Annex A

Methodology

This Annex sets out additional detail on the analysis and methodological approach that underpin our proposals for revising the current price protections within the Retail Exit Code (REC). This document supplements the findings already set out in the main consultation document detailing our proposals.

1. Introduction

Our main document explained our proposals for revisions to REC price caps for Group One and Group Two customers, which in summary are:

For Customer Group One – we propose to:

- set a single, England wide:
  - allowed retail average cost to serve (ACTS) per unique service provided of £34.07[1, 2]
  - allowed meter read cost per measured water service of £7.34[3]
  - customer bad debt cost uplift of 2%
  - allowed Net Margin of 2%.

- This means that for a Group One customer subject to REC price protections, we propose to limit the maximum annual bill that Retailers can charge a Group One customer as the sum of the wholesale charge applicable to the customer, plus the retail ACTS, plus where relevant, the allowed meter read cost, with the sum of these elements uplifted by the percentage allowances for allowed customer bad debt costs and allowed Net Margin. Figure 1 illustrates our proposals.

For Customer Group Two – we propose to:

- set allowed Gross Margins at:
  - for the charging year 2023-24: 8% (water services), 10% (waste water services)[4]
  - for the charging year 2024-25 and subsequently: 8% (water services), 10% (waste water services)
- This means that for a Group Two customer subject to REC price protections, we propose to limit the maximum annual bill that Retailers can charge a Group Two customer as the sum of the wholesale charge applicable to the customer plus the relevant Gross Margin. Figure 1 illustrates our proposals.

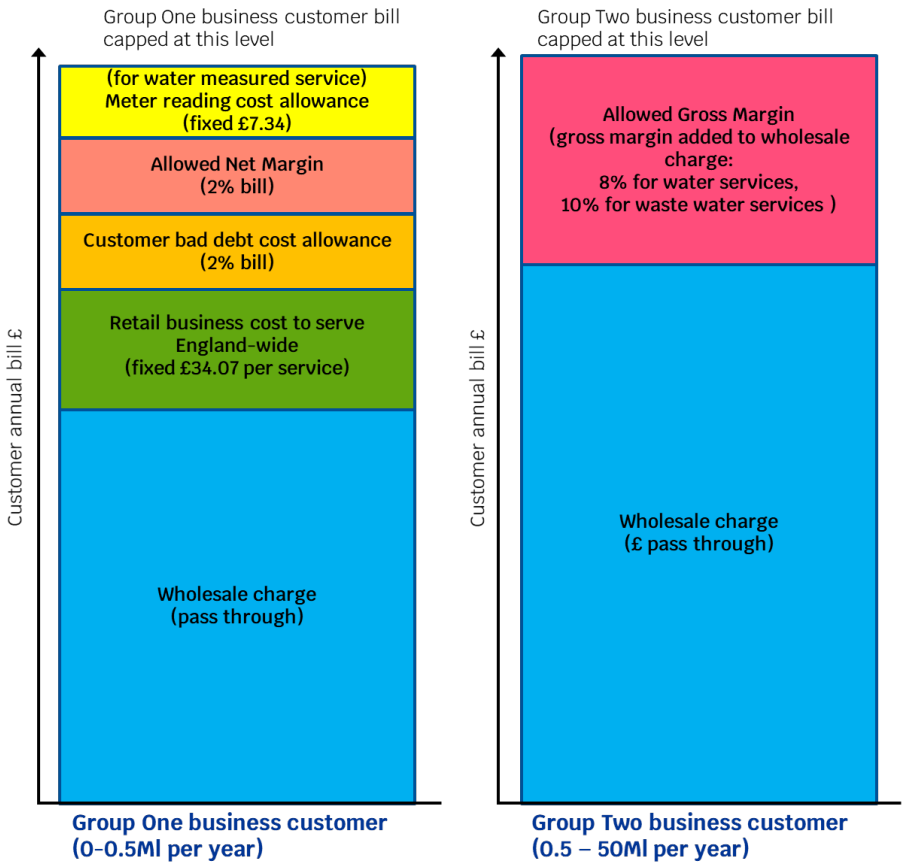
The remainder of this Annex explains our methodological approach to developing our proposals together with further details of our assessment of Retailer costs and other data which underpin our proposals:

[1] 'Unique service' – a water service; a wastewater only service; a wastewater and trade-effluent service; or a trade effluent only service.
[2] Expressed in 2021-22 prices
[3] Expressed in 2021-22 prices
[4] For the period 2023-24 the Gross Margins will be uplifted by 0.49% in line with our decision on Covid-19 bad debt. We propose therefore that the Gross Margins for 2023-24 for Group Two customers be set at 8.49% for water and 10.49% for wastewater.

