment level		PR14 Improvement from 2014-15[148]		Stretch to 2024-25 performance commitment level		PR14 Improvement from 2013[149]	
	From Sept 2018 Business Plan Forecast	From best company year in PR14	To best sector year (2018-19)	To best company year in PR14	From Sept 2018 Business Plan Forecast	From best company year in PR14	To best sector year (2018)	To best company year in PR14
Anglian Water	**-21%**	**9%**	**-30%**	**-30%**	**-33%**	**-8%**	**-55%**	**-61%**
Dŵr Cymru	-33%	-12%	-19%	-19%	-33%	-30%	-16%	-16%
Hafren Dyfrdwy*	-23%	-29%	-	-	-39%	-	-	-
Northumbrian Water	**-43%**	**-43%**	**-13%**	**-30%**	**-22%**	**57%**	**-71%**	**-71%**
Severn Trent Water	-21%	-16%	-40%	-45%	-29%	-29%	-35%	-41%
South West Water	-24%	9%	-51%	-51%	-58%	-80%	-38%	-38%
Southern Water	-33%	-32%	-22%	-22%	-33%	-38%	-53%	-61%
Thames Water	-36%	-23%	-40%	-40%	-30%	-19%	-51%	-57%
United Utilities	-73%	-21%	-32%	-32%	-20%	-11%	-10%	-18%
Wessex Water	-16%	11%	24%	4%	-11%	-12%	-4%	-11%
Yorkshire Water	**-47%**	**-82%**	**-15%**	**-15%**	**-41%**	**-54%**	**-6%**	**-8%**
Industry	**-41%**	**-34%**	**-26%**	**-28%**	**-30%**	**-28%**	**-39%**	**-44%**

* As Hafren Dyfrdwy separated from Severn Trent Water in 2018, Hafren Dyfrdwy only began tracking its performance on internal sewer flooding in 2018-19 and has not tracked its performance on pollution incidents in PR14. Source: Ofwat analysis using data from the service delivery report[150]

[148] We measure internal sewer flooding performance from 2014-15, as this is the earliest year for which consistent data is available.
[149] We measure pollution incidents performance from 2013, as this is the earliest year for which consistent data is available. Note pollution incidents is reported on a calendar year basis.
[150] Ofwat, 'Service delivery report data – 2018-19', October 2019.

6. Has there been historical outperformance that needs to be reset?

Summary

6.1 Northumbrian Water,[151] Yorkshire Water[152] and Economic Insight[153] (on behalf of Northumbrian Water, Yorkshire Water and Anglian Water) suggest that there is no case for a step change in performance, as they claim there has not been historical outperformance of price controls.

6.2 We continue to consider that there is a case for a step change in performance to address the long term challenges facing the sector, which we have enabled through changes we have made to the regulatory regime. As set out in Chapter 5 above, **our proposal for a step change is not based on whether there has been systematic outperformance of previous price controls**. Rather, it is based on stagnating performance on cost efficiency and outcome performance over recent years; the significant improvements made by some companies and the step change proposed and accepted by others; and our view that the sector can do much more to improve performance. Nevertheless **historical performance is informative in this context, in particular on how companies respond to the challenges that we set**.

6.3 **Over 2015-2019, companies have generally outperformed their base return.** Under the notional capital structure, eleven companies have outperformed their base return allowance. Under their actual capital structure thirteen companies have outperformed their base return, with Anglian Water, Northumbrian Water and Yorkshire Water having a total shareholder return in excess of 10%. Anglian Water and Northumbrian Water have paid out dividends significantly in excess of the allowed return in both 2010-15 and 2015-19 when expressed as a percentage of notional equity. Both the National Audit Office[154] and Citizens Advice[155] have commented on the windfall gains made by companies over recent years.

6.4 It is important to consider the drivers of company returns and outperformance, and in particular performance on totex and outcomes. Under a notional capital

[151] Northumbrian Water, 'Statement of Case', April 2020, p. 98, paragraph 482.
[152] Yorkshire Water, 'Statement of Case' , April 2020, p. 44, paragraph 133.
[153] SOC413 (Northumbrian Water) and Annex 06 (Yorkshire Water) – Economic Insight, 'Top-down analysis of the financeability of the notionally efficient firm – A follow on report for Anglian Water, Northumbrian Water and Yorkshire Water', March 2020, p. 6.
[154] National Audit Office, 'The economic regulation of the water sector', October 2015.
[155] Citizens Advice Monopoly Money, 'How consumers overpaid by billions', 2019, p.4.

structure, **thirteen companies have reported outperformance against the financing measures and ten companies on the operational measures**. Companies have tended to outperform on both totex and outcomes, with ten companies outperforming on totex and ten outperforming on ODIs.

6.5 Over the last four price controls companies have on average outperformed (underspent) against their expenditure allowances. **Anglian Water and Yorkshire Water have outperformed their totex allowance in each of the previous four price control periods**, and Northumbrian Water has outperformed its totex allowance in three of the previous four price controls, and Bristol Water has outperformed its totex allowance in two of the previous four price control periods. In one of the control periods one Yorkshire Water has underspent by more than 10%.

6.6 While overall net payments for ODIs across the sector are broadly neutral, this masks big differences across companies and between individual performance commitments. For the three upper quartile common performance commitments, companies have generally outperformed. This is particularly so for three of the disputing companies: Anglian Water, Northumbrian Water and Yorkshire Water.

Our final determination

6.7 In our final determinations we responded to Economic Insight's suggestion that the need for a step change in performance was not justified (and in particular our frontier shift assumption) as there had not been previous periods of outperformance that needed to be reset.[156] In particular we stated that:

- Our assessment of frontier shift was not based on a reset for outperformance from previous price controls as we were simply considering the potential for ongoing frontier shift improvements, together with taking account of further productivity improvements from the totex and outcomes regime. As the totex and outcomes regime was only introduced in PR14, we considered it most appropriate to focus on outperformance in the PR14 period only.
- There were flaws in the Economic Insight analysis which understated the scale of outperformance in PR14 for Return on Capital Employed (RoCE), and Economic Insight's calculations were substantially below our expectations.

[156] Ofwat, 'PR19 final determinations: Securing cost efficiency technical appendix', December 2019, pp. 184-185.

- Economic Insight's own figures suggested outperformance based on Return on Regulatory Equity (RoRE) of 6.2%, compared to a base of 5.6%. This outperformance was higher on an unweighted basis given the poorer performance of some of the larger companies (6.6% compared to a base of 5.8%).

6.8 We also responded to Economic Insight's claim that our overall level of stretch on bills was more significant than in previous periods.[157] We noted that the change in bills compared to company business plans in PR19 was similar to that from PR04 to PR14 for 12 out of 16 companies. We also noted that the largest part of the reduction in bills stemmed from the reduction in the cost of capital, which reflected prevailing market conditions, rather than any interventions on cost efficiency or levels of investment.

Issues raised by disputing companies

6.9 Northumbrian Water,[158] Yorkshire Water[159] and Economic Insight[160] (on behalf of Northumbrian Water, Yorkshire Water and Anglian Water) state that the overall level of stretch across costs, outcomes and the allowed return is not consistent with our duties as there has not been historical outperformance of price controls. Within this they state that:

- Based on Economic Insight's RoCE calculations, there has not been historical outperformance for PR14, or for previous price control periods;[161,162,163]
- Based on RoRE calculations, there have been an equal number of companies to outperform the PR14 settlement as underperform;[164] and
- Based on an analysis of bill movements between company business plans and final determinations over PR04 to PR19, Anglian Water, Northumbrian Water and Yorkshire Water face especially large increases in challenge,

157 Ofwat, 'PR19 final determinations: Securing cost efficiency technical appendix', December 2019, pp. 185-186.
158 Northumbrian Water, 'Statement of Case', April 2020, pp. 56-58 and 185, paragraphs 259-263 and 1054.
159 Yorkshire Water, 'Statement of Case' , April 2020, p. 44, paragraph 133.
160 SOC413 (Northumbrian Water) and Annex 06 (Yorkshire Water) – Economic Insight, 'Top-down analysis of the financeability of the notionally efficient firm', March 2020, pp. 7-9 and 11.
161 Northumbrian Water, 'Statement of Case', April 2020, p. 57, paragraphs 259-260.
162 Yorkshire Water, 'Statement of Case' , April 2020, p. 44, paragraph 133.
163 SOC413 (Northumbrian Water) and Annex 06 (Yorkshire Water) – Economic Insight, 'Top-down analysis of the financeability of the notionally efficient firm', March 2020, Chapter 2.
164 Northumbrian Water, 'Statement of Case', April 2020, p. 58, paragraph 262.

with PR19 representing twice the challenge relative to previous price controls.[165]

- The bill analysis understates the challenge in PR19, as it does not reflect the increase in challenge in outcomes where there is a step change in the degree of challenge.

6.10 Economic Insight's comments on the increase in challenge on outcomes are addressed in Chapter 5 of this document and Chapter 3 of our 'Outcomes – common issues' document.[166]

Our response

Return on regulatory equity is the most appropriate measure to assess outperformance.

6.11 Economic Insight (on behalf of Anglian Water, Northumbrian Water and Yorkshire Water) states that the RoCE is a more appropriate measure of company performance than RoRE as it:[167]

- Measures outperformance in total rather than based on individual measures.
- Return on capital is the appropriate measure of 'economic profit' in the water industry which is characterised by a high degree of debt finance.
- It is available over a long time period as it is important to establish the 'persistence' of any observed out, or under, performance.
- It allows the examination of returns at both an industry and firm level to inform whether there is any systematic element out / under performance.

6.12 **Since 2014, we have used RoRE** to measure the return to equity shareholders. This is consistent with the premise of a notional capital structure - with out- and under-performance being shareholder issues - and is **a more reliable and readily understood measure to calibrate and monitor performance**. We require companies to report on this basis, which we report annually in our Monitoring Financial Resilience reports - we do not report

165 SOC413 (Northumbrian Water) and Annex 06 (Yorkshire Water) – Economic Insight, 'Top-down analysis of the financeability of the notionally efficient firm', March 2020, p. 9 and Chapter 3.
166 SOC413 (Northumbrian Water) and Annex 06 (Yorkshire Water) – Economic Insight, 'Top-down analysis of the financeability of the notionally efficient firm', March 2020, p. 9 and Chapter 4.
167 SOC413 (Northumbrian Water) and Annex 06 (Yorkshire Water) – Economic Insight, 'Top-down analysis of the financeability of the notionally efficient firm', March 2020, pp. 6-7.

performance on a RoCE basis. We note that Ofgem also reports on a RoRE basis.

6.13 **The RoCE measure**, preferred by Economic Insight, relies on retention of current cost accounting techniques related to the reporting of maintenance spend, and **is influenced by the accounting policies adopted by each company**. We have not used a current cost accounting approach to setting our determinations at PR19 or PR14. Since PR14 we have required only limited current cost accounting information with more limited reporting requirements to help a transition from reporting on a UKGAAP basis. We have proposed not to collect current cost accounting information from 2020-21.

6.14 In addition, under a totex approach, measurement of out- and under-performance on a RoRE basis allows for comparisons across companies on a more consistent basis. As a consequence, RoRE is a more consistent and readily understood measure to calibrate our determinations and monitor company performance. We are not aware of Anglian Water, Northumbrian Water or Yorkshire Water objecting to the principle of focusing on RoRE in their Annual Performance Reports or our annual monitoring reports.

6.15 We consider that it is important to measure not only the overall return, but also the reasons for that return. In particular, it is important to separate out financing performance from operational performance, and to assess company performance on the basis of the notional capital structure and actual structure. This underpins the assessment of company performance in the section below.

Company performance on return on regulatory equity

6.16 Northumbrian Water states that based on RoRE calculations there have been an equal number of companies to outperform the PR14 settlement as underperform.[168]

Performance against the notional structure

6.17 RoRE performance, measured using the **financial flows metric**, is analysed on two bases, i) financing performance and ii) operational performance. For the period 2015-19, based on the company's notional financial structure, Figure 6.1 shows that **thirteen companies have reported outperformance against the**

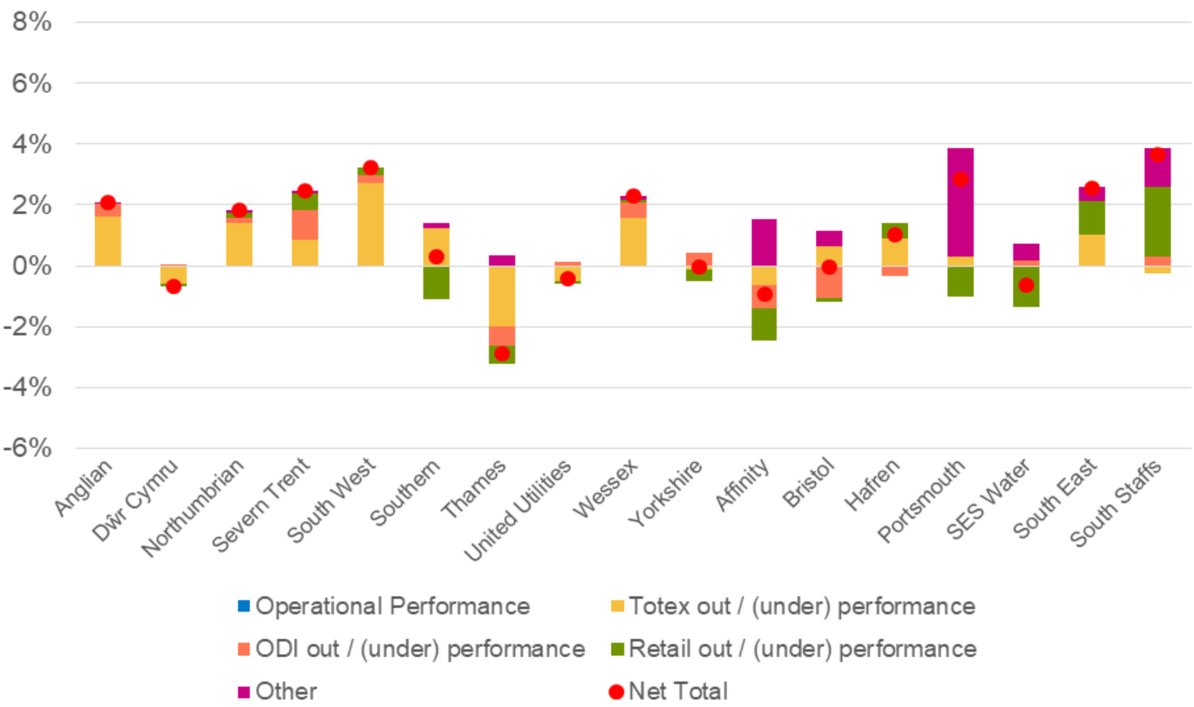
[168] Northumbrian Water, 'Statement of Case', April 2020, p. 57, paragraph 262.

financing measures (real), and Figure 6.2 also shows that **ten companies outperformed on the operational measures** (real).

Figure 6.1: Financing performance (real) measured against the notional structure (2015-19) Average)

Source: Companies Annual performance reports 2018-19 – Table 1F (amended for gearing adjustment)

Figure 6.2: Operational performance (real) measured against the notional structure

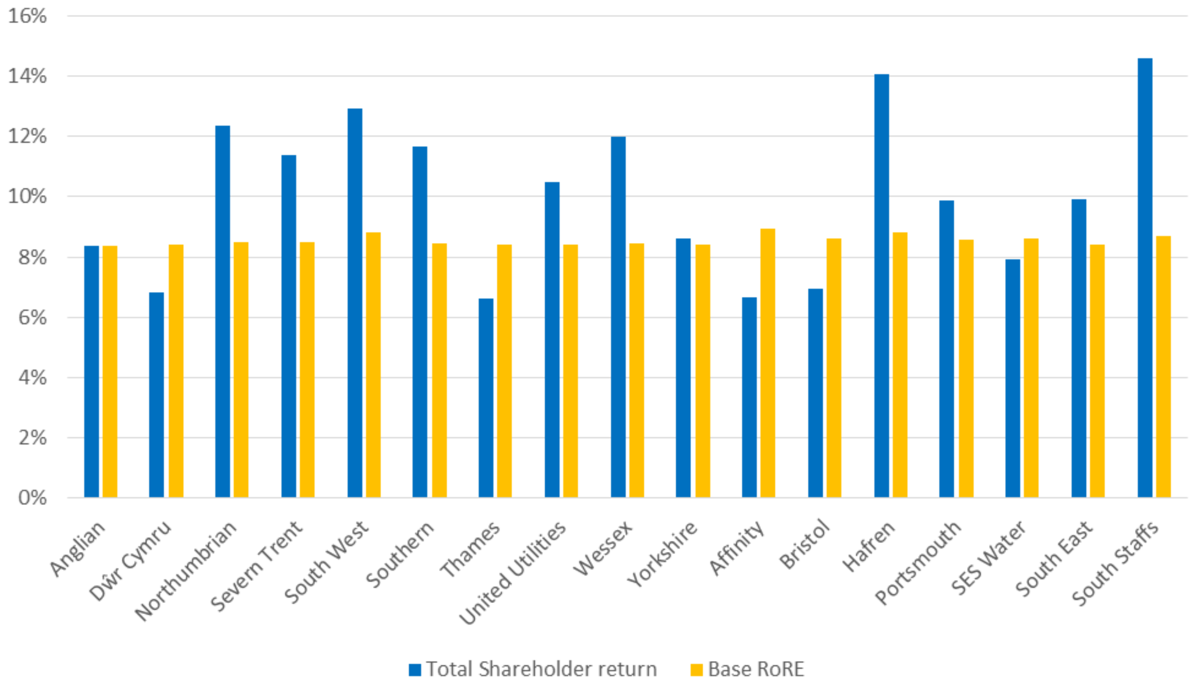


Source: Companies Annual performance reports 2018-19 – Table 1F

6.18 Figure 6.3 shows the analysis of total shareholder return (nominal), on the notional structure, for 2015-19, which includes base RoRE, financing performance, operational performance and inflationary growth of the RCV, but is before any distribution of dividends to shareholders. This analysis shows for the period 2015-19, eleven companies have outperformed their based RoRE allowance (including the PR14 long term inflation forecast of 2.8%), with some companies showing significant outperformance.

6.19 Calculated on the basis of the notional capital structure, Northumbrian Water has total shareholder return in excess of 10%.

Figure 6.3: Total shareholder return (nominal) measured against the notional structure



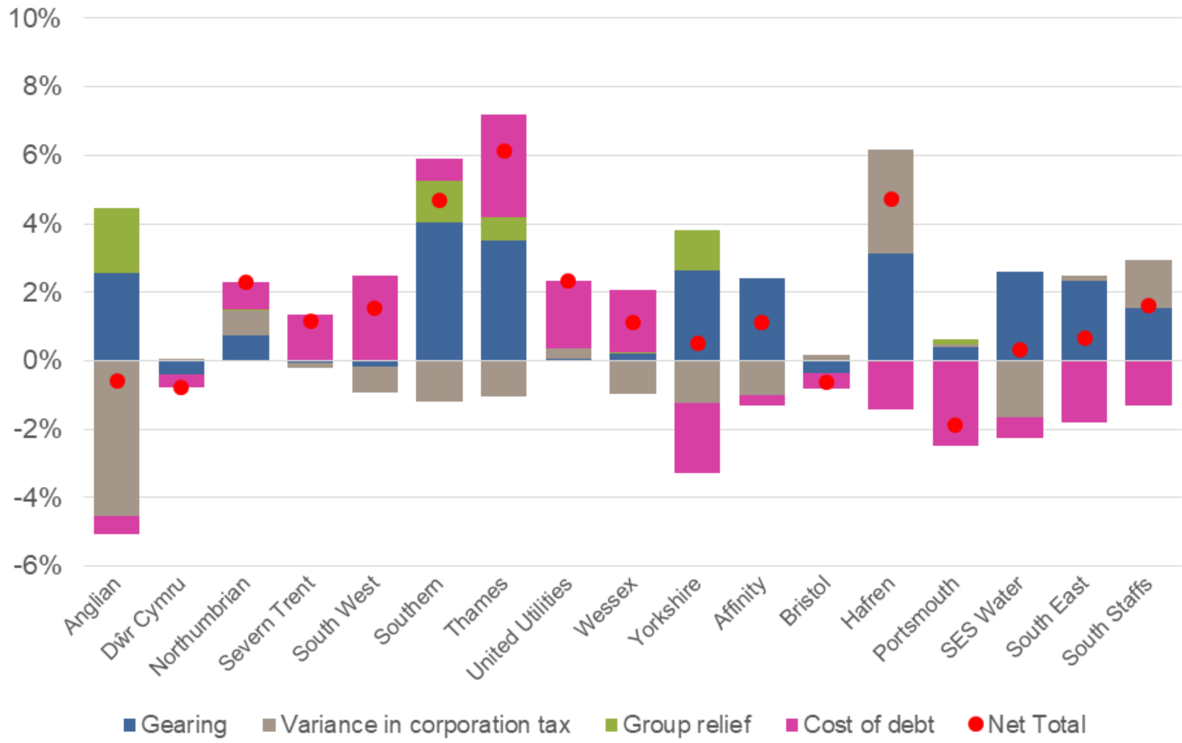
Source: Companies Annual performance reports 2018-19 – Table 1F (amended for gearing adjustment). Base RoRE is the companies base RoRE plus the PR14 long term inflation forecast of 2.8%.

6.20 The charts based on the notional structure have been amended to adjust for an error in reporting gearing out / under performance which resulted from the way that companies were asked to calculate their achieved returns. For the reporting periods 2019-20 onwards, we have amended the reporting requirements for 'gearing' out / under performance on the notional structure to correctly capture the element of the achieved equity return that is attributed to gearing above the notional level. No company has raised the reporting issue with us. The corrected reporting requirements will increase the reported returns on the notional capital structure in future Annual Performance Reports.

Performance against the actual structure

6.21 We also present RoRE based on the company's actual financial structure, and for the period 2015-19, based on the company's actual structure Figure 6.4 shows that thirteen companies reported outperformance against the financing measures (real), and Figure 6.5 also shows that ten companies outperformed on the operational measures (real).

Figure 6.4: Financing performance (real) measured against the actual structure



Source: Companies Annual performance reports 2018-19 – Table 1F

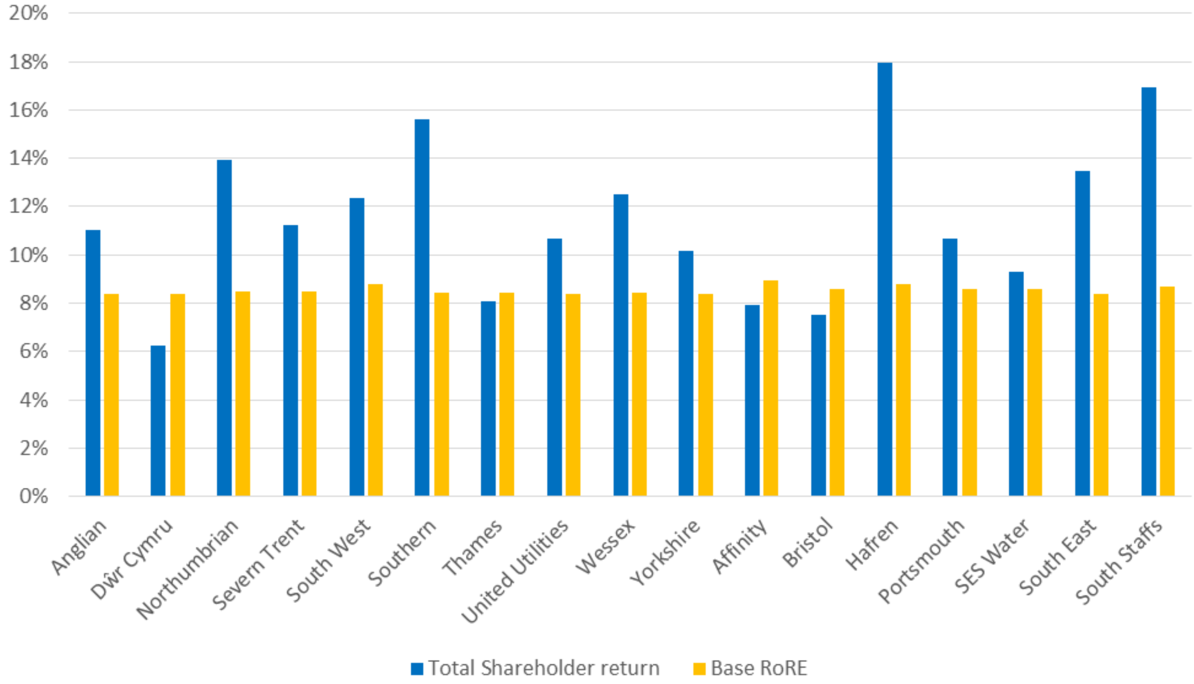
Figure 6.5: Operational Performance (real) measured against the actual structure

Source: Companies Annual performance reports 2018-19 – Table 1F

6.22 Figure 6.6 shows the analysis of total shareholder return (nominal) for 2015-19, which includes base RoRE, financing performance, operational performance and inflationary growth of the RCV, but is before any distribution of dividends to shareholders. This analysis shows for the period 2015-19, thirteen companies have outperformed their based RoRE allowance, (including the PR14 long term inflation forecast of 2.8%), with some companies showing significant outperformance.

6.23 Calculated on the basis of their actual capital structures, **Anglian Water, Northumbrian Water and Yorkshire Water have total shareholder return in excess of 10%**.

Figure 6.6: Total shareholder return (nominal) measured against the actual structure



Source: Companies Annual performance reports 2018-19 – Table 1F. Base RoRE is the companies base RoRE plus the PR14 long term inflation forecast of 2.8%.

6.24 The data for the analysis of Figures 6.4, 6.5, and 6.6 is extracted from the Table 1F - Financial Flows in the company's annual performance reports. This table contains performance against the notional and actual financial structures.

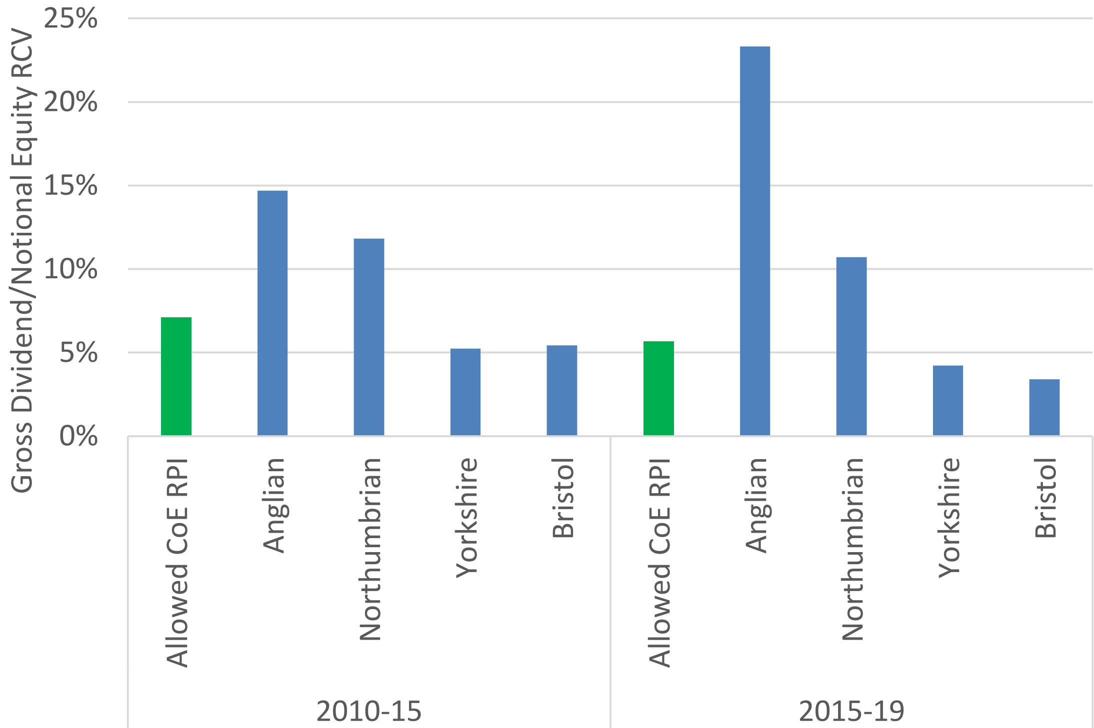
Sector dividends

6.25 In a sector that provides an essential service, where customers cannot choose their supplier, it is important that customers and wider stakeholders can understand how decisions companies make about dividends relate to overall performance. At PR19 we requested companies to demonstrate how their proposed dividend policies for 2020-25 would take account of delivery of companies' obligations and commitments to customers and other stakeholders. We provide detail of our assessment in the final determinations in the risk and return common issues document. Figure 6.7 shows that **Anglian Water and Northumbrian Water have returned dividends significantly in excess of the allowed return in both 2010-15 and 2015-19 when expressed as a percentage of notional equity**. On the basis of the actual structures gross dividends are higher due to the lower level of equity where companies adopt gearing levels above the notional level of gearing, as shown in Figure 6.8.

6.26 The National Audit Office and Citizens Advice have both commented on the outperformance companies have achieved against previous determinations.

The National Audit Office estimated companies had made windfall gains of at least £800 million between 2010 and 2015 from lower than expected tax rates and interest rates.[169] Citizens Advice estimate financing benefits to water companies have been £13 billion over the period 2006 to 2019.[170]

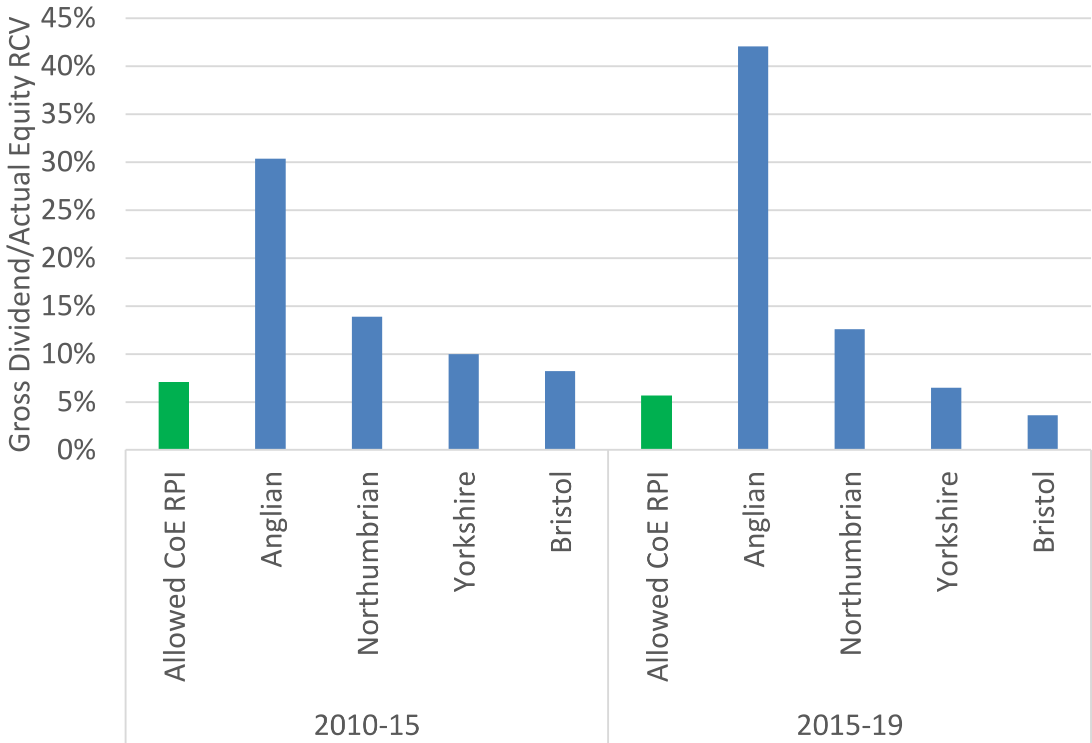
Figure 6.7: Gross dividend expressed as a percentage of notional equity



Source: Companies June returns and Annual performance reports

[169] National Audit Office, 'The economic regulation of the water sector', 2015.
[170] Citizens Advice Monopoly Money, 'How consumers overpaid by billions', 2019, p. 44, Table 1.

Figure 6.8: Gross dividend expressed as a percentage of actual equity



Source: Companies June returns and Annual performance reports

6.27 One of the claims put forward by Economic Insight is that RoCE is a better measure than RoRE as it can be assessed over multiple control periods. The charts presented in this section relate to the period 2015-19. We comment on historical performance against costs allowed in past determinations below.

Companies have historically outperformed their expenditure allowances.

6.28 Northumbrian Water[171] and Economic Insight (on behalf of Anglian Water, Northumbrian Water and Yorkshire Water)[172] state that there is no evidence of 'substantial, systematic and persistent historical outperformance' in the sector. Economic Insight (on behalf of Anglian Water, Northumbrian Water and Yorkshire Water) also state that it is problematic to draw strong policy inferences from any out or under performance observed only over a short time horizon.

[171] Northumbrian Water, 'Statement of Case', April 2020, p. 57, paragraph 258.
[172] SOC413 (Northumbrian Water) and Annex 06 (Yorkshire Water) – Economic Insight, 'Top-down analysis of the financeability of the notionally efficient firm', March 2020, p. 11.

6.29 As we explained in our final determination,[173] the totex and outcomes regimes was only introduced in PR14, so we consider it most appropriate to focus on outperformance during the PR14 period.

6.30 However, analysis of companies' historical performance of actual total expenditure versus their allowance in the final determination, shows that Anglian Water and Yorkshire Water have outperformed their totex allowance in each of the previous four price control periods, Northumbrian Water has outperformed its totex allowance in three of the previous price controls and Bristol Water has outperformed its totex allowance in two of the previous four price control periods, as shown in Table 6.1.

6.31 Anglian Water, Northumbrian Water and Yorkshire Water have very material totex outperformances over these control periods. In one control period (2000 to 2005), Yorkshire Water has an outperformance of greater than 10%.

Table 6.1: Historical total expenditure performance versus allowances

Company	2000-05	2005-10	2010-15	2015-19	Average
Anglian Water	3.5%	1.7%	8.3%	9.2%	5.7%
Northumbrian Water	2.9%	-8.9%	4.4%	9.0%	1.9%
Yorkshire Water	11.9%	0.8%	6.4%	1.9%	5.3%
Bristol Water	3.7%	-0.6%	-5.2%	4.2%	0.5%
Industry	**4.9%**	**-0.2%**	**1.1%**	**1.4%**	**1.8%**

Source: Ofwat analysis of published data. Note 2015-19 figures differ to those in the service delivery report as they are based on figures used in the totex reconciliation process. This includes some updates to actual expenditure and the removal of disallowables from Yorkshire Water's actual totex expenditure for comparison to allowances.

Overall companies have outperformed on the three upper quartile performance commitments.

6.32 While overall net payments for ODIs across the sector are broadly neutral, this masks big differences across companies and individual performance commitments. For the three upper quartile common performance commitments, companies have generally outperformed, as shown in Table 6.2 below. This is particularly so for three of the disputing companies: Anglian Water, Northumbrian Water and Yorkshire Water. Bristol Water states that its figures

[173] Ofwat, 'PR19 final determinations: Securing cost efficiency technical appendix', December 2019, p. 184.

were adversely affected by a water supply incident in 2017-18.[174] It is important to note that water supply interruptions in general over this period were adversely affected by the Freeze Thaw incident in 2017.[175] This demonstrates the scale of outperformance which companies have achieved on these performance commitments, and the scope for further improvement.

Table 6.2: Company performance on the three upper quartile performance commitments (2015-19, £m payments to companies, 2012-13 prices)

Company	Water Supply Interruptions	Internal Sewer Flooding	Pollution Incidents
Anglian Water	**17.8**	**0.0**	**12.2**
Dŵr Cymru	-4.7	5.0	3.4
Hafren Dyfrdwy	-0.2	0.0	0.0
Northumbrian Water	**7.9**	**3.4**	**0.1**
Severn Trent Water	-29.4	24.3	11.3
South West Water	-2.3	2.4	-4.4
Southern Water	-0.3	0.0	0.0
Thames Water	-15.1	-8.0	0.0
United Utilities	5.3	-0.9	13.1
Wessex Water	0.2	18.6	0.0
Yorkshire Water	**20.0**	**16.2**	**12.4**
Affinity Water	0.0	-	-
Bristol Water	**-2.2**	**-**	**-**
Portsmouth Water	0.0	-	-
South East Water	-2.6	-	-
South Staffs Water	2.9	-	-
SES Water	0.6	-	-
Total	**-2.0**	**60.9**	**48.1**

Source: Service delivery report 2018-19[176]

[174] Bristol Water, 'Statement of Case' (Revised) , April 2020, p. 202, paragraph 46.
[175] We assess historical delivery of water supply interruptions between 2012-13 and 2016-17 to exclude the effect of freeze thaw in 2017-18 and subsequent recovery in 2017-19.
[176] Ofwat, 'Service delivery report data – 2018-19', October 2019.

Movements in bills between company plans and final determinations are in line with previous price controls.

6.33 Economic Insight's states that based on an analysis of bill movements between company plans and final determinations over PR04 to PR19, Anglian Water, Northumbrian Water and Yorkshire Water face an especially large increases in challenge, with PR19 representing twice the challenge relative to previous price controls.

6.34 **Examining bill movements between company plans and our final determinations as an indicator in the level of stretch is misleading.** As set out in Chapter 4, bills – or more properly total revenues as we are setting revenues and not price controls – are a function of the decisions that we take on expenditure, allowed return and the amount of money recovered in period and over time. Bills are therefore a product of the other decisions and not an end in themselves. The comparison that Economic Insight provides is between bills in company business plans and our final determinations. This differs from Northumbrian Water's analysis of bills in relation to overall stretch as discussed in Chapter 4 which just considers the change in bills across price control periods.

6.35 Economic Insight's comparison of bills between company plans and final determinations will reflect whether the companies submitted challenging business plans. Company business plan expenditure requests can be significantly higher than outturn expenditure, as shown in Figures 2.1 and 2.2 in the 'Cost efficiency – common issues' document.[177] Companies can also request a much higher allowed return on capital than required. For example most companies used our early view of the allowed return in their business plan but did not follow the reductions we made to reflect market conditions.

6.36 Nevertheless Table 6.3 replicates Economic Insight's analysis. As can be seen compared to company business plans the bill movement in PR19 is similar to the bill movement in previous price reviews. **And so even if the comparison was valid, which we dispute, PR19 is no more stretching than previous price reviews**. For around half the companies the bill movement in PR19 is lower than the average for previous price controls. The largest part of the bill movement in PR19 compared to company plans stems from the reduction in

[177] Ofwat, 'Reference of the PR19 final determinations: Cost efficiency - response to common issues in companies' statements of case', May 2020, Chapter 2, Figures 2.1 and 2.2.

the allowed return on capital rather than any interventions on cost efficiency or levels of investment.

Table 6.3: Overall level of stretch on bills in final determinations comparison to company plans

Company	PR04	PR09	PR14	Maximum Challenge (PR04 - PR14)	PR19
Anglian Water	**-4.3%**	**-4.9%**	**-2.7%**	**-4.9%**	**-7.7%**
Dŵr Cymru	-4.2%	-1.1%	0.3%	-4.2%	-0.2%
Northumbrian Water	**-5.8%**	**-1.9%**	**-1.0%**	**-5.8%**	**-5.9%**
Severn Trent Water	-5.5%	-1.1%	-1.1%	-5.5%	-1.5%
South West Water	-1.6%	-0.7%	0.0%	-1.6%	-6.9%
Southern Water	-6.8%	-2.7%	-4.9%	-6.8%	-9.4%
Thames Water	-9.2%	-5.9%	-7.7%	-9.2%	-3.1%
United Utilities	-9.7%	-4.9%	-4.1%	-9.7%	-0.6%
Wessex Water	-5.7%	3.4%	-5.3%	-5.7%	-4.6%
Yorkshire Water	**-0.6%**	**-0.2%**	**-2.2%**	**-2.2%**	**-3.9%**
Affinity Water	-8.5%	-9.5%	-0.2%	-9.5%	-7.0%
Bristol Water	**-11.3%**	**-11.0%**	**-21.1%**	**-21.1%**	**-8.0%**
Portsmouth Water	-12.5%	-6.0%	0.6%	-12.5%	-1.2%
South East Water	-7.7%	-6.5%	-2.5%	-7.7%	-4.9%
South Staffs Water	-3.1%	-5.3%	-6.1%	-6.1%	-1.4%
SES Water	-16.4%	-13.3%	-4.5%	-16.4%	-6.0%
RCV-weighted industry average	**-6.1%**	**-3.2%**	**-3.5%**	**-6.1%**	**-3.8%**

Note: (i) In PR19, PR09 and PR04, the gap between the company submitted revenues and allowed revenues is proxied on the basis of the gap between the average household bills in each year. Where the average household bill profile for each year was not available, we have estimated these using the average household bill in the last year and the price limits. (ii) The average gap for a price review is estimated as the simple average of the gaps for each of the individual years. (iii) In case of mergers, in order to aggregate to the company of relevance for PR19, the average household bills in each year was calculated as the RCV-weighted average for each company. The same methodology has been used to aggregate Severn Trent, Dee Valley and Hafren Dyfrdwy.
Source: Ofwat calculations of Economic Insight data

7. Our approach and final determinations reflect the linkages between costs and outcomes

Summary

7.1 Each of the disputing companies alleges to varying degrees that we have not sufficiently taken into account the linkages between service quality and cost efficiency. In particular companies are concerned whether we have allowed sufficient expenditure to fund the stretch on the three forward looking upper quartile performance commitments (water supply interruptions, internal sewer flooding and pollution incidents) and leakage. We reject this.

7.2 As set out in our final determinations we have undertaken a wide range of analysis to make sure that cost and service proposals were appropriate.

7.3 In PR14 we did not provide additional funding to achieve historical upper quartile performance commitments. **Most companies achieved their PR14 upper quartile common performance commitments as well as outperformed on their upper quartile based cost allowances**.[178] For water supply interruptions, internal sewer flooding and pollution incidents we ensured that the stretch was consistent with the level of historical improvement. For leakage we are providing additional funding for companies that perform well (Anglian Water) and that are moving beyond the forward looking upper quartile (Anglian Water and Bristol Water).

7.4 Some of the disputing companies suggest that there is an inverse relationship between cost efficiency and service quality. **Our analysis shows that companies can achieve good cost efficiency and good outcome performance**. We have updated our analysis to address the points raised by disputing companies. We do not observe an inverse relationship between historical cost efficiency and good outcome performance. While improving outcome performance may impose costs on companies, some companies have managed to achieve high service quality and cost efficiency. The impact on cost efficiency should not be used as an excuse for other companies not to achieve the same level of service quality as their peers.

7.5 Yorkshire Water allege that cost efficient companies have not met future performance commitment levels on service quality. **Our analysis shows that**

[178] Ofwat, 'PR19 final determinations: Overall stretch on costs, outcomes and cost of capital policy appendix', December 2019, p. 38, Table 10.

some companies are above or at our efficient cost benchmark and perform well on outcomes. For wholesale water both Portsmouth Water and South Staffs Water are efficient and are upper quartile for supply interruptions with both companies already meeting the 2024-25 supply interruptions performance commitment level. For wholesale wastewater all of the three efficient companies perform well on service quality. Wessex Water is upper quartile for both internal sewer flooding and pollution incidents, and has already met the 2024-25 performance commitment level for internal sewer flooding. Northumbrian Water has met the 2024-25 performance commitment level for pollution incidents and Severn Trent Water is the fourth ranked company on both internal sewer flooding and pollution incidents.

7.6 Yorkshire Water contends that our frontier shift productivity improvement double counts improvements in quality. Productivity measures do not properly adjust for changes in quality and so **quality improvements can be additional to efficiency improvements**. In addition a number of companies have, are, or are forecast to be by 2019-20, performing better than their 2024-25 performance commitment level. For leakage we are providing funding for companies going beyond the forecast upper quartile. The stretch in ongoing outcomes performance therefore reflects catch up rather than frontier shift and does not double count efficiency improvements.

7.7 **The overall stretch on costs and outcomes for the disputing companies is lower than it is for a number of companies that accepted the final determination**. The thirteen companies that accepted our final determinations in the round have accepted on the basis the overall level of stretch is achievable for them (for example, they could meet their performance commitments within the funding allowed). We consider that our overall level of stretch is also achievable for the four disputing companies.

Our final determination

7.8 In the final determinations, we set out our overall assessment of the stretch across costs and outcomes in the 'Overall stretch on costs, outcomes and cost of capital policy appendix'.[179] We set out in detail how we examined the

[179] Ofwat, 'PR19 final determinations: Overall stretch on costs, outcomes and cost of capital policy appendix', December 2019.

connection between costs and service and how we assured ourselves that it was stretching but achievable.

7.9 In our final determination, we used company forecasts of the forward looking upper quartile, evidence of historical improvements and benchmarking across companies to set stretching but achievable performance commitment levels.[180]

7.10 We stated that some companies achieved good performance on both outcomes and cost efficiency and provided examples of companies performing in the upper quartile on costs and outcomes.[181]

7.11 In PR14 we did not provide additional funding to achieve historical upper quartile performance commitments. Most companies achieved their PR14 upper quartile common performance commitments as well as outperforming on their upper quartile based cost allowances.

7.12 In our PR19 methodology, we set out that for three common performance commitments:

> The one exception is that for three of the common performance commitments, which have particularly good-quality data and where there is no clear reason why companies should not be achieving the same stretching level of performance, we expect companies to set their commitment levels to at least the forecast upper quartile level in each year of the price control[182]

7.13 Better outcome performance should not necessarily increase cost. We observed that there was a positive relationship between cost efficiency and high service quality across companies. This was because improvements to outcomes can be made by better management and operation of the business – improving both service and cost efficiency. Efficient and well managed companies should be able to improve both costs and outcomes. The three upper quartile common performance were selected, in part, because companies can improve their performance by better management and operations.

[180] Ofwat, 'PR19 final determinations: Overall stretch on costs, outcomes and cost of capital policy appendix', December 2019, p. 6.
[181] Ofwat, 'PR19 final determinations: Overall stretch on costs, outcomes and cost of capital policy appendix', December 2019, Chapter 5.
[182] Ofwat, Delivering Water 2020: Our final methodology for the 2019 price review', December 2017, p. 54

7.14 Improvements in service quality and outcome performance were not fully captured in frontier shift efficiency estimates. We also expected some improvement in quality over time without increasing cost based on historical performance. We allowed enhancement costs where there was good evidence that further improvements in service require an efficient company to incur higher costs.

7.15 The move towards a forward looking upper quartile applies only to three of the 15 common performance commitments[183] and is a modest increase in the level of stretch compared to commitments set at PR14. In our PR19 methodology we stated that '[a]verage performance now will not equate to efficient performance in the future' and we are not expecting to provide companies with additional funding to meet this challenge.[184] We carefully considered the level of stretch implied by the forward looking data, taking account of historical improvement. For water supply interruptions, we reduced the stretch taking account of the historical evidence and companies' evidence. For pollution incidents and internal sewer flooding we confirmed that the historical pace of improvement was consistent with forward looking estimate.

7.16 For leakage in our PR19 methodology,[185] we challenged companies to consider reducing leakage by 15% in their business plans, at no additional cost to customers. We accepted that the 15% reduction in leakage was likely to be an additional challenge to some companies compared to their historical performance.[186] However, it was a challenge that companies had voluntarily accepted.[187] We consider the targeted efficiency challenge well justified, given the poor performance by most of the sector over leakage over the last 20 years and the central importance of the issue to customers.[188] And the scale of technological change over recent years should allow companies to reduce leakage efficiently.[189] We provided additional funding to reduce leakage for

[183] Northumbrian Water and South Staffs Water both have 16 common performance commitments as they have two separate leakage performance commitments. All other companies have 15 common performance commitments.
[184] Ofwat, 'Delivering Water 2020: Our final methodology for the 2019 price review', December 2017, p. 57.
[185] Ofwat, 'Delivering Water 2020: Our final methodology for the 2019 price review', December 2017, p. 54.
[186] Ofwat, 'PR19 final determinations: Overall stretch on costs, outcomes and cost of capital policy appendix', December 2019, pp. 8 and 48.
[187] Ofwat, 'PR19 final determinations: Overall stretch on costs, outcomes and cost of capital policy appendix', December 2019, p. 8.
[188] Ofwat, 'PR19 final determinations: Overall stretch on costs, outcomes and cost of capital policy appendix', December 2019, p. 48.
[189] Ofwat, 'PR19 final determinations: Overall stretch on costs, outcomes and cost of capital policy appendix', December 2019, p. 48.

companies that would be operating beyond the forecast upper quartile levels, including Anglian Water and Bristol Water.[190] Our frontier shift efficiency challenge took into account the increased challenge on outcomes performance, in particular the reduction in leakage.[191]

7.17 Overall we considered that the relaxation of our frontier shift efficiency challenge, the reduced level of catch up efficiency compared to PR14, the reduced level of stretch on performance commitments compared to the draft determinations, together with the additional £200 million of funding for innovation included in the price control, provided all companies with a reasonable opportunity to meet both the service challenge from stretching outcomes performance commitments and our cost efficiency challenge.[192]

Issues raised by disputing companies

7.18 All four disputing companies state that there was there was a disconnect between costs and service in the final determinations and that they require additional funding to meet certain service commitments, in particular the three upper quartile performance commitments: water supply interruptions, internal sewer flooding and pollution incidents and the 15% reduction in leakage.

7.19 The issues raised by companies cover a broad range of issues, which we have grouped as follows:

- Backwards looking assessment of outcomes stretch (Yorkshire Water) - this is addressed in our 'Outcomes – common issues' document;
- Inclusion of service quality and leakage performance in cost modelling (Yorkshire Water and Bristol Water) - this is addressed in our 'Cost efficiency – common issues' document;
- Company level assessment of outcomes and cost performance (Anglian Water, Bristol Water and Yorkshire Water);
- Performance of cost benchmark companies (Yorkshire Water);
- Implications of the relationship between cost efficiency and service quality (Anglian Water);
- Link between productivity gains and service quality (Yorkshire Water); and

[190] Ofwat, 'PR19 final determinations: Overall stretch on costs, outcomes and cost of capital policy appendix', December 2019, p. 48.
[191] Ofwat, 'PR19 final determinations: Overall stretch on costs, outcomes and cost of capital policy appendix', December 2019, pp. 3 and 8.
[192] Ofwat, 'PR19 final determinations: Overall stretch on costs, outcomes and cost of capital policy appendix', December 2019, pp. 8-9.

- Acceptance of final determinations (Yorkshire Water).

7.20 We discuss each of these issues below. Some of the points are also discussed in other documents, in which case we provide cross-references.

Our response

Company level assessment of outcomes and cost performance

- Anglian Water, ICS for Anglian Water, Bristol Water and Yorkshire Water each dispute our conclusions stating that we have not robustly modelled service quality against cost efficiency. Issues raised include that wholesale water and wastewater should be considered separately;
- the ranking technique assumes all differences between company rankings are equal, despite variations in actual performance differences;
- ratings across all companies were averaged; and
- the position of companies does not remain the same if the order of the service quality rankings is reversed.

7.21 These are discussed in turn below, with a discussion of other detailed issues at the end of this section.

At a company level there does not appear to be an inverse relationship between cost efficiency and service quality when separately examining water, wastewater and retail performance

7.22 Bristol Water states that we should consider wholesale water separately.[193] Anglian Water states that the results are impacted by the combination of water metrics rated out of 17 and wastewater metrics rated out 10 and the correlation reduces if this is allowed for.[194]

7.23 In Figures 7.1, 7.2 and 7.3 below, we have revised our scatter plot to show company cost efficiency vs service quality by segment level (e.g. water,[195]

[193] Bristol Water, 'Statement of Case' (Revised) , p. 208, paragraphs 65-65.
[194] Anglian Water, 'Statement of Case' (Corrected), April 2020, Chapter F, p. 223, paragraph 917(iii).
[195] Service quality ranking is calculated by averaging the rankings for these companies on leakage, water supply interruptions and water quality contacts.

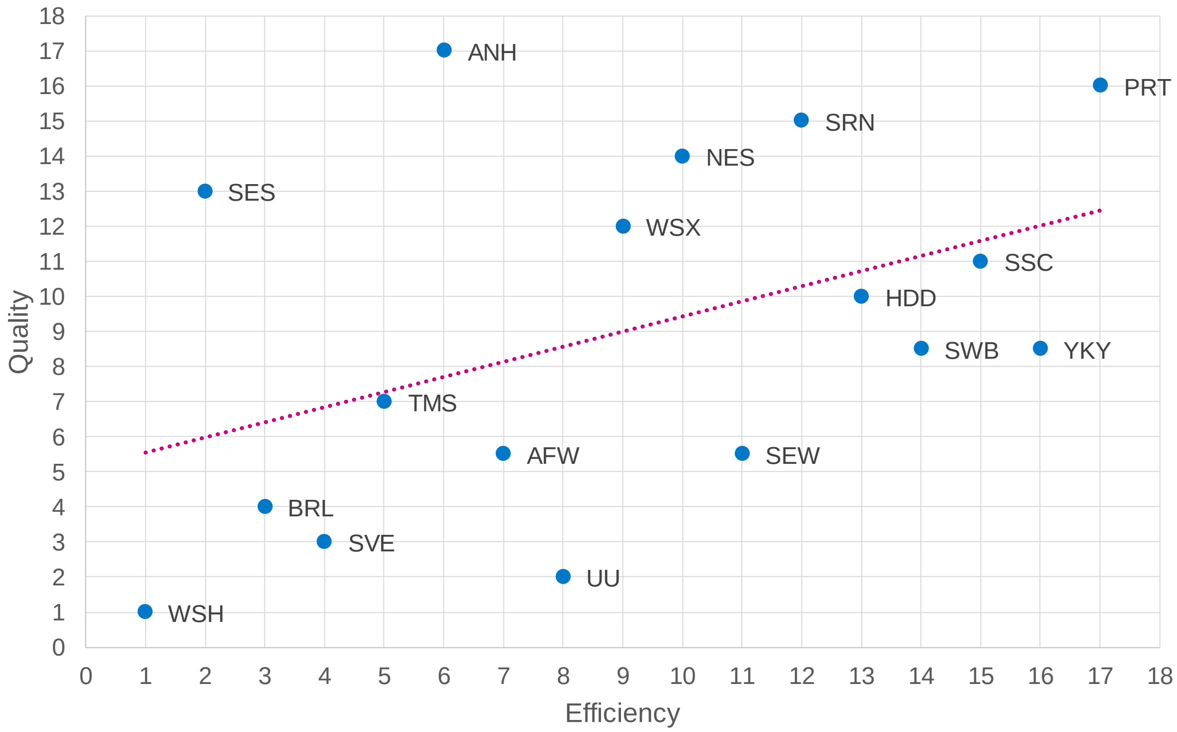
wastewater[196] and retail[197]). Across each of the segments, at a company level the analysis shows a positive correlation between cost efficiency and service quality. And contrary to what some of the disputing companies have suggested, we do not observe an inverse relationship between service quality and cost efficiency. We therefore continue to consider that "better outcome performance should not necessarily increase cost". We acknowledge that improving outcome performance could impose costs on companies. Nevertheless, some companies have managed to achieve both high service quality and cost efficiency. In summary, the potential impact on costs should not be used as a cover for companies achieving a lower level of service quality than their peers.

7.24 Anglian Water states that the positive relationship is weak and not statistically significant.[198] Unlike that suggested by Anglian Water, at a company level we do not observe an inverse relationship between service quality and cost efficiency.

7.25 Bristol Water states that if we remove the best and worst performing companies the shape of the slope changes.[199] Clearly with an assessment of 15 data points removing two observations that fit the line is going to impact on the slope of the curve. Bristol Water gives no reasons for the removal of these observations. We continue to consider that we should use the complete dataset with no exclusions as these companies are not outliers. Given that this relationship holds across water, wastewater and retail we continue to consider that it is valid.

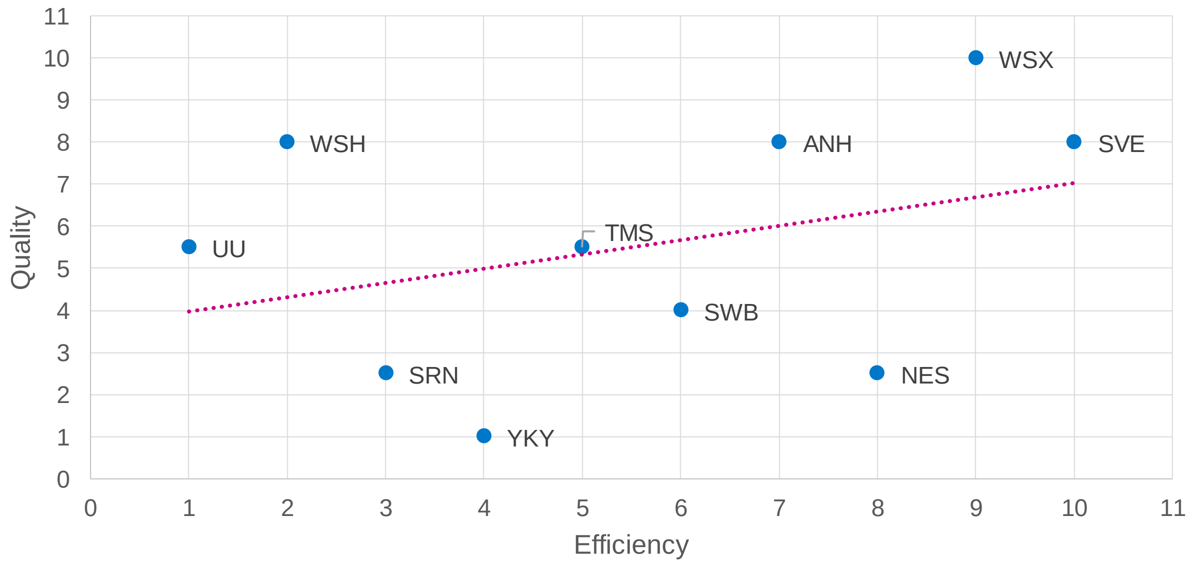
[196] Service quality ranking is calculated by averaging the rankings for these companies on internal sewer flooding and pollution incidents.
[197] Service quality ranking is calculated by ranking these companies on the service incentive mechanism (SIM).
[198] Anglian Water, 'Statement of Case' (Corrected), April 2020, Chapter F, p. 223, paragraph 917(ii).
[199] Bristol Water, 'Statement of Case' (Revised) , April 2020, p. 208, paragraphs 64-65.

Figure 7.1: Water efficiency vs quality (ordinal ranks), based on final determinations



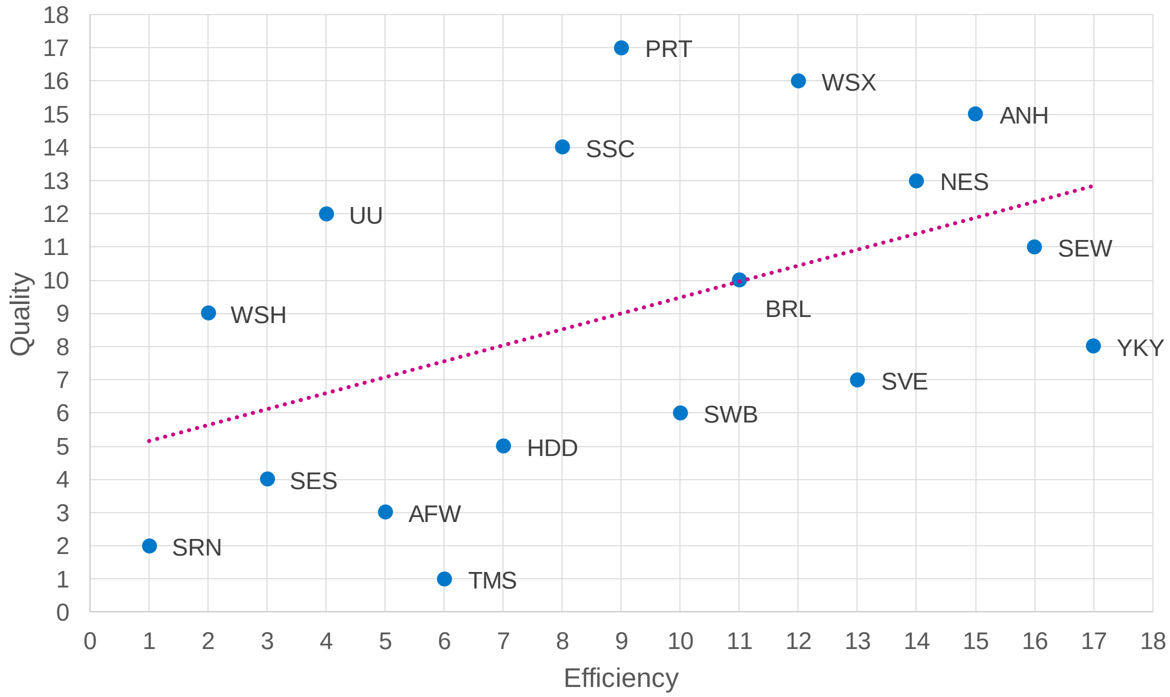
Note: 1 indicates worst performance and 17 indicates best performance.

Figure 7.2: Wastewater efficiency vs quality (ordinal ranks), based on final determinations



Note: 1 indicates worst performance and 10 indicates best performance.

Figure 7.3: Retail efficiency vs quality (ordinal ranks), based on final determinations



Note: 1 indicates worst performance and 17 indicates best performance.

Taking account of the relative difference between companies does not indicate a negative relationship between cost efficiency and service quality.

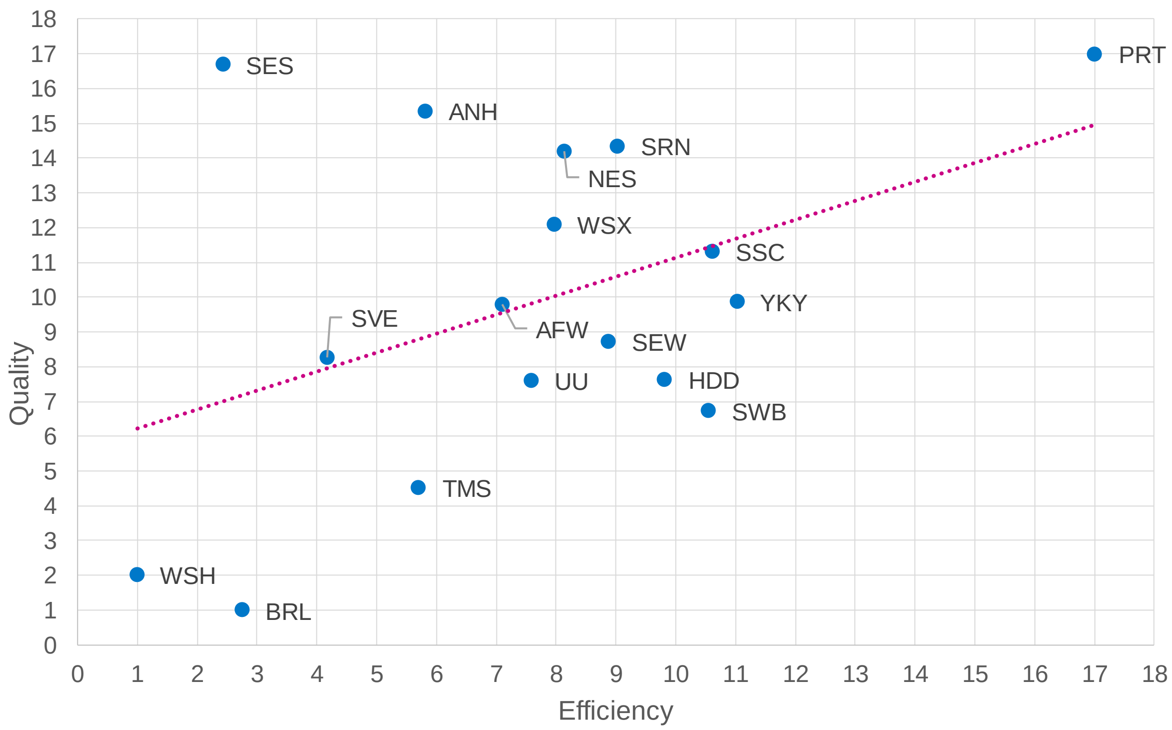
7.26 Anglian Water[200] and ICS (on behalf of Anglian Water)[201] state that we should not average service quality across the six metrics and that we should take account of the relative difference between companies when assessing performance (rather than using a strict ordinal ranking of 1,2,3,4 ...17). ICS suggest that willingness to pay evidence should be used to weight service quality metrics.

7.27 On the first point on averaging service quality across metrics, each of the service quality measures on which companies were ranked have all been identified as customer priorities. The issues of averaging are now significantly reduced as we are now considering water, wastewater and retail separately. Willingness to pay evidence, as suggested by ICS, is most useful when looking at changes in the level of metrics, rather than comparisons across companies, which is the case here. Therefore to allow comparison with cost efficiency and as a simplification we continue to consider that averaging of performance across these measures is valid.

7.28 As to Anglian Water's second point about taking into account the relative difference in cost efficiency and service quality when assessing performance, we have revised our scatter plot in Figures 7.4, 7.5 and 7.6 below to show the efficiency vs quality relationships for the companies, accounting for the relative differences between each company. Again there is a positive relationship for both water and retail. The relationship for wastewater is very weakly positive, drawn down by the relatively poor service quality performance of South West Water (pollution incidents) and Yorkshire Water (internal sewer flooding). Nevertheless we continue to consider that this demonstrates that there is not a negative relationship between service quality and cost efficiency at a company level.

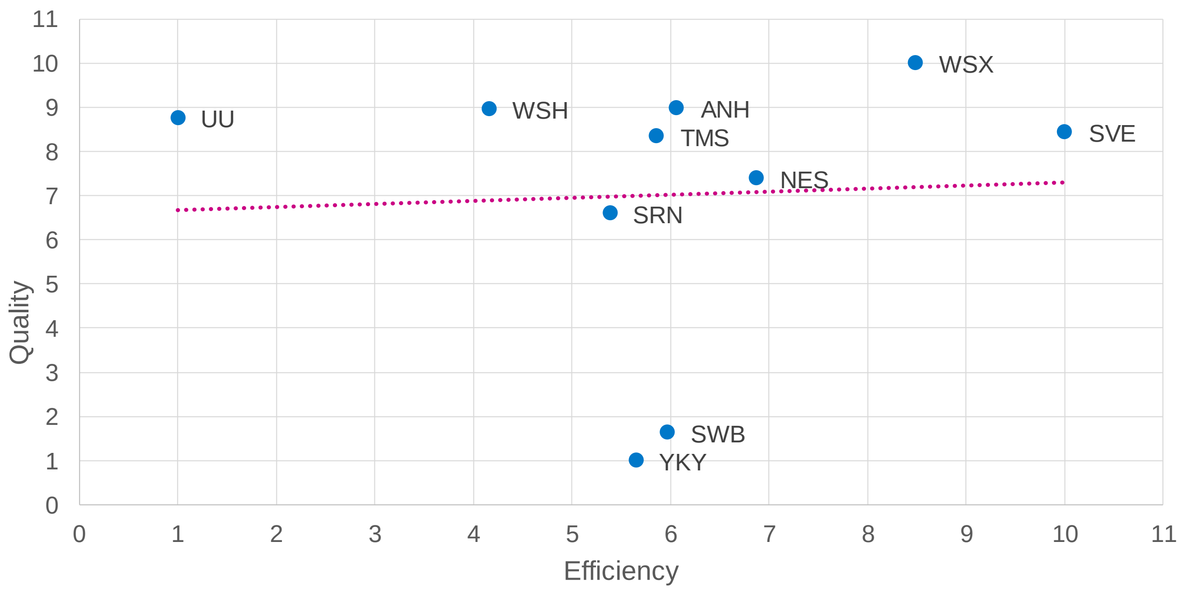
[200] Anglian Water, 'Statement of Case' (Corrected), April 2020, Chapter F, pp. 223-224, paragraph 917 (iv).
[201] SOC280 (Anglian Water) – ICS, 'Exploring the relationship between service quality and costs – by ICS Consulting in collaboration with Anglian Water', March 2020, p. 17.

Figure 7.4: Water efficiency vs quality (relative ranks), based on final determinations



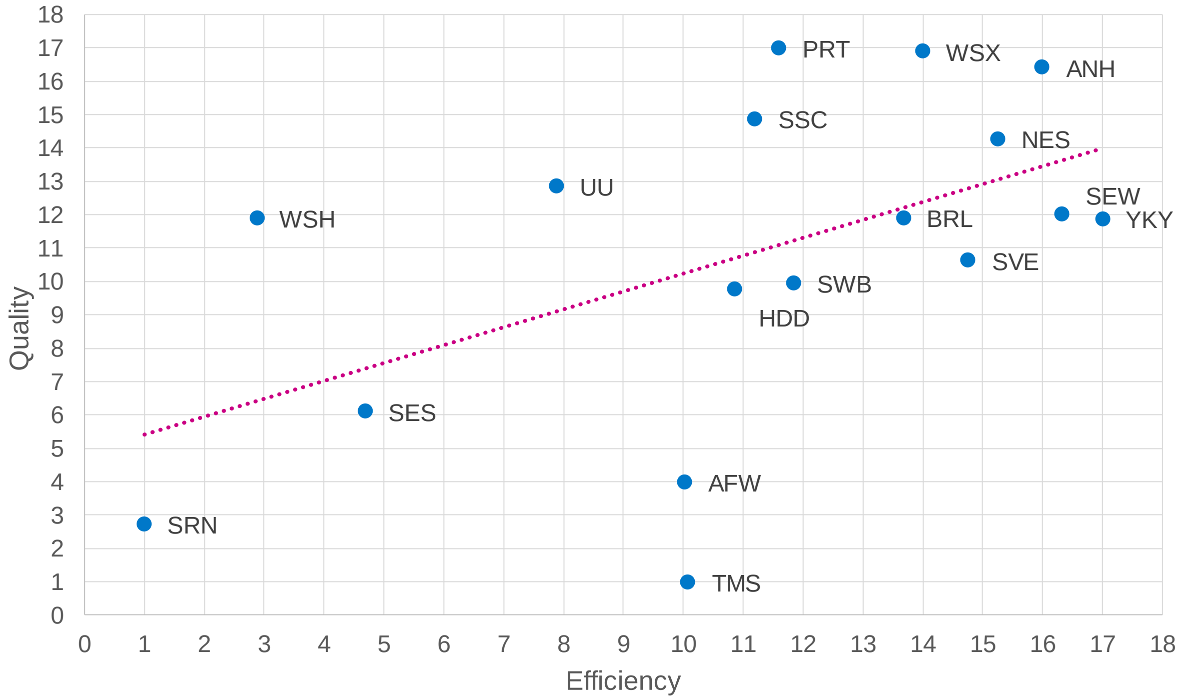
Note: 1 indicates worst performance and 17 indicates best performance.

Figure 7.5: Wastewater efficiency vs quality (relative ranks), based on final determinations



Note: 1 indicates worst performance and 10 indicates best performance.

Figure 7.6: Retail efficiency vs quality (relative ranks), based on final determinations



Note: 1 indicates worst performance and 17 indicates best performance.

The relationship between cost efficiency and service quality is not impacted by the ranking order.

7.29 The relationship is not sensitive to the choice of the ranking order, as ICS (on behalf of Anglian Water) states.[202] In Appendix 1, Tables A1.3, A1.4 and A1.5 clearly show that the position of companies within the ordinal rank plots (Figures 7.1, 7.2 and 7.3) remain the same, as there is no difference in the rankings for water, wastewater or retail.

Other issues raised by companies on the company level relationship between cost efficiency and service quality

7.30 In addition to the key issues set out above, companies have made additional comments on the relationship between service quality and cost efficiency. These points are summarised in Table 7.1 and are also discussed in our response to each company's statement of case.

[202] SOC280 (Anglian Water) – ICS, 'Exploring the relationship between service quality and costs – by ICS Consulting in collaboration with Anglian Water', March 2020, pp. 19-20, Table 3.

Table 7.1: Our response to additional company statements on the relationship between cost efficiency and service quality

Company statement	Our response
Bristol Water states that Ofwat's evidence of a weak correlation between cost efficiency and service quality does not support the proposition that better outcomes could be associated with lower costs.[203]	We accept that there is a weak positive correlation between cost efficiency and service quality. However we continue to consider that this shows that it is it is possible for companies to perform well on both costs and outcomes. Contrary to company submissions, at a company level we do not observe an inverse relationship between service quality and cost efficiency.
Bristol Water states that forward looking or forecast changes in performance indicate that higher costs are associated with higher service quality.[204]	We do not consider that forward looking efficiency rankings or forecast changes are a reliable indicator of future cost efficiency as they reflect water companies' proposals for expenditure which can often be very different to actual expenditure. We provide more detail regarding the difference between company proposals and actual expenditure in Chapter 2 in the 'Cost efficiency – common issues' document.[205]
Bristol Water states that our analysis is skewed by the large interruption at Willsbridge in 2017-18, and the leakage measure does not reflect Bristol Water upper quartile performance on leakage, in particular that Bristol Water is industry leading when normalised by number of properties served.[206]	We have kept consistency with the metrics that were used in the service delivery report[207] as well as the way in which the metrics have been reported during this price control. We do not consider that particular events for an individual company should be excluded. This ensures consistency across companies. We accept that Bristol Water is a good performer on leakage on a per property basis and we have recognised this with additional leakage funding as part of the price control.
ICS (on behalf of Anglian Water) states that we fail to indicate where average or upper quartile performance is represented on the scatter plot.[208]	We do not consider this a shortcoming of our approach to illustrating the relationship between service quality and cost efficiency. We clearly indicate average and upper quartile performance in the ranking tables we provided in our final

[203] Bristol Water, 'Statement of Case' (Revised) , April 2020, p. 202, paragraph 45.
[204] Bristol Water, 'Statement of Case' (Revised) , April 2020, p. 202, paragraph 45.
[205] Ofwat, 'Reference of the PR19 final determinations: Cost efficiency - response to common issues in companies' statements of case', May 2020, Chapter 2.
[206] Bristol Water, 'Statement of Case' (Revised) , April 2020, p. 202, paragraph 46.
[207] Ofwat, 'Service delivery report data – 2018-19', October 2019.
[208] SOC280 (Anglian Water) – ICS, 'Exploring the relationship between service quality and costs – by ICS Consulting in collaboration with Anglian Water', March 2020, p. 17.

Company statement	Our response
	determination[209] and again in our introduction to the CMA.[210] Further details are set out in Tables 7.2 and 7.3 below in 'Performance of cost benchmark companies'.
Anglian Water,[211] ICS[212] (on behalf of Anglian Water), Bristol Water[213] and Yorkshire Water[214] state that we have shown the relationship between levels of service quality and levels of cost efficiency when we should be concerned with the relationship between changes in service quality and changes in cost efficiency.	While changes in rankings over time could in theory be informative, historical cost and service quality rankings can be impacted by a range of factors in any one year. We therefore consider it is more robust to consider rankings averaged over a reasonable period of time, particularly cost efficiency which can be affected by timing of expenditure across individual years. Consistent service quality rankings can only be identified over a five-year period. We do not consider that five years provides a sufficient period of time to both: average rankings across a sufficient period of time; and allow for two distinct periods to allow the change in rankings to be examined. We therefore we do not consider that examining changes in rankings over time would be robust.
Yorkshire Water states that further investigation into regional and other factors is needed to explain the cost efficiency-service quality relationship for certain companies.[215]	We note that we have only focused on common performance commitments which were used in PR14 to set upper quartile levels. We consider that these metrics are sufficiently comparable across companies for the analysis to be valid.

Performance of cost benchmark companies

7.31 Yorkshire Water[216] and Economic Insight[217] (for Yorkshire Water) state that the wastewater cost benchmark company (Northumbrian Water) has not historically achieved the required future performance commitment level on pollution

[209] Ofwat, 'PR19 final determinations: Overall stretch on costs, outcomes and cost of capital policy appendix', December 2019, p. 39.
[210] Ofwat, 'Reference of the PR19 final determinations: Cross-cutting issues', March 2020, A1 Overall stretch appendix, pp. 80-82.
[211] Anglian Water, 'Statement of Case' (Corrected), April 2020, Chapter F, p. 223, paragraph 917.
[212] SOC280 (Anglian Water) – ICS, 'Exploring the relationship between service quality and costs – by ICS Consulting in collaboration with Anglian Water', March 2020, p. 16.
[213] Bristol Water, 'Statement of Case', April 2020, p. 209, paragraphs 67.
[214] Yorkshire Water, 'Statement of Case' , April 2020, pp. 49-50, paragraphs 149-150.
[215] Yorkshire Water, 'Statement of Case' , April 2020, pp. 52-54, paragraph 160.
[216] Yorkshire Water, 'Statement of Case' , April 2020, pp. 47-48, paragraph 143.
[217] Annex 04 (Yorkshire Water) – Economic Insight, 'Ofwat's Approach to Funding Upper Quartile Performance – A report for Yorkshire Water', March 2020, p. 7.

incidents and internal sewer flooding and the water cost benchmark company (South West Water) has not historically achieved the required future performance commitment level on supply interruptions. Yorkshire Water therefore concludes that if the benchmark company cannot reach these performance levels then Yorkshire Water also cannot meet these levels within its base cost allowances.

7.32 Yorkshire Water states that even if an efficient company could achieve the forecast upper quartile for one of the measures, it is unlikely to be able to achieve the forecast upper quartile for multiple performance commitments because performance trade-offs will need to be made.[218]

7.33 However, **our analysis shows that some companies are upper quartile on cost efficiency and outcome performance.**

7.34 In our final determinations we compared the relative cost and service quality rankings of companies and used **red**, **amber**, **green** ratings to highlight where companies were highly ranked on both cost efficiency and service quality. We conducted our analysis on both an overall level and separately for water, wastewater and retail. This analysis showed that some companies were upper quartile in cost efficiency and also upper quartile on one or more service quality measures. In our introduction to the CMA,[219] we refreshed this analysis using relative cost efficiency data from the final determination models for the period 2014-15 to 2018-19 (previously 2013-14 to 2017-18). The service quality data for the period 2014-15 to 2018-19 remained unchanged. The overall results in terms of some companies being in the upper quartile for cost efficiency and upper quartile for one or more service quality measures remained unchanged.

7.35 The refreshed analysis is presented again in Tables 7.2 and 7.3 below for wholesale water and wholesale wastewater respectively. Tables for the overall position and retail are included in Appendix 1. In each of the tables, 1 represents the highest ranking (shaded in **green**); 17 represents the lowest ranking for water metrics and 10 for the lowest wastewater metrics (shaded in **red**). Ratings in between are shaded **green**-**amber**-**red** based on their score from 1 to 10 or 17. The best performing companies are those with the most **green** in their row while the worst performing have the most **red**.

7.36 We also indicate:

[218] Yorkshire Water, 'Statement of Case' , April 2020, p. 52, paragraph 159c.
[219] Ofwat, 'Reference of the PR19 final determinations: Cross-cutting issues', March 2020, A1 Overall stretch appendix, pp. 80-82, Tables A1.1-A1.4.

- where companies met their PR14 upper quartile based performance commitments in 2018-19 (marked A); and
- where they have already met the 2024-25 PR19 performance level (marked B).

7.37 Note some companies might be meeting their performance commitments but be ranked below other companies that are not, as rankings are averaged over the 2014-15 to 2018-19 period and achievement of performance commitments is based on data for 2018-19.

7.38 Unlike Economic Insight and Yorkshire Water, we consider it is important to take into account each of the companies that perform well on costs, and are above or at our benchmark, rather than simply focusing on the benchmark company.

7.39 For wholesale water it can be seen that two companies (Portsmouth Water and South Staffs Water) that are above or at our efficient cost benchmark (defined as the fourth company for wholesale water) are also upper quartile for supply interruptions (with Yorkshire Water in fifth position) and both **Portsmouth Water and South Staffs Water have already met the PR19 2024-25 performance commitment level** (and Yorkshire Water is forecasting to in 2019-20).[220] We consider that this demonstrates that it is possible to meet our cost benchmark and meet the water supply interruptions 2024-25 performance commitment level.

7.40 For leakage, the picture is less comparable as we do not expect a common performance level and are not expecting all companies to reach the upper quartile. Rather, we are asking for a 15% reduction and are providing additional funding for companies in the upper quartile. In PR19 we use two measures to define the upper quartile leakage per property per day and leakage per km per day. Nevertheless, this shows that it is possible to perform well on leakage, as South West Water and Hafren Dyfrdwy do, as well as performing well on cost efficiency. We note that even on Economic Insight's own figures, Yorkshire Water's performance commitment level is close to the average performance across each of the upper quartile companies for leakage.[221] As we mention further below in this chapter, we expect companies to improve leakage

[220] The upper quartile for water is defined as between the fourth and fifth company.
[221] Annex 04 (Yorkshire Water) – Economic Insight, 'Ofwat's approach to funding upper quartile performance', March 2020, Table 2, page 8. We note that this mischaracterises South West Water as Bournemouth Water.

performance by taking advantage of technological improvements that have happened over the last 20 years.

7.41 We do not expect companies to be upper quartile on all outcomes, as we are not expecting a company to be good at everything. We recognise that even an efficient company may be good in some areas and less good in others. We would, however, expect an efficient company, on average, to have net zero ODI payments. Overall, the data indicates that it **is possible for a company to have both upper quartile outcome performance and upper quartile cost efficiency at the same time.**[222]

Table 7.2: 2014-19 Wholesale water cost efficiency vs performance ranks

Company	Efficiency Rank	Supply interruptions Rank	Leakage Rank
Portsmouth Water	1	**2 A B**	11
Yorkshire Water	2	**5 A**	12
South Staffs Water	3	**3 A B**	14
South West Water	4	**11 A**	3
Hafren Dyfrdwy	5	**10 A B**	2
Southern Water	6	**4 A**	7
South East Water	7	15	5
Northumbrian Water	8	**1 A B**	10
Wessex Water	9	**8 A**	4
United Utilities	10	**9 A**	15
Affinity Water	11	14 *	16
Anglian Water	12	6	1
Thames Water	13	13	17
Severn Trent Water	14	**12 A**	13
Bristol Water	15	17	8
SES Water	16	**7 B**	9
Dŵr Cymru	17	16	6

Note: The B ratings are based on the 2018-19 service delivery report.[223] Shadow reporting data for 2016-17 to 2018-19 indicates that Northumbrian Water, Southern Water, Portsmouth Water and SES Water have all met the 2024-25 water supply interruptions performance commitment level, and that Hafren Dyfrdwy and South Staffs Water have not met the 2024-25 water supply interruptions performance commitment level. *Affinity Water was not assessed on a directly comparable water supply interruptions performance commitment level in PR14. Source: Ofwat analysis of PR19 final determination cost models and 2018-19 service delivery report.[224]

[222] Ofwat, 'Reference of the PR19 final determinations: Cross-cutting issues', March 2020, p. 21, paragraph 3.53.
[223] Ofwat, 'Service delivery report data - 2018-19', October 2019.
[224] Ofwat, 'Service delivery report data - 2018-19', October 2019.

7.42 For wholesale wastewater, it is even more clear that it is possible for efficient companies to meet our performance commitments. For wastewater the efficient cost benchmark is defined as the third company (Northumbrian Water). All of the three efficient companies perform well on service quality. **Wessex Water has been upper quartile for both internal sewer flooding and pollution incidents, and has already met the 2024-25 performance commitment level for internal sewer flooding. Northumbrian Water has met the 2024-25 performance commitment level for pollution incidents.**[225] And even Severn Trent Water is the fourth ranked company on both internal sewer flooding and pollution incidents (the upper quartile is defined as between the third and fourth company for wastewater).

Table 7.3: 2014-19 Wholesale wastewater cost efficiency vs performance ranks

Company	Efficiency Rank	Internal sewer flooding Rank	Pollution incidents Rank
Severn Trent Water	1	**4 A**	**4 A**
Wessex Water	2	**1 A B**	2 *
Northumbrian Water	3	9	**7 A B**
Anglian Water	4	**2 B ***	**6 A**
South West Water	5	**5 A B**	10
Thames Water	6	**6 A**	**3 A**
Yorkshire Water	7	**10 A**	**8 A**
Southern Water	8	**7 A**	**9 A**
Dŵr Cymru	9	**3 A**	**5 A**
United Utilities	10	8	**1 A**

Note: *Anglian Water internal sewer flooding performance commitment level is assessed in 2019-20 only and Wessex Water was not assessed on a directly comparable pollution incidents performance commitment level in PR14. Pollution incidents are measured by calendar years (2014, 2015, 2016, 2017, 2018) rather than financial years (2014-15, 2015-16, 2016-17, 2017-18, 2018-19), due to the Environmental Agency's reporting method. Source: Ofwat analysis of PR19 final determination cost models and 2018-19 service delivery report.[226]

7.43 We consider that Economic Insight's analysis is misleading as it averages absolute performance over time and compares this with the PR19 performance commitment level where performance improved on the upper quartile based metrics at the start of the PR14 period (although it has tended to stagnate since then). We consider it is important to consider whether efficient companies have managed to perform well on service quality (e.g., within the upper quartile) in more recent years.

[225] Note that Northumbrian Water's rank of 7 on pollution incidents is due to its particularly poor performance in 2015, in which it had 97 pollution incidents per 10,000 km of sewer.
[226] Ofwat, 'Service delivery report data - 2018-19', October 2019.

7.44 Table 7.4 below shows the historical upper quartile company performances for the water and wastewater upper quartile common performance commitments. **Green** shading indicates that the company has already met the 2024-25 performance commitment level.

Table 7.4: Comparison of upper quartile performance to PR19 upper quartile level

Upper quartile company	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	PR14 Average (2015-19)	2024-25 PCL
Water Supply Interruptions									
Portsmouth Water	4.02	5.16	8.73	3.50	4.15	4.28	3.90	3.96	5.00
Yorkshire Water	10.20	10.20	9.48	12.89	9.78	6.96	10.46	10.02	5.00
South Staffs Water	9.84	9.00	8.25	4.23	5.18	8.53	7.15	6.27	5.00
South West Water	13.78	12.32	18.66	20.58	11.00	26.27	7.88	16.43	5.00
Internal Sewer Flooding									
Severn Trent Water	-	-	2.92	2.01	2.21	1.60	1.75	1.89	1.34
Wessex Water	-	-	1.16	1.37	1.20	1.22	1.43	1.31	1.34
Northumbrian Water	-	-	3.35	2.90	2.66	2.33	2.91	2.70	1.34
Pollution Incidents									
Severn Trent Water	-	79.0	65.0	47.0	30.0	30.0	31.0	34.5	19.5
Wessex Water	-	48.0	44.0	48.0	22.0	23.0	24.0	29.3	19.5
Northumbrian Water	-	79.0	54.0	97.0	38.0	17.0	12.0	41.0	19.5

Note pollution incidents are reported on a calendar year basis. Source: Ofwat analysis of 2018-19 service delivery report[227]

Implications of the relationship between cost efficiency and service quality

7.45 Anglian Water raises issues in six interlinked areas following our assessment of the relationship between cost efficiency and outcomes, which are discussed in turn below:

- 'in the round' assessment of service and cost proposals
- the link between customer bills and company performance
- the link between the ODI framework and stretch
- the disconnect between cost and service (a similar point is also raised by Yorkshire Water)

[227] Ofwat, 'Service delivery report data - 2018-19', October 2019.

- whether marginal cost evidence has been taken into account
- the link between cost allowances and service quality (a similar point is also raised by Yorkshire Water)

The 'in the round' assessment

7.46 Anglian Water suggests that the company level assessment of the cost efficiency and service quality relationship is the only piece of analysis that Ofwat has undertaken to establish whether Ofwat should provide additional funding to improve performance on the three common upper quartile performance commitments.[228] Anglian Water states that the final determination did not undertake an 'in the round' assessment of service and cost proposals.[229] This is fundamentally untrue. At the final determinations we set out in detail and in a separate document our assessment of the overall level of stretch across costs, outcomes and risk and return.[230] As set out at the start of this chapter **we used a wide range of analysis to make sure that cost and service proposals were appropriate** including historical evidence of cost and service performance, company forecasts and cross company benchmarks.

The link between customer bills and performance

7.47 Anglian Water states that '[w]here companies' historical performance is strong, and customers support maintaining this level in future, this should inform the level of costs customers pay'.[231] Anglian Water implies that if it is performing well then customers should continue to pay the same bill and receive the same level of service (without improvement). **In PR19 customer bills are reducing due to a reduction in the allowed return, a reduction in retail costs and an increase in customer numbers**.[232] If bills are maintained, as Anglian Water suggests, then Anglian Water is proposing that the benefits of these improvements should transfer to investors and not customers.

The link between the ODI framework and the level of stretch

7.48 Anglian Water states that if cost allowances and performance commitments are too stretching then companies may have to invest more than envisaged or pay penalties under the ODI framework.[233] We agree. It is also important to note

[228] Anglian Water, 'Statement of Case' (Corrected), April 2020, pp. 220-221, paragraph 905.
[229] Anglian Water, 'Statement of Case' (Corrected), April 2020, p. 221, paragraph 907.
[230] Ofwat, 'PR19 final determinations: Overall stretch on costs, outcomes and cost of capital policy appendix', December 2019.
[231] Anglian Water, 'Statement of Case' (Corrected), April 2020, Chapter F, p. 221, paragraph 907.
[232] This is set out in more detail in chapter 2.
[233] Anglian Water, 'Statement of Case' (Corrected), April 2020, Chapter F, p. 221, paragraph 909.

that **if performance commitments and cost allowances are insufficiently stretching then customers will pay too much for a service below that which they should receive**. We note that Anglian Water has outperformed its cost allowances for this and previous control periods. It has also outperformed on the three PR14 common upper quartile performance commitments.

The connection between costs and service

7.49 Anglian Water states that Ofwat has developed a cost service disconnect which is inconsistent with economic theory.[234] It adds that our company level assessment of a positive relationship between cost efficiency and service quality is disproven by historical data that marginal costs increase with the level of service.[235] We agree with Anglian Water that there can be a trade-off between service quality and cost, and improvements in service quality can come at a higher cost. Although this is not always the case and good management can lead to good performance on cost efficiency and service quality and some measures can improve both cost efficiency and service quality. However, we dispute the inference that Anglian Water is taking from our company level analysis. As explained above, our analysis does not suggest that better outcomes should cost less. However, our analysis does suggest that cost efficient companies can also be high quality. **We do not dispute that Anglian Water has delivered high service quality in the past. We do dispute whether it is proposing to deliver those services at an efficient cost in the future.**

7.50 As we discuss in our document 'Cost efficiency – common issues', we have tested service quality variables in our econometric models, and so have the companies, and these variables generally do not prove to be significant, nor their effect on cost conclusive. While our models do not include service quality variables, they do include cost drivers that would affect output quality. For example our models include the complexity of raw water treatment, which affects water quality, and the complexity of wastewater treatment, which affects the quality of water discharged to the environment. We also deliberately refrained from using the volume of water (abstracted, treated or supplied) as a scale variable, so as not to penalise companies that invested time, effort and funds, to reduce leakage and promote water efficiency in their area, and not to

[234] Anglian Water, 'Statement of Case' (Corrected), April 2020, Chapter F, pp. 221-222, paragraphs 911-915.
[235] Anglian Water, 'Statement of Case' (Corrected), April 2020, Chapter F, p. 224, paragraphs 919-921.

undermine the same behaviours and performances the we expect the sector to critically achieve.

7.51 To the extent that historical improvements in outcomes required net additional costs, these costs were included in our cost models and are reflected in our allowances to allow similar improvements in the future. Taking this into account when setting performance commitment levels for 2020-25, we believe that we have taken the most appropriate way to assess the efficient level of outcomes stretch.

Taking into account marginal cost evidence

7.52 The same point applies in relation to Anglian Water's contention that Ofwat dismisses marginal cost evidence alleging information asymmetries.[236] We note that Anglian Water states that outperformance during PR14 reveals lower costs as the starting point for the subsequent price review.[237] At the same time, however, **instead of using its historical expenditure as a basis for its future expenditure proposals, Anglian Water proposes a substantial, unjustified, increase in expenditure.**[238]

7.53 Anglian Water provides two case studies of the relationship between costs and outcomes: leakage and water supply interruptions. While these case studies set out that Anglian Water claims it has higher costs to meet improved service levels they do not outline why Anglian Water requires additional funding beyond that required by other companies and included in the final determinations. We note that on leakage we have provided Anglian Water with additional funding both through our base modelling and also for going beyond upper quartile performance in the future. On water supply interruptions its forecast additional cost of meeting the PR14 water supply interruptions commitment is based solely on the forecast penalty in 2019-20 which appears to be due to operational issues rather than a lack of expenditure. Other companies demonstrate that significant improvement can be made while outperforming cost allowances. Further details of our assessment of the companies cost

[236] Anglian Water, 'Statement of Case' (Corrected), April 2020, Chapter F, p. 227, paragraph 923.
[237] Anglian Water, 'Statement of Case' (Corrected), April 2020, Chapter F, p. 227, paragraph 923.
[238] See Table 5.3 in Chapter 5 of this document.

claims in these areas is set out in our 'Response to Anglian Water's statement of case'[239] and 'Outcomes – common issues'.[240]

The link between cost allowances and service quality

7.54 Anglian Water[241] and ICS (on behalf of Anglian Water)[242] state that Ofwat has not sufficiently distinguished between movements along a supply curve (relationship between costs and outputs) and a shift in a supply curve (change in efficiency). Yorkshire Water[243] and Economic Insight[244] (on behalf of Yorkshire Water) claim that our approach was flawed because we reached a view that some performance commitments, including the forecast upper quartile and 15% leakage reduction, could be met before we knew what the level was or what the costs were.

7.55 Both of these questions are related to a misunderstanding of the approach that we have taken to cost allowances for the forecast upper quartile performance commitments and leakage.

7.56 In response to Anglian Water's concern, the analysis is not seeking to demonstrate a relationship between costs and outcomes in the terms that seem to be suggested by Anglian Water. We are not suggesting that better service quality reduces costs, we are simply suggesting that some companies have achieved high service quality and cost efficiency, and we see no reason why other companies cannot do the same and that our calibration of service and cost is appropriate for PR19.

7.57 In response to Yorkshire Water, our stretch on the forecast upper quartile was set so that it was achievable from base cost allowances, consistent with the statement that we made in the in our PR19 methodology we stated that '[a]verage performance now will not equate to efficient performance in the future' and we are not expecting to provide companies with additional funding to meet this challenge.

[239] Ofwat, 'Reference of the PR19 final determinations: Response to Anglian Water's statement of case', May 2020, Chapters 3 and 4.
[240] Ofwat, 'Reference of the PR19 final determinations: Outcomes - response to common issues in companies' statements of case', May 2020, Chapter 11.
[241] Anglian Water, 'Statement of Case' (Corrected), April 2020, Chapter F, p. 222, paragraph 913.
[242] SOC280 (Anglian Water) – ICS, 'Exploring the relationship between service quality and costs – by ICS Consulting in collaboration with Anglian Water', March 2020, p. 10.
[243] Yorkshire Water, 'Statement of Case' , April 2020, p. 46, paragraph 141a.
[244] Annex 04 (Yorkshire Water) – Economic Insight 'Ofwat's Approach to Funding Upper Quartile Performance – A report for Yorkshire Water', March 2020, p. 2.

7.58 In our final determinations we used company forecasts of the forward-looking upper quartile, evidence of historical improvements and benchmarking across companies to set stretching performance commitment levels. In PR14 we did not provide additional funding to achieve historical upper quartile performance commitments. Most companies achieved their PR14 upper quartile common performance commitments as well as outperforming on their upper quartile-based cost allowances.

7.59 Based on historical performance we expected some improvement in quality over time without increasing cost. We allowed enhancement costs where there was good evidence that further improvements in service require an efficient company to incur higher costs.

7.60 As set out above, to the extent that historical improvements in outcomes required net additional costs, these costs were included in our cost models and will be reflected in our allowances to allow similar improvements in the future. For water supply interruptions, pollution incidents and internal sewer flooding, we carefully considered the level of stretch implied by the forward-looking data, taking account of historical improvement. For water supply interruptions, we reduced the stretch in the final determinations to take account of the historical evidence and companies' evidence. For pollution incidents and internal sewer flooding, we confirmed that the pace of improvement in the historical period was consistent with forward looking estimate. Further detail is provided in 'Outcomes – common issues'.[245]

7.61 We discuss the link between leakage and cost performance below.

Link between productivity gains and service quality

7.62 Yorkshire Water states that assuming companies can still invest productivity gains in improved performance while achieving a 1.1% per year frontier shift double counts efficiency gains.[246]

7.63 As we set out in our final determination, in theory productivity analysis partly takes into account changes in the quality of outputs.[247] This is through the use

[245] Ofwat, 'Reference of the PR19 final determinations: Outcomes - response to common issues in companies' statements of case', May 2020, Chapter 10.
[246] Yorkshire Water, 'Statement of Case' , April 2020, pp. 47 and 48, paragraphs 141 and 144.
[247] Ofwat, 'PR19 final determinations: Overall stretch on costs, outcomes and cost of capital policy appendix', December 2019, p. 44.

of quality adjusted price deflators, which take into account quality when calculating whether the price of goods have increased over time. However in practice productivity analysis, as illustrated by the Frontier Economics of water sector productivity, does not properly adjust for changes in quality.[248,249]

7.64 In addition it is not clear that our quality improvements represent frontier shift. For example on water supply interruptions, pollution incidents and internal sewer flooding, a number of companies have, are, or are forecast to be by 2019-20, performing better than their 2024-25 performance commitment level. For leakage we are providing funding for companies going beyond the forecast upper quartile. The stretch in ongoing outcomes performance therefore reflects catch up rather than frontier shift. We therefore do not consider that there is double counting of quality improvements. We note that company concerns focus on only four out of an average of 40 performance commitments per company.

7.65 We accept that the 15% reduction in leakage is likely to be an additional challenge to companies, particularly if they are currently performing well, and have taken this into account in setting our frontier shift. We are therefore providing £111 million of additional enhancement funding to reduce leakage for companies that are performing well and are beyond the forecast upper quartile.[250,251]

7.66 Advancements in technology over the past 20 years suggest that poorer performing companies should have achieved even better performance on leakage**.** These advancements allow companies to identify leaks quicker and reduce response times, thereby allowing companies to reduce leakage. A number of improvements have been cited in 'Managing Leakage' (2011),[252] which compiles the industry's best practice on leakage:

- Awareness times have dropped from an average of 14 days to less than a day;

[248] International Monetary Fund, 'Producer Price Index Manual: Theory and Practice, International Monetary Fund', September 2004.
[249] S001 - Lichtenberg, F.R. and Griliches, Z., 1989. Errors of measurement in output deflators. Journal of Business & Economic Statistics, 7(1), pp.1-9.
[250] Leakage performance levels have historically been set in reference to the sustainable economic level of leakage (SELL) and we provide further comment on this and our enhancement allowances for leakage reduction in Ofwat, 'Reference of the PR19 final determinations: Cost efficiency - response to common issues in companies' statements of case', Chapter 5.
[251] Ofwat, 'PR19 final determinations: Securing cost efficiency technical appendix', December 2019, p. 73, Table 13.
[252] UKWIR, Reference 10/WM/08/42: 'Managing Leakage', September 2011.

- Cellular Data Loggers are now the norm, which transmit data daily and can alert technicians to anomalies immediately;
- Correlating Noise Loggers direct leakage detection teams to areas of interest reducing detection times from 3-5 days to 1 day; and
- Repair gangs benefit from advanced job scheduling software which means they can be reprioritised to more pertinent jobs later in the same day, reducing the backlog of repairs that in the past accumulated over the week.

7.67 In more recent years, further advances in mobile and information technology allow even greater improvements in performance. We observe that companies are leveraging recent technological developments such as advancements in sensor design, reductions in data communication costs, enhancements in battery life, and the use of innovative analytics and predictive modelling in order to improve understanding of their networks, prevent leakage and reduce leakage levels. We consider that taking advantage of these advances should allow water companies to reduce leakage efficiently.

Acceptance of final determinations

7.68 Yorkshire Water[253] and ICS[254] (for Anglian Water) state that some companies' acceptance of the final determinations is not relevant as:

- they accepted the final determination in the round and may still not meet the 2024-25 performance commitment levels;
- there may be regional, operational and financial differences between companies which mean the 2024-25 performance commitment levels can be achieved without funding for some but not others; and
- companies may decide to divert resources from elsewhere to meet the 2024-25 performance commitment levels.

7.69 Thirteen companies did not dispute the final determinations while four companies did. Some of these companies such as Dŵr Cymru and United Utilities proposed significant improvements in cost efficiency in their business plan. PR19 used comparative benchmarking on costs and outcomes and a single industry allowed return on capital and so allowing comparison across companies. Overall the stretch for the disputing companies is lower than it is for a number of companies that accepted the final determination.[255] These

[253] Yorkshire Water, 'Statement of Case' , April 2020, p. 48, paragraph 145.
[254] SOC280 (Anglian Water) – ICS, 'Exploring the relationship between service quality and costs – by ICS Consulting in collaboration with Anglian Water', March 2020, p. 8.
[255] See Chapter 5 in this document for more details.

companies accepted the determinations in the round, and so it seems reasonable to assume that those companies that accepted the determinations considered that the overall level of stretch was achievable and they could meet their performance commitments within the funding allowed.

7.70 The stretch that Yorkshire Water and the other disputing companies seem to be principally concerned about is around the upper quartile common performance commitments, where common performance commitment levels have been set since PR14. The disputing companies have not provided evidence why these commitments are more difficult for them than other companies. We therefore consider that these commitments should be achievable for the disputing companies without additional funding.

A1 Appendix

Table A1.1: 2014-19 Cost efficiency vs performance ranks

Company	Efficiency Rank	Leakage Rank	Supply interruptions Rank	Internal sewer flooding Rank	Pollution incidents Rank
Portsmouth Water	1	11	2	-	-
Wessex Water	2	4	8	1	2
South Staffs Water	3	14	3	-	-
Severn Trent Water	4	13	12	4	4
South East Water	5	5	15	-	-
Yorkshire Water	6	12	5	10	8
Hafren Dyfrdwy	7	2	10	-	-
Northumbrian Water	8	10	1	9	7
South West Water	9	3	11	5	10
Anglian Water	10	1	6	2*	6
Affinity Water	11	16	14	-	-
Thames Water	12	17	13	6	3
Southern Water	13	7	4	7	9
Bristol Water	14	8	17	-	-
United Utilities	15	15	9	8	1
Dŵr Cymru	16	6	16	3	5
SES Water	17	9	7	-	-

Source: Ofwat analysis of PR19 final determination cost models and 2018-19 service delivery report.[256] Note: *Anglian Water internal sewer flooding performance commitment levels is assessed in 2019-20 only. Pollution incidents are measured by calendar years (2014, 2015, 2016, 2017, 2018) rather than financial years (2014-15, 2015-16, 2016-17, 2017-18, 2018-19), due to the Environmental Agency's reporting method.

Table A1.2: 2014-19 Residential retail cost efficiency vs SIM rank

Company	Efficiency Rank	SIM score Rank
Yorkshire Water	1	10
South East Water	2	7
Anglian Water	3	3
Northumbrian Water	4	5
Severn Trent Water	5	11
Wessex Water	6	2
Bristol Water	7	8
South West Water	8	12

[256] Ofwat, 'Service delivery report data - 2018-19', October 2019.

Company	Efficiency Rank	SIM score Rank
Portsmouth Water	9	1
South Staffs Water	10	4
Hafren Dyfrdwy	11	13
Thames Water	12	17
Affinity Water	13	15
United Utilities	14	6
SES Water	15	14
Dŵr Cymru	16	9
Southern Water	17	16

Table A1.3: Sensitivity of overall quality ordinal ranks for water to the rank ordering

Company	Worst (1) to Best (17) Ranking	Best (1) to Worst (17) Ranking	Absolute difference in ranking
Portsmouth Water	16	2	0
Yorkshire Water	9	10	0
South Staffs Water	11	7	0
South West Water	9	10	0
Hafren Dyfrdwy	10	8	0
Southern Water	15	3	0
South East Water	6	13	0
Northumbrian Water	14	4	0
Wessex Water	12	6	0
United Utilities	2	16	0
Affinity Water	6	13	0
Anglian Water	17	1	0
Thames Water	7	11	0
Severn Trent Water	3	15	0
Bristol Water	4	14	0
SES Water	13	5	0
Dŵr Cymru	1	17	0

Note: For each ranking pair, the same relative position would be preserved if the sum of the two ranks is equal to 18. The absolute difference is calculated as the absolute value of 18 minus the sum of the two ranks.

Table A1.4: Sensitivity of overall quality ordinal ranks for wastewater to the rank ordering

Company	Worst (1) to Best (10) Ranking	Best (1) to Worst (17) Ranking	Absolute difference in ranking
Severn Trent Water	8	3	0

Company	Worst (1) to Best (10) Ranking	Best (1) to Worst (17) Ranking	Absolute difference in ranking
Wessex Water	10	1	0
Northumbrian Water	3	9	0
Anglian Water	8	3	0
South West Water	4	7	0
Thames Water	6	6	0
Yorkshire Water	1	10	0
Southern Water	3	9	0
Dŵr Cymru	8	3	0
United Utilities	6	6	0

Note: For each ranking pair, the same relative position would be preserved if the sum of the two ranks is equal to 11. The absolute difference is calculated as the absolute value of 11 minus the sum of the two ranks.

Table A1.5: Sensitivity of overall quality ordinal ranks for retail to the rank ordering

Company	Worst (1) to Best (17) Ranking	Best (1) to Worst (17) Ranking	Absolute difference in ranking
Yorkshire Water	8	10	0
South East Water	11	7	0
Anglian Water	15	3	0
Northumbrian Water	13	5	0
Severn Trent Water	7	11	0
Wessex Water	16	2	0
Bristol Water	10	8	0
South West Water	6	12	0
Portsmouth Water	17	1	0
South Staffs Water	14	4	0
Hafren Dyfrdwy	5	13	0
Thames Water	1	17	0
Affinity Water	3	15	0
United Utilities	12	6	0
SES Water	4	14	0
Dŵr Cymru	9	9	0
Southern Water	2	16	0

Note: For each ranking pair, the same relative position would be preserved if the sum of the two ranks is equal to 18. The absolute difference is calculated as the absolute value of 18 minus the sum of the two ranks.

Ofwat (The Water Services Regulation Authority) is a non-ministerial government department. We regulate the water sector in England and Wales.

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May 2020