

The ongoing debate about the provision of water and wastewater services ought to be rooted in a shared understanding of water company economics and the mechanics of economic regulation. This hasn't always been the case lately.

This paper is an attempt to answer some frequently asked questions (part 1) and clear up some common misconceptions (part 2).

### Part 1: Frequently Asked Questions

#### a) How are our bills regulated?

An overview of the economics of the water industry can be found in summary form [here](#) and in long form [here](#).

The key points are:

Water and sewerage companies are entitled to collect revenues from customers to cover the efficient costs of the services they provide.

The amount of each company's revenue entitlement is set by Ofwat through a price review process that looks ahead five years at a time.

At each periodic review, the companies, Ofwat and the two quality regulators (the Environment Agency and the Drinking Water Inspectorate) discuss and strive to agree the service/performance levels that the companies are to achieve and the costs that the companies will incur in meeting those targets, including the sizing of the companies' investment programmes.

Customers are expected to pay for forecast efficient costs in full.

In the case of day-to-day operating expenditures, Ofwat allows companies to recover projected efficient costs pound-for-pound as costs are incurred.

Ofwat does not, however, ask customers to pay for investments in the year that money is spent. Instead, Ofwat requires us collectively to pay for new investments in instalments over the life of the built assets, so that everyone who benefits from the investment contributes to the cost.

To be able to proceed with such projects, if payment from customers is only going to come in gradually over a period of many years, companies need someone to put up the monies that they need to pay for labour, materials, contractors, etc. Back in the 1980s, it was decided that this financing should come from investors, rather than from government as had been the case in the past.

Investors can, of course, put their money into thousands of possible investments around the world. They are not going to put capital into water companies unless they receive a reasonable rate of return.

We have to cover this return via our bills. We rely on Ofwat to set returns at a level that is no higher and no lower than is necessary given the returns that investors can make on similar-looking investments elsewhere.

But returns are not guaranteed. With bills fixed for five-year periods by the regulator, companies have to control their costs and meet performance targets if they want to make an actual profit.

### b) What levels of service/performance do we get?

With most household purchases, we get to choose what we buy. If, for example, we want a cake, we are able to choose whether we buy a sponge from the Tesco value range, or a Sainsbury Taste the Difference cake, or order from our local home baker, or we can commission something completely bespoke from the finest French patisserie, to name just four of the possible options.

Water and sewerage services are different. There's only one company that each of us can buy from,<sup>1</sup> and the quality of service/performance that each company provides is set through government-mandated legal obligations and the aforementioned process of engagement between companies, Ofwat, the Environment Agency<sup>2</sup> and the Drinking Water Inspectorate.

Probably the thing that onlookers find most difficult to understand about the water industry is that the level of performance that is expected from water companies is often deliberately set short of complete and total perfection. Just as we accept that there will be occasions when our favourite food is not on the shelf, or a delivery comes late, or our flight is delayed, the government and its appointed regulators accept that, no matter how skilful a company is, there will sometimes be occasions when water companies' pipes leak, or when supply is interrupted, or when untreated waste makes its way into our waterways.

The reason for this comes ultimately down to cost. Constructing, maintaining and operating a water and wastewater system where the pipes never leak and the sewers never overflow would cost an astronomical amount of money, shifting the average customer's bill from a few hundred pounds a year to a few thousand pounds a year. This is particularly the case with a network that, for the most part, was built decades ago, with a particular capacity and to a particular engineering specification (in particular, where foul water from the sewerage system is mixed with surface water from the drainage system in combined sewers, and where the sewers, pumping stations and treatment works have inbuilt overflows that discharge into nearby waterbodies in the event of heavy rain).

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<sup>1</sup> For good economic reasons: it would be horrendously expensive to build multiple networks with multiple sets of pipes to our homes which we then choose one from depending on who is offering the best-looking deal.

<sup>2</sup> Natural Resources Wales in Wales.

Given the inheritance, today's government and the regulatory bodies overseeing the industry have to strike what they think is the right balance between appropriate standards of performance, on the one hand, and affordability for customers, on the other.

### c) What levels of service/performance have companies been told to provide?

The industry's most periodic review was completed in 2019. The required performance levels that emerged at the end of this review originate from a number of different places:

- first of all, companies are required to comply with a basket of statutory obligations set down by governments over a period of more than 30 years;
- companies also have to adhere to the terms of thousands of site-specific environmental permits that impose particular conditions on the operation of assets at a local level;
- the quality regulators mandated a brand new five-year programme of actions that companies are required to take in order to meet new statutory and non-statutory quality obligations and aspirations;
- Ofwat as economic regulator then layered on its own targets in areas not covered by the quality regulators' work (e.g. leakage);
- Ofwat also benchmarked individual companies' recent performance / performance proposals against one another, and challenged firms that appeared to be offering customers a poorer service to meet the standards being set by industry leaders; and
- finally, companies were able to propose their own projects, where they could show that the benefits of expenditures outweigh the costs and where there is evidence of customer willingness to pay.

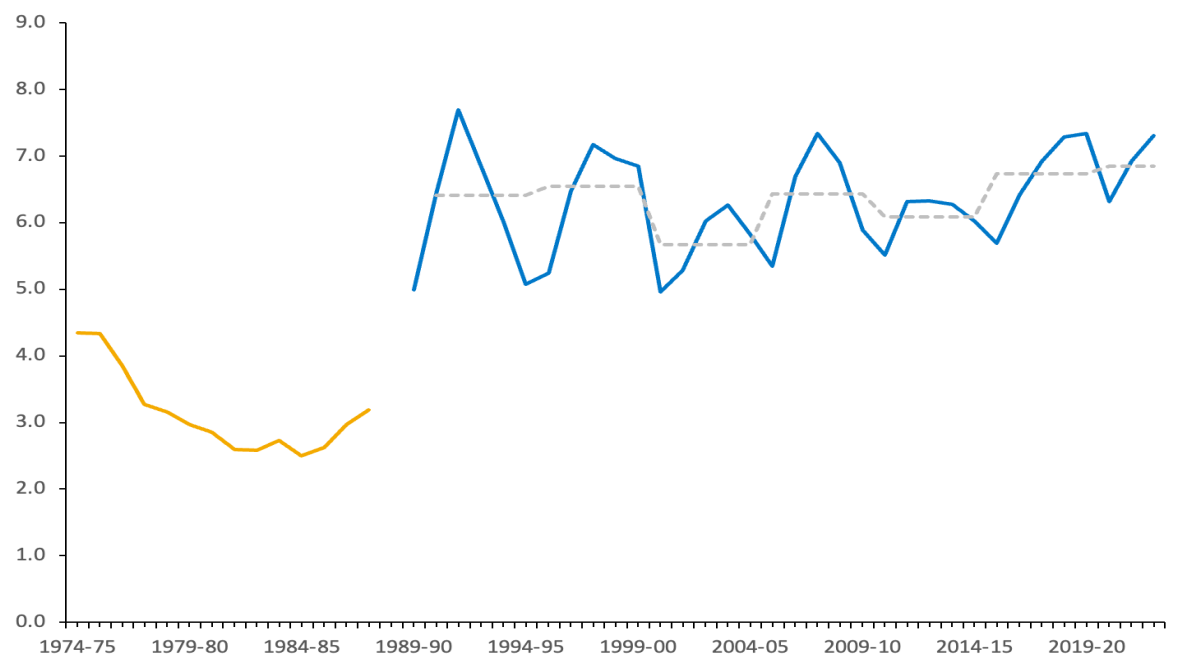
The outcome that this web of initiatives produces is invariably one of continual improvement. In the [2019 periodic review](#), it meant that companies were tasked to: reduce leakage by 16%; bring supply interruptions down by 41%; reduce company-fault pollution incidents by 30%; and so on and so forth among other steps forward across a range of metrics.

Ofwat is also very clear that companies ought to strive to go beyond regulatory targets where it is in customers' interests to spend more and deliver more. To this end, Ofwat puts in place 'Outcome Delivery Incentives' which permit companies to increase bills in future if they are able to exceed specific performance benchmarks, and which penalise companies if they fall short of required performance levels.

### d) Has everyone been prioritising low bills ahead of environmental improvements in recent years?

A look at the raw numbers suggests that this is not the case. Figure 1 shows that the 2020-25 investment programme is shaping up to be the biggest programme of expenditure that companies in England & Wales have taken on since privatisation.

Figure 1: Water industry capital expenditure (£ billion, constant 2022/23 prices)



Source: [National Infrastructure](#) and [Ofwat](#) websites.

Note: the calculation methodologies for the orange and blue lines are different, which may affect comparability.

Perhaps counter-intuitively, Ofwat concluded at the end of its periodic review that the c.£35 billion of capital works<sup>3</sup> to be carried out between 2020-25 could be delivered while companies simultaneously reduced bills charged to customers by around 12% before inflation. This was first and foremost a function of the big reduction in interest rates that had occurred since 2010. Where previously companies might have had to pay, say, 6% on borrowed money, by 2019 interest rates had fallen below 3%. This reduced industry running costs by several billion pounds per year, creating room for a significant bill reduction even in spite of higher levels of investment.

Where the charge that there was too much of an emphasis on bill reduction possibly has some sting is that the level of headroom that low interest rates suddenly provided was such that the £35 billion investment programme could conceivably have been even bigger while still providing customers with some reduction in charges (albeit not as much as 12%).

In this regard, rightly or wrongly, a conscious choice was made. The 2019 periodic review came on the back of ten years of harder economic times than households and businesses had been used to, and there was a steer from Ministers to government agencies, and from Ofwat to companies,<sup>4</sup> that this particular periodic reset provided an opportunity to help customers out financially. Importantly, when asked for their views during an extensive

<sup>3</sup> In 2022/23 prices.

<sup>4</sup> See, for example, this [speech](#) by the Environment Secretary and this [speech](#) by Ofwat's Chair.

programme of research and engagement, customers and customer representatives said that this was broadly the right call:

We surveyed about 500 customers of every water company in England and Wales to find out what they thought about the price and service changes proposed by Ofwat for the next five years ...

The research found high levels of overall acceptability both for the price and the proposed change to levels of service.

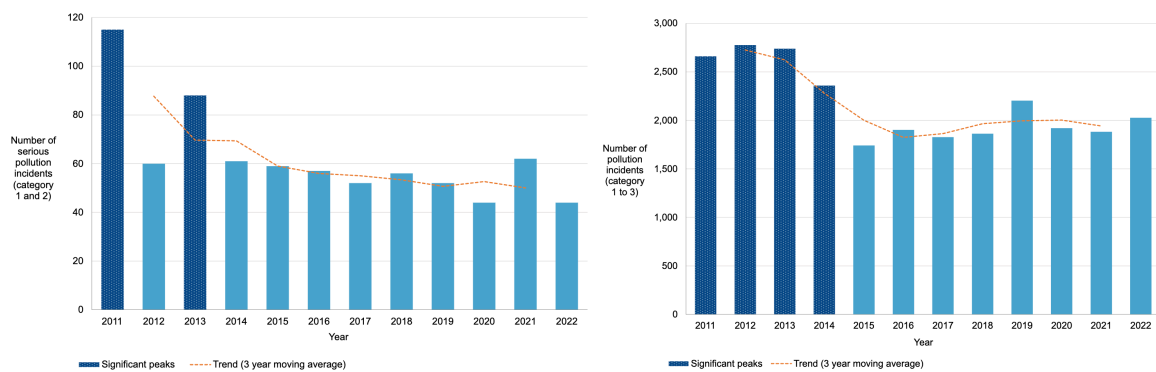
[Consumer Council for Water, 2020](#)

### e) Why hasn't the industry given more priority to reducing pollution?

(NB: in the discussion that follows, it is important to bear in mind that there is a distinction between: (a) a spill from an overflow; and (b) a pollution incident. In the vast majority of spills, foul water is diluted by rainwater and surface water and there is no discernible impact on the quality of the water that the overflow discharges into. The use of the words “spill”, “overflow” and “pollution” from hereon is deliberate.)

It would be wrong, first of all, to say that, within the envelope given, pollution has been neglected. The number of recorded pollution incidents across the last three years for which data have been published was around one third lower than it was ten years ago. And, as noted above, Ofwat's 2019 periodic review pencilled in a 30% reduction by 2025.

Figure 2: Serious pollution incidents (left-hand side) and total number of pollution incidents (right-hand side), 2011-22



Source: [Water and sewerage companies in England: environmental performance report 2022](#).

It was, of course, open to the industry to show even greater intent, and to tackle and remedy more of the known flaws in infrastructure built many years previously. By my reading, the overriding reason that regulators and industry alike opted not to earmark more funding for reductions in spills and pollution lay principally in a shared view that the benefits of additional schemes more often than not produced insufficient benefits to justify the costs, particularly when put next to the benefits of other service improvements.

This kind of cost-benefit analysis has always been at the heart of the industry's decision-making process. In a sector where networks are old and service will never be perfect, government, regulators and companies continually ask themselves: 'what if we pushed to improve a bit more here?'; 'how much would it cost?'; 'how do the benefits to customers stack up against the expense?'; 'are customers willing to pay?'. Potential schemes moved forward when they had a positive benefit-cost ratio (BCR). They came to a halt when the BCR was irretrievably below zero.

In the case of spills, in very general terms, the numbers looked like they were saying that the industry's settings were about right. Yes, there were specific places in specific parts of the country where new schemes would be cost-beneficial. Yes, there was scope for overall pollution numbers to reduce as a consequence of better operational management. But, overall, the view was that customers' best interests would not be served by commissioning an even bigger multi-billion pound programme to, say, eliminate storm overflows across the board.

(The interested reader can find facts and figures to support this conclusion [here](#). In very simple terms, the research says that work to reconfigure the sewerage network is often expensive and carbon-heavy. At the same time, very few people have direct contact with water bodies in their day-to-day lives, and so the direct benefit to the public in terms of amenity and public health when water quality improves at a particular location are often quite small.)

The corollary this has is that had water companies been given the green light for an additional few billion pounds of investment back in 2019, it is likely that only a small proportion of that money would have been directed at overflows. Instead, the likelihood is that companies would have used the funding for other local priorities.<sup>5</sup>

#### f) [Are companies currently falling short of expectations?](#)

The chart overleaf compares companies' performance in 2022/23 across a range of metrics to performance in 2019/20.

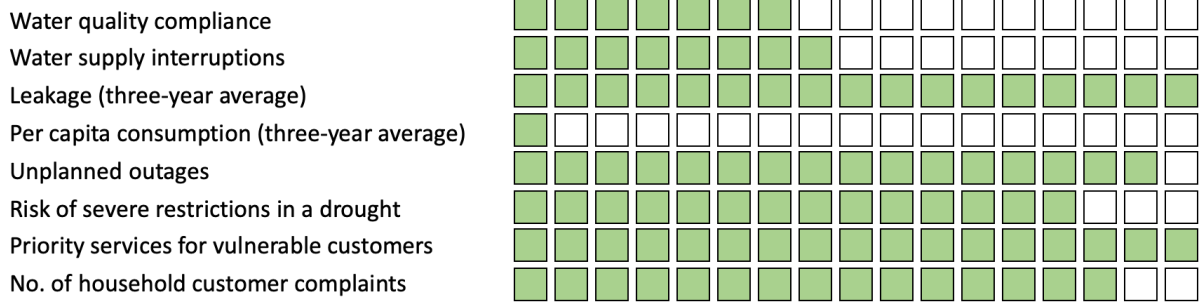
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<sup>5</sup> A sense of some of the competing priorities can be obtained from the National Infrastructure Commission's comments on [capital maintenance](#), [drought resilience](#) and [surface water flooding](#).

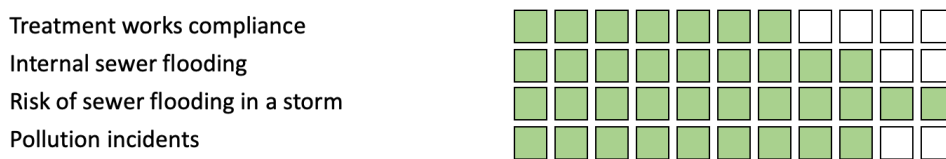
Figure 3: Number of companies maintaining or improving performance vs 2019/20<sup>^</sup>

Performance metric

Water (17 companies)



Wastewater (11 companies)



Source: Water companies' annual performance reports.

Note: ^ or 2020/21 where data not available.

The numbers record broad-based improvement, or sustainment of previous high standards, in 9 out of 12 key areas. The only outright deterioration is in relation to per capita consumption (an area where water companies have struggled with changes in working patterns since Covid).<sup>6</sup>

This is not an industry that is going backwards. In fact, on the contrary, it is very clearly a sector that is moving forward across a number of different fronts.

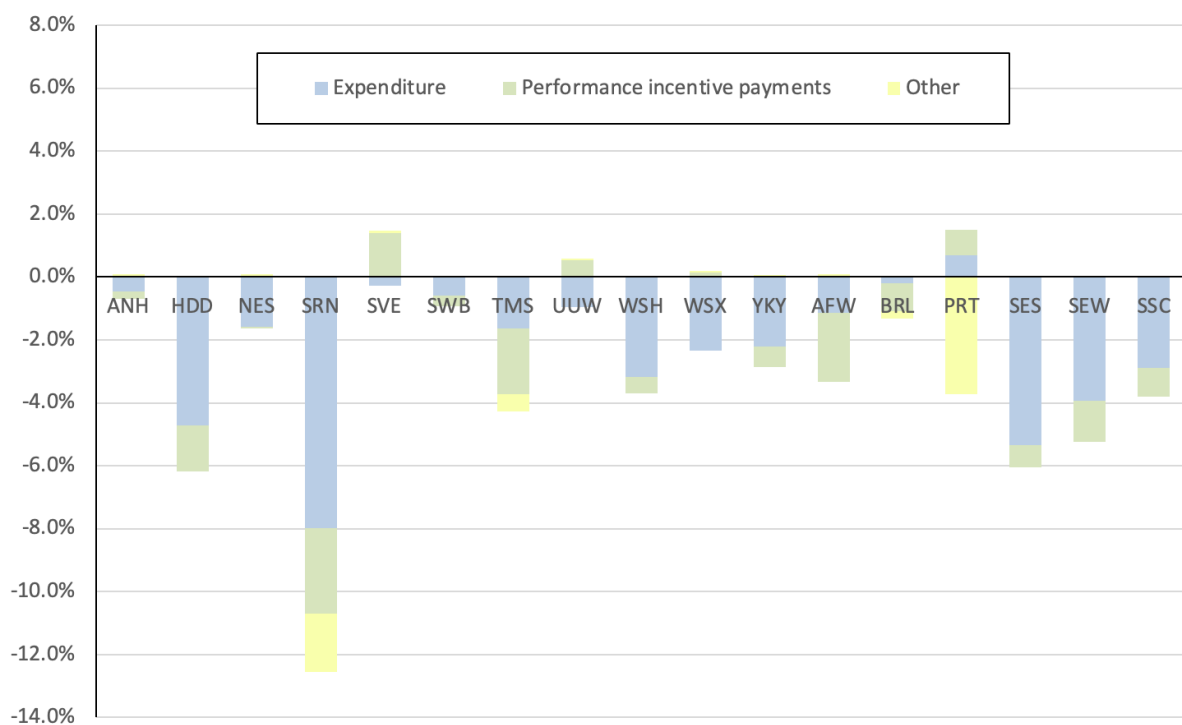
This improvement, however, is not coming as quickly as regulators have wanted. This can be seen by looking at the number of Ofwat's stretch targets that companies missed in 2022/23. The headline [scorecard](#) reads: 84 targets met or exceeded; versus 96 improvement targets missed.

It can also be seen by looking at companies' financial performance over the first three years of the current five-year regulatory period. Figure 4 records that 13 out of 17 companies are in a net penalty position. The chart also shows all 17 companies over-spending against Ofwat's cost allowances in order to achieve this performance.

The net loss of profit experienced by shareholders over three years on account of their 'operational performance' is around £3.5 billion.

<sup>6</sup> See this [work](#) by Artesia Consulting and Frontier Economics for a more detailed explanation.

Figure 4: Operational out-/under-performance by company, % return on equity, 2022/23



Source: Water companies’ 2022/23 annual performance reports.

Note: bars below the 0% line in the chart indicate loss of return and bars above the line indicate additional return vs the baseline level of after-tax profit factored upfront into Ofwat’s price controls.

In summary, we are looking here at an industry that is getting better at what it does, but doing so more slowly than regulators wanted, spending more than anyone thought would be the case, and suffering financially as a result.<sup>7</sup>

There are two conclusions that one might draw at this point. One take might be that water companies just haven’t been up to the task recently and deserve at least some of the criticism they have been receiving. But an alternative view might be that, with the benefit of hindsight, companies were set an impossible challenge five years ago and are now paying the price for regulatory miscalculation.

It is difficult from the outside to know how much weight to give the first narrative versus how much credence to give the second explanation, but the fact that multiple companies all with different management teams and different shareholders are having broadly the same experience at the same time suggests that the latter view merits some weight.

(NB: The preceding charts and story-telling may need to be updated when the Environment Agency’s and Ofwat’s ongoing [investigations](#) into companies’ compliance with environmental permits are completed.)

<sup>7</sup> During 2022 and 2023, high rates of RPI and CPI inflation translated into ‘financial out-performance’ for around half of the companies in the sector, offsetting the operational under-performance shown in the chart. This cushion has disappeared following the return of inflation to more normal run-rates.



### g) Why is there talk that bills will need to go up next year?

This year, 2024/25, is the final year of the current five-year regulatory period. In October last year companies published business plans which provided for an [average 30% increase](#) in bills starting from April 2025.

Ofwat is yet to opine on these requests, and history tells us that companies usually get somewhat less than they ask for. But it is very clear that bills are going to have to go up by a non-trivial amount. This is for three main reasons:

- first, current charges are based on the level of input costs in the economy five years ago. A simple, mechanical update to account for the step changes that we have seen in electricity costs and interest rates alone will add a sizeable amount to bills;
- second, there is an apparent consensus, underpinned by new legal obligations, that companies need to reconfigure their sewerage networks to create more peak-rainfall capacity and reduce the number spills into rivers, lakes and beaches; and
- third, quite separate from the actions that companies are taking to address concerns about pollution, there is a need for a wide range of other new future-proofings to accommodate population growth, secure new supplies of water and improve service resilience in the face of climate change, among other things.

The second of these things is particularly noteworthy because it constitutes a sharp about-turn from the prevailing view of just a few years ago. That companies are now taking on work that until recently was not judged to be cost-beneficial suggests that the earlier assessment of benefits was wrong, or customers' willingness to pay has changed (presumably because the downsides of the design of our wastewater networks have all of a sudden<sup>8</sup> broken through into public consciousness), and/or there has been a top-down decision that the cost-benefit analysis doesn't matter.

This is not my main area of expertise, but it is striking that the [impact assessment](#) that the Defra published alongside its [Storm Overflows Discharge Reduction Plan](#) identifies a very low BCR. Table 1 reproduces Defra's assessment of calculatable costs and benefits:

Table 1: Storm Overflows Discharge Reduction Plan BCR

|                    | Pessimistic   | Central       | Optimistic    |
|--------------------|---------------|---------------|---------------|
| Costs              | £59.3 billion | £48.3 billion | £37.3 billion |
| Monetised benefits | £3.8 billion  | £4.2 billion  | £4.6 billion  |
| BCR                | 0.06          | 0.09          | 0.12          |

Source: Defra impact assessment.

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<sup>8</sup> This is likely a direct consequence of the investments that companies have made to install event duration monitoring equipment at storm overflows. People can now see where and how often overflows are used and so understand better than was the case in the past how wastewater networks operate.

It's not straight-forward to quantify environmental and social impacts in £m currency, and Defra noted that some of the benefits of reducing spills could be missing from the table. However, the impact assessment also concluded that:

...it is not possible at this stage to say with any certainty whether the overall policy would have a BCR above 1 if all the identified benefits could be fully monetised

With this context, it's not immediately obvious that there's a reason here to be overly critical of the companies, at least not in isolation from the industry's other decision-makers, given the speed with which expectations have moved.<sup>9</sup> Equally, though, it is clearly less than ideal for workload/bills to be zigzagging down then up and for the sector to have missed the opportunity to finance the new investment at the historically low interest rates we saw prior to 2022.

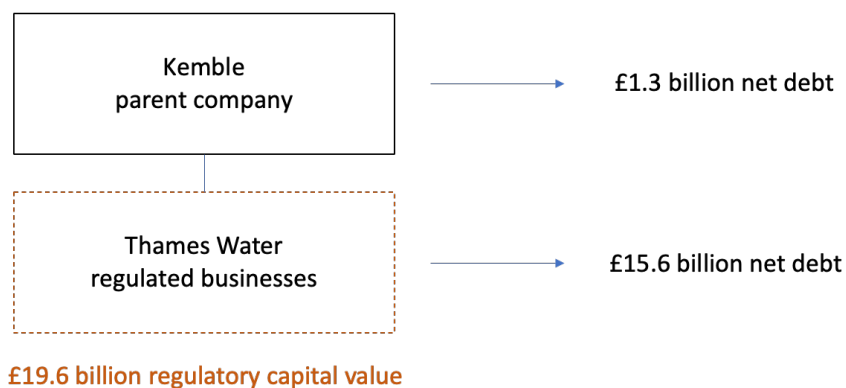
#### h) What's gone wrong at Thames Water?

I have managed so far to avoid mentioning Thames Water. For the avoidance of doubt, everything I have said up until this point applies to every company in the country, from the most successful to the least successful. Thames, however, is clearly a special case and its predicament merits a bit more analysis.

The earlier figure 4 showed that Thames has been one of the bigger under-performers in this regulatory period. This enables us to say confidently, first of all, that the origins of Thames' travails are operational in nature, with a combination of poor performance and over-spending resulting in ongoing financial losses for shareholders.

Perhaps the most interesting thing about the company-to-company comparisons is that Thames is not the only firm that has been facing operational issues. What sets Thames apart is the company's capital structure. Specifically, around 80% of the company's historical investment has been financed using debt (vs a typical 60-70% at other companies) and the company's owners have put in place additional debt at holding company level.

Figure 5: Thames Water and parent company borrowing



Source: [Thames Water Utilities Limited investor report, 30 September 2023](#).

<sup>9</sup> Section 3 of this [paper](#) by United Utilities contains a useful summary of the time line.

This high level of indebtedness means there are large fixed £m interest bills to pay every year. And the combination of the interest plus ongoing overspending plus the performance penalties appears to have accumulated to the point where the current shareholders [see no current prospect](#) of ever making a viable return on the money they have put into the company in the past or could conceivably consider putting into the company in the future.

It is impossible to be certain, but the strong likelihood is that Thames wouldn't be in the financial peril that it is in if its owners had selected a different mix of debt and equity financing. If, for example, the company had financed only 60% of its investment through debt and if shareholders had not taken on any debt at parent company level, the total interest bill would be at least one quarter lower, the returns Thames would be capable of paying to equity would be commensurately higher and shareholders would have more reason to think that it is worth bearing the current short-term pain.

For completeness, I should also record that there are voices in and around Thames that say that any such financial rearrangement would just mask an underlying structural problem. Thames has [argued](#) that it has an unusually aged/ageing set of assets and that the challenges it faces operating in London and the south east are not comparable to the challenges that companies are have to deal with elsewhere. Insofar as Ofwat likes to regulate companies in a homogeneous way, there is a risk, in Thames' stated view, that the business has been and will continue to be systematically under-funded, leading to a growing "asset health deficit" that will permanently affect both costs and performance unless properly addressed.

If there is a degree of truth in this diagnosis – and it is an 'if' pending Ofwat's forthcoming assessment of Thames's business plan submissions – it would mean that Thames' story is about more than just factors that have been inside its control.

#### [i\) What happens next?](#)

In June this year Ofwat will issue draft determinations to companies for the period 2025-30. Final determinations will follow by the end of the year.

The new settlements will reset many of the calibrations that Ofwat put in place for the current five-year period: new investment programmes will be approved; cost allowances will be reset; profit margins will be rebased to align with current interest rate conditions; and companies will be handed new targets across a basket of more than 20 performance metrics.

It is going to be a major challenge for Ofwat to get the balance right. On the one hand, it is a fundamental tenet in economic regulation that customers cover efficient costs and that poor performers suffer appropriate financial penalty. Yet it is also squarely in customers' interests that the package that Ofwat assembles is one that a well-managed company is actually capable of delivering. As I mentioned at the outset, we rely on private investors to finance new investments ahead of payment by instalments from customers. If investors look at the returns that the better companies can expect to make in the coming years and conclude that the reward on offer falls short of the returns that are available on comparable business

elsewhere, it will make it very difficult for the industry to proceed with the programme of work that companies have laid out in their plans.

My fear looking on from the outside is that policymakers have not prepared the public for this reality. The average person on the street has come to believe that companies are failing if ever a mains bursts or if ever sewage goes into rivers. It therefore stands to reason, in many people's minds, that it is for companies and their shareholders to remedy such problems on their own account. But, in general terms, this just isn't right for the reasons I've tried to outline in this paper. It is unfortunate, to say the least, that the government hasn't explained the task that companies have and the nuances of cost-benefit trade-offs, and that Ofwat has chosen to stay mostly silent during the last 15 months rather than gradually warm the public, the media and financial markets<sup>10</sup> up to the shape of its upcoming decisions.

(My reading of the tea leaves on Thames Water, for what it is worth, is that the short [statement](#) Ofwat put out at the end of March signals that Ofwat believes that the forthcoming determination for the 2025-30 period will be one that a different set of shareholders and a different parent company, unencumbered by parent company debt, ought to be willing to put money into. The ideal scenario, under this view of the world, has Kemble selling up at a fraction of the price that shareholders bought in at, thus allowing for a recapitalisation of the regulated entity and obviating the need to invoke potentially disruptive special administration proceedings. However, this kind of outcome is very much dependent on outsiders being persuaded by Ofwat's sums, which we are yet to see.)

#### j) Concluding remarks

There are seven weeks to go now until the next chapter of the story begins. I hope that the facts and the figures that I have set out above and in Part 2 of this paper might help everyone looking on find the right lens with which to assess the different actors' next moves.

My overarching conclusion at the end of this overview is that the characterisation of the industry that we see in the media is not fully deserved. When the dust settles, it will be important for a body like the National Audit Office to review all that has been happening and to ask some pointed questions about the reasons for the collective failure to anticipate public disquiet about spills, the value for money in the government's new legal requirements and companies' 2025-30 investment programmes, the root causes of companies' recent financial under-performance, and Ofwat's historical policing of companies' financial resilience. But I would hope by then that greater effort will have been made to educate onlookers about the water industry's economics – including a fair appraisal of companies' achievements as well as their failings – and that the discourse that follows can be more objective than some of the commentaries that we have seen of late.

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<sup>10</sup> I mention financial markets because all of the negative coverage that the industry has been receiving in recent months has pushed share prices lower. If Ofwat gets its sums right in June, there should, by rights, be an upward correction. This will be almost certainly generate confusion.

## Part 2: Some Mythbusting

### “Customers shouldn’t have to pay for service improvements”

Different levels of day-to-day performance/service quality/environmental outcomes unavoidably give rise to different levels of costs. Water companies are no different from the vast majority of other firms in the economy in that any firm, no matter what line of business it is in, needs to set prices that cover the efficient costs of their production. If they don’t, they go out of business.

To return to the analogy that I used at the start of the paper, if I go into a bakery and ask for a cake with better ingredients and nicer overall flavour, I have to cover the additional costs that the baker incurs in order to meet my requirements. I don’t go into the shop and insist that they sell me the cake of my choice at the same cost as the most basic item in the store.

### “Customers have already paid. They shouldn’t have to pay again.”

We have the data to show that this is not generally the case.

We know, in the first instance, that companies were paid after privatisation to keep their assets in a stable condition.<sup>11</sup> They did exactly this.<sup>12</sup> More recently, since about 2015, Ofwat has explicitly funded all companies only in line with the volume of capital maintenance activity being carried out by the lowest-spending companies in the sector.<sup>13</sup> This constitutes a decidedly minimalist approach to capital maintenance.

In addition to these ‘base’ costs, we have itemised lists of all the ‘enhancement’ schemes that Ofwat has approved in each of the periodic reviews it has carried out. These lists very clearly do not include most of the projects that companies are going to be taking on in the next few years, including, but not limited to, the construction of named new reservoirs, upgrades to named treatment works, and the targeting of named storm overflows.

### “If only companies had spent the money they’ve been previously been given, we wouldn’t be in this mess”

The industry as a whole has spent in line with<sup>14</sup> the cost allowances that were factored into customers’ bills. At a company level, there are some companies that have overspent and some companies that have underspent,<sup>15</sup> and Ofwat will want to make sure that companies in the latter group don’t look now to customers to fix problems that are the direct results of past management choices. But at sector level, it cannot be said that the level of service that

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<sup>11</sup> A brief history of Ofwat’s approach to capital maintenance is given in section 2 of this [paper](#).

<sup>12</sup> In the past, Ofwat would conduct assessments of ‘serviceability’. As one example, see table 13 on p.43 of Ofwat’s [PR09 final decision document](#) for the results of Ofwat’s assessment of serviceability at the end of the 2005-10 regulatory period.

<sup>13</sup> The National Infrastructure Commission [estimates](#) that that at PR19 this approach funded companies to renew water mains at a rate of 0.4% per annum, which “would imply asset lives of up to 180 years”.

<sup>14</sup> See Ofwat’s answer to Q57 in [oral evidence](#) provided to the House of Lords Industry and Regulators Committee on 4 July 2023.

<sup>15</sup> This is a natural consequence of Ofwat’s yardstick-based approach to regulating multiple companies.

the industry is achieving has been unnaturally lowered by a failure to spend previously awarded allowances.

In the current regulatory period, companies are spending more than Ofwat anticipated when it set the profile of bills for 2020-25 (see figure 4 in the main body of the paper).

In the specific case of Thames Water, the evidence that the business has spent the allowances that it was given can be found at p.17 [here](#).

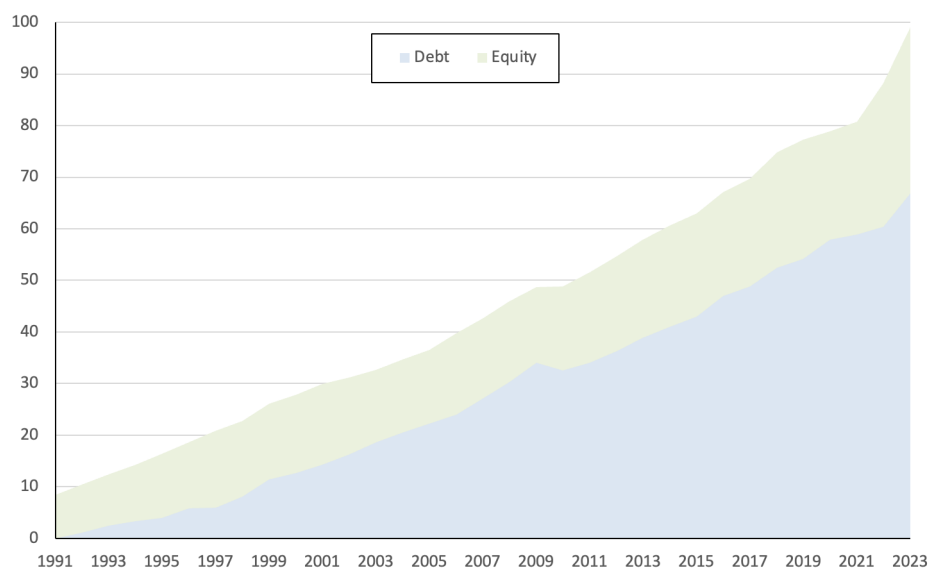
### “The amount of debt that companies have is a scandal”

We don’t pay companies in full for their capital expenditure in the year when expenditure occurs. When companies build assets that last for decades, it is fairer that successive generations of customers pay in instalments over the life of the asset. That way all of the people that benefit from the investment contribute towards its cost.

Companies can only turn to two sources when they need to finance a project ahead of this stream of payment by instalments: lenders and shareholders. There is nothing intrinsically right or wrong about either of these options, so long as a company does not over-borrow and jeopardise its longer term financial solvency. Indeed, one might argue that debt is the natural choice when a company is simply looking for capital to bridge a timing gap between money going out and money coming, while equity is the natural choice when the company needs capital that bears the risk around ongoing expenditures and revenues.

At first, it might sound unfathomable that companies have built up more than £65 billion of debt over the last 35 years. But this figure has to be looked at in the context of the net £100 billion of investment that companies have undertaken and not yet been paid for.

Figure A1: The water industry’s financing of investments not yet paid for by customers (£ billion)



Source: Ofwat published data.

To an economist's eye, the chart shows a fairly natural-looking mix of financing. Across the sector as a whole, companies have more than retained equity worth a multiple of their annual expenditures. But they have used debt to finance the bulk of the year-on-year growth in the I.O.U. from customers.

[“The amount of profit that companies make and the dividends that companies pay every year is a scandal”](#)

Profits, likewise, can be difficult for people to get their heads around because the numbers seem so far removed from anything that we encounter in our personal lives.

Here it is also important to have context.

If, say, the water industry was collectively to make an after-tax profit of £2 billion in a year, £2,000,000,000.00 sounds like an awfully big number. But a £2 billion return on £35 billion of invested equity capital (see figure A1 above) is a return of around 6%.

In its 2019 price control decision, Ofwat [provided for](#) a return of 6.27%. Around the world, there are not many companies out there that pay as little in the way of percentage returns as our water companies.

NB: At the time of writing, an investor can make a little over 4.5% a year by locking their money away in risk-free government bonds.

[“If only companies hadn't paid such big dividends, there wouldn't be so much debt to service”](#)

This is factually correct. But it is also a case of adding two and two together and making five.

One can just as easily say that companies would have less debt if they had only paid their workers every other month, or if they had only paid their contractors a percentage of their submitted invoices, or if they had only paid some of their electricity bills. Just as companies cannot function without workers, materials and electricity, it would also be impossible to operate without financial capital, for the reasons I've explained in the paper. The cost of this capital is as much a legitimate and unavoidable cost of doing business as wages, materials and electricity costs.

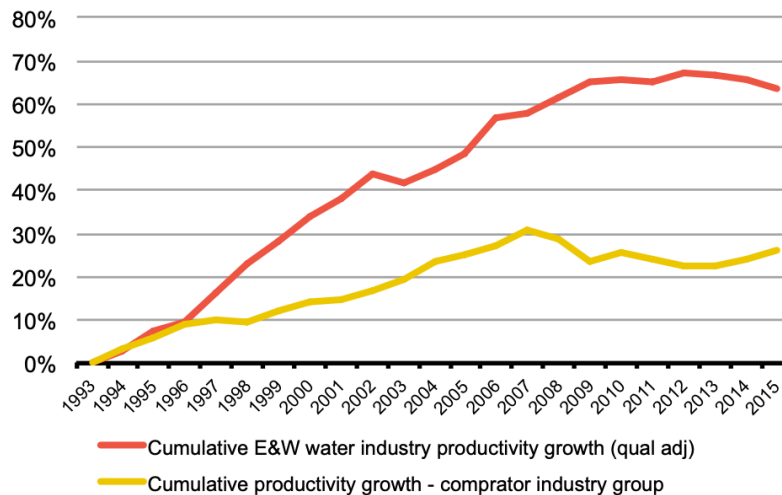
In Ofwat's methodology for setting bills, customers broadly cover the cost of dividend payments pound-for-pound each year. Dividends are not therefore the reason that companies have to borrow. Companies borrow because customers only pay for new capital investments in instalments.

[“We'd all be better off if the water companies were nationalised”](#)

It is right to ask what benefit we get from using private sector finance and paying the private-sector cost of capital rather than using public-sector money and covering the government's cost of borrowing.

The evidence on this point is clear. Figure 1 in the main body of the paper shows that levels of investment under private ownership have been significantly higher than the investment undertaken under public ownership. At the same time, the graph below shows that the switch to private-sector financing resulted in a major boost to sector productivity, enabling companies to reduce operating costs and deliver new projects much more effectively than was the case when the industry was run in the public sector.

Figure A2: Water industry productivity growth



Source: [Frontier Economics](#).

This productivity growth more than offsets the extra cost that we pay for private-sector financing in comparison the alternative of financing investments wholly via government debt.<sup>16</sup>

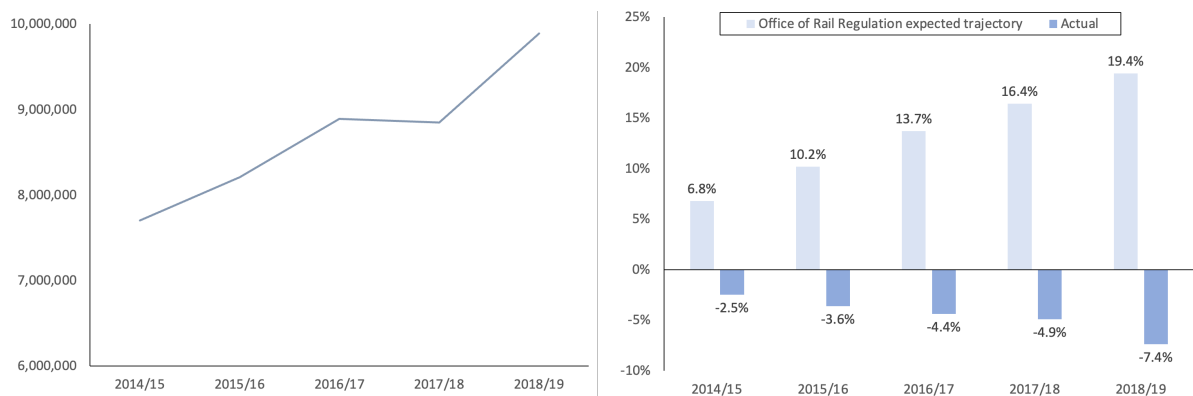
It is also worth pointing out that public ownership is not the utopia that it is sometimes made out to be. This country continues to have a very patchy record when it seeks to run whole industries in the public sector.

A case in point here is the railway, as the industry that has most recently undergone renationalisation. Network Rail was returned to the public sector in 2014, and its first five years under public ownership saw the organisation go markedly backwards, as shown in the charts overleaf.

<sup>16</sup> See Earwaker (2018), [Private vs public ownership of water companies](#).



Figure A3: Network Rail delay minutes (left-hand side) and efficiency (right-hand side)



Source: ORR.

Since 2020, the government has also taken back the provision of train services from private companies. These years have been characterised by [policy paralysis](#), [poor industrial relations](#) and a [moratorium on new enhancement investments](#).

Looking at the privately owned water industry and the publicly owned railways side-by-side, it is very hard to see how renationalisation could be deemed the solution to the former's recent issues.

[“Thames Water’s previous owners took money out of the company and made huge profits at customers’ expense”](#)

Thames Water was acquired by a new consortium of investors in 2006.

Macquarie’s name comes up a lot in press coverage, but the bank itself was only very briefly one of these shareholders. Macquarie did, however, invest monies from a number of the funds that it manages on behalf of other investors, alongside other unrelated shareholders.

Three of the original shareholders – from Australia, Canada and the Netherlands – are still shareholders today, accounting for around 15% of Thames Water’s shares in total. The other shareholdings have changed hands over the years.

In 2007, the acquiring shareholders decided that Thames Water’s capital structure at the time was sub-optimal and that gearing should increase. A swapping of debt for equity was effected by Thames Water taking out additional loans and paying a special dividend up to shareholders.

This refinancing did not enrich Thames Water’s shareholders per se. The debt-for-equity exchange was analogous to a homeowner switching from a 50% loan-to-value mortgage to a 80% loan-to-value mortgage on a house. The immediate effect of such a refinancing is to put additional cash in the owner’s pockets, but in doing so the value of the owner’s wealth is broadly unchanged (because the cash receipt is offset by a higher liability and a lower equity value).

If the original shareholders profited at someone else's expense, it was first and foremost at the expense of the investors who subsequently bought over the original shareholders' shares at big premia in the decade or so that followed. Most of these shareholders are now paying a heavy price for buying into a company with a capital structure that, in actual fact, is not as efficient as it was sold to them.

### [“Ofwat didn't have the powers to stop Thames Water's overborrowing”](#)

The concern at the time of writing is that customers will now also suffer adverse consequences as a result of Thames Water's solvency problems. There is no evidence that this has happened yet: customers have suffered in recent years from below-average performance, but this appears to be a result of operational under-achievement rather than a consequence of either a lack of financing or the cost of financing.<sup>17</sup>

In some of its public statements, members of the current Ofwat board have said that the regulator did not have the powers to step in and stop Thames from overborrowing until 2021 when there was a change to the Water Industry Act, at which point the horse had already bolted. This is not correct. The 2021 change was a technical amendment to the way in which companies can challenge/appeal proposed changes to the conditions of their appointment. Throughout the 2000s and 2010s, Ofwat scrutinised every ownership change in the sector and every financial restructuring, and had the ability to table restrictions and obligations where it felt that the interests of customers needed to be protected.

Ofwat's position paper on the 2006 takeover and the 2007 financial restructuring can be found [here](#). The document contains the following sentence which accurately records Ofwat's general policy at that time:

We have been clear that capital structures are essentially a matter for companies and the markets.

The word “essentially” is there because Ofwat considered that there was a need for some safeguards. In particular, after a series of consultations in the early 2000s, Ofwat decided that it ought to intervene to require regulated entities to maintain an investment-grade credit rating. This was not without controversy at the time – there were voices that thought it was wrong to delegate the job of policing financial structures to rating agencies and who pointed out that a credit rating measures the risk to lenders rather than the risk to customers.<sup>18</sup> But, in tandem [with Ofgem](#), Ofwat at the time took the view that it was not appropriate or necessary to extend its regulatory reach any further.

### [“Only an idiot could not run these monopoly businesses profitably”](#)

We have a system of economic regulation in this country to ensure that running monopoly infrastructure does not confer a licence to print money.

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<sup>17</sup> Note also that the rate of return that Thames Water has been allowed to factor into bills has been identical to the rate of return awarded to all other water and sewerage companies.

<sup>18</sup> As at the date of this paper, the [Moody's](#) and [S&P](#) ratings that Ofwat monitors for licence compliance purposes are both investment grade.

Ofwat hands companies fixed five-year bill profiles, calculated in accordance with the best available estimates of the costs that the companies should incur running services, and tasks companies with meeting a basket of performance metrics. Companies make money if they meet or beat the regulatory 'contract'. They make less money or can lose money if they under-perform.

Companies and their shareholders therefore bear three main risks: risk around management's performance; the risk that the regulator miscalculates; and the risk that exogenous factors might shift costs around during the fixed five-year term. It is possible that a company that is losing money is suffering because its management aren't up to the job. But there will also be instances where it is the second and the third factors that matter much more.

Any analysis of a company's out-turn profitability needs to cover all three possible drivers of performance.

#### ["Thames Water is too big and should be broken up"](#)

United Utilities and Severn Trent, the second and third biggest water companies in England after Thames Water, are two of the top performing companies.

The companies that run the electricity networks in London and the south east – UK Power Networks and National Grid – are among the most efficient and successful infrastructure companies this country has produced. UK Power Networks manages an annual expenditure of around £1.5 billion. The expenditure of National Grid's UK business is growing towards £4 billion a year. Thames Water's current annual expenditure is around £2.5 billion.

If Thames Water were a listed company, it would be no higher than 40th of the list of the FTSE 100's biggest companies.

There is no hard evidence that Thames Water's problems are down to its size.

#### ["At this point, Thames Water can only benefit from a period in special administration"](#)

The special administration framework in the Water Industry Act has never been used.

The only experience we have to go on is the special administration of Railtrack back in 2001-02. This case study does not make for happy reading. A combination of an early decision by government that Railtrack's bondholders must suffer no loss, plus a subsequent decision by government that it would indemnify all any new borrowing that the business needed to take on during administration, together with very risk averse behaviours on the part of the administrator meant that Railtrack by 2004 was spending around double the amount that the Rail Regulator expected in his 2000 periodic review decision.<sup>19</sup>

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<sup>19</sup> Further detail can be found in this [report](#) that I wrote in 2004.

While Network Rail made some progress unwinding this inefficiency prior to its renationalisation, the company even by 2014 remained some way away from the efficiency frontier due the sheer scale of the cost challenge that administration left it having to deal with (note the sizing of ORR's original efficiency targets for 2014-19 in figure A3).

A special administration in the water industry could be different. But Railtrack/Network Rail tell us it is by no means a sure-win option.

## About the Author

I am an economist who has worked as an adviser to regulators, government, companies and investors in the regulated sectors of the economy for more than 25 years.

I founded the economic consultancy First Economics in 2004. In this role, I worked extensively on the water industry's PR09, PR14 and PR19 price reviews. I also bring experience more broadly from economic regulation in the aviation, energy, rail, telecoms and water sectors, both in the UK and overseas.

I was previously a Senior Civil Servant at the Office of the Rail Regulator.