- Section 2 – explains our approach to understanding and allocating Retailer cost data
  - Section 2.1 sets out our understanding and adjustment of Retailer reported (REC22 RFI) data
  - Section 2.2 explains our allocation of Retailer cost data to customer Groups One, Two, and Three
- Section 3 - explains our approach in developing proposals for Customer Group One;
  - Section 3.1 gives an overview of our approach
  - Section 3.2 explains our derivation of proposals for the allowed cost to serve (ACTS), which comprises Retailers' Running costs, MOSL, CCW and Ofwat fees, and demand side water efficiency costs.
  - Section 3.3 explains our derivation of proposals for allowed meter read costs.
  - Section 3.4 explains our proposals for an allowance for customer bad debt costs.
  - Section 3.5 explains our proposals for an allowed Net Margin.
- Section 4 – explains our approach in developing proposals for Customer Group Two.
- Section 5 – explains our analysis of regional competitive pressure for Group One customers
- Section 6 summarises our assessment of how our proposals meet our statutory duties.

Note, where presenting results based on Retailer reported data, we have redacted, anonymised, and/or aggregated data in order to preserve commercial confidentiality. Where Retailer anonymous identifiers are used (Retailer A, Retailer B etc.) it should not be assumed that the same anonymous identifier applies to the same Retailer in all graphs and tables.

Figure 1 – Proposed maximum price cap for customer Groups One and Two



2. Understanding and allocating Retailer cost data

As explained in the main consultation document, our proposals on future REC price cap protections for Group One customers are intended to reflect the efficient forward-looking costs of providing water and wastewater services to such customers. To inform our proposals we have undertaken an assessment of Retailer reported costs that seeks to understand historical Retailer retail business costs (ie. Retailer costs excluding wholesale charges) at a granular level for Group One customers.

We asked nine[5] Retailers, together accounting for more than 95% of the retail business market in terms of customers and revenue, to complete a request for information – the 'REC22 RFI'. The REC22 RFI return for each Retailer details, for their business retail business activities, annual costs and other information for the five years 2017-18 to 2021-22, plus forecasts for the years 2022-23 and 2026-27.

Our approach to our understanding and assessment of Retailer costs, including for Customer Groups One and Two, comprised the following steps:

(1) Collection, understanding and, where relevant, adjustment of Retailer reported (REC22 RFI) cost and other data;

(2) Allocation of Retailer costs to customer Groups One, Two and Three;

(3) Detailed assessment of (Ofwat allocated) costs for Customer Group One.

(4) Assessment of (Ofwat allocated) costs for Customer Group Two.

Sections 2.1 and 2.2 explain and details our approach regarding steps (1) and (2) respectively, with sections 3 and 4 set out steps (3) and (4) respectively.

2.1 Understanding & adjustment of Retailer reported cost data

Retailers in their REC22 RFI returns provided cost and other data on an aggregated basis across their whole customer base (ie. customer Groups One, Two and Three) – we refer to these as 'top down' data. They also provided cost and other data attributed to customer

[5] We received REC22 RFI responses from Business Stream, Castle Water, Clear Business Water, Everflow, Pennon Water Services, SES business water, Water2Business, Wave and Water Plus. We have excluded Clear Business Water from our analysis as examination of their REC22 RFI returns suggested their cost data has been reported on a materially different basis compared to other Retailers and so risked causing a significant downward bias to our cost to serve estimates.

Groups One, Two and Three using a number of cost drivers (further details in §2.2 below) – we refer to this data set as a 'bottom up' approach.

Prior to using Retailer cost and other data to assess costs and propose efficient allowances we analysed Retailer reported costs and other data with a view to determining validity, accuracy and consistency across Retailers. Where we have seen issues with the data we have as far as we were able followed these up with Retailers and where relevant updated Retailer data in the light of queries. We have also, in the light of our assessment of the validity and consistency of reported data, adjusted some Retailers' top down cost data. Our adjustments principally concerned non-attributable costs[6].

Non-attributable costs are defined as costs that do not, or do not appear to, have direct cost drivers associated with them. Our review of these costs, focused primarily on two areas:

1. Have the costs that have been included been categorised correctly?; and,
2. Are the costs incurred in the delivery of their day-to-day activities in the provision of services to business retail customer and as such should be included in the calculation of the revised average cost to serve?

Our assessment of each category of non-attributable cost is detailed below.

Exceptional costs

Exceptional costs are classed as falling outside normal business activities and they can include one-off items of expenditure. We note that costs reported by Retailers in their REC22 RFI returns were relatively low for these line items.

Our analysis of Retailer reported exceptional costs found costs related to restructuring costs, litigation costs, write-off of legacy assets and Covid-19 bad debt costs that are in excess of the level that is normally expected on a business as usual basis, These types of costs are incurred on an infrequent basis, and we therefore consider them to fall outside the normal business activities that the REC price protections are intended to cover and therefore we propose not to make an allowance for these costs within our allowance for Running costs. We have therefore excluded these reported costs from 'Running costs'.

Overheads

Overheads are defined within our RFI as any cost incurred in the provision of retail services to business customers but which are not directly attributable to cost drivers (eg. customer

[6] In addition to our interventions on non-attributable costs we also made an adjustment to one Retailer's costs for 2017-18 where they were only able to provide cost data for 7 months of the year. We have assumed that these costs would increase proportionally across the year and have therefore uplifted them to include an assumed cost over 12 months.

numbers are one type of cost driver). Examples of these kinds of overhead costs include property costs and IT expenditure.

Our analysis of Retailers' reported data on overheads costs suggests that some Retailers had included a number of support costs which were not in line with the guidance set out in our final RFI document[7]. Where we noted these costs in Retailer submissions and through queries, we have transferred the full value of the relevant costs from the overhead cost category to 'other operating costs' with the balance being retained within the overhead category and forming part of the review of the allowed cost to serve ('ACTS').

Depreciation

These costs relate to the depreciation of tangible fixed assets used in the provision of services to business retail customers. As part of the REC22 RFI, we asked Retailers to provide details of their relevant accounting policies.

Our review of the data and accounting policies suggests that the values submitted and the associated accounting policies that Retailers have applied are appropriate and consistent. Therefore we have not adjusted any Retailer reported depreciation costs.

Amortisation

These costs relate to the amortisation of intangible fixed assets that are used in the provision of services to business retail customers. As part of the RFI, we asked Retailers to provide details of their accounting policies relating to the depreciation of these assets. Our review of the data indicated that the majority of amortisation costs provided by Retailers relate to two asset types, computer software and customer book acquisition costs.

Our analysis of the computer software amortisation costs suggests that overall, Retailer reported costs and accounting policies are appropriate and consistent. We have not therefore adjusted Retailer reported costs in respect of these types of amortisation costs.

Our review of the customer book acquisition amortisation costs highlighted that Retailer reported costs varied significantly across the sector, as did the accounting policies adopted for amortisation. Our review suggested that such costs are very specific to each Retailer in that they relate entirely to the commercial agreements entered into by the retailer to acquire new business / customer books. These costs are entirely driven by retailers' own business plans for expansion and future growth, and as such we do not consider that these costs relate directly to the costs associated with the provision of day-to-day services to business retail

[7] See: https://www.ofwat.gov.uk/regulated-companies/markets/business-retail-market/business-retail-market-2021-22-review-of-the-retail-exit-code/

customers. Therefore, we have excluded all amortisation costs associated with Customer Book acquisition costs from our calculation of the average cost to serve.

Other non-attributable costs

We asked Retailers in their REC22 RFI returns to report separately any non-attributable costs not captured in the definitions of non-attributable costs above.

In the REC22 RFI responses, only one Retailer included costs in this category. Our analysis suggested that these reported costs were relatively low, with the majority related to activities associated with audit fees and employee costs, i.e. training, recruitment costs and travel. We therefore reallocated these reported costs to 'Other operating costs'.

2.2 Allocation of Retailer cost data to customer Groups One, Two, and Three

We asked Retailers to provide costs on both a 'top down' and 'bottom up' basis within their REC22 RFI returns. Based on Ofwat guidance concerning cost drivers, the bottom-up approach gave Retailers the flexibility to allocate costs to different REC customer groups in a way they deemed appropriate and provided insights into Retailer views on costs to serve these customers. The top-down approach required Retailers to report costs at an overall business level as well as data on a number of cost drivers.

We note that in principle, allocation of costs through use of cost drivers may be a less refined approach than an alternative approach of measuring specific activities and activity levels and defining costs relative to these. This might involve for example identifying and measuring the form and extent of customer contacts and building a cost picture linked to cost data on dealing with different contact types. We note however that this potentially more refined approach would still leave the need to allocate common costs, which would require judgement on allocation. Given that no one method is straightforward, we consider our approach of using cost drivers represents a pragmatic and balanced approach.

We have principally relied on the top-down cost data provided by Retailers to inform our analysis of efficient cost to serve Group One customers in the market. Retailers provided top-down cost data for each cost category set out in table 2.2.1 below at a Retailer level (i.e. across each Retailer's entire portfolio of customers). To analyse costs for Group One customers we have allocated these costs to customer groups using the cost driver data provided by Retailers in tab TD3 of their responses to our RFI.

Table 2.2.1 – Cost categories and cost drivers / allocation method

Cost category		Cost driver / Allocation method
Operating costs	Contacts	Unique customer numbers
	Billing	Number of bills
	Customer acquisition	Revenue weighted customer acquisition driver (see formula below)
	Customer retention	Revenue weighted customer acquisition driver (see formula below)
	Debt management	Number of customer accounts in arrears
	De-registrations	Number of SPIDs
	Meter reading costs	Number of meter reads
	Other operating costs	Sum of above operating costs (ie. contacts to meter reading costs)
	MOSL, CCW and Ofwat fees	Wholesale charge
	Customer bad debt costs	Value of debtors over 90 days
Non-attributable	Exceptionals[8]	Revenue
	Overheads	Revenue
	Depreciation	Revenue
	Amortisation	Revenue

We consider that this approach is preferable to using Retailer's own allocation of costs as for example it ensures that reported costs are allocated on a consistent basis across the industry and allows us to make direct comparisons across the market. The table below details the cost drivers used to allocate each of the cost components except bad debt. We return to the allocation of customer bad debt costs in section 3.4.

[8] Note we have decided to exclude Exceptional costs

The cost allocation methodology set out above is largely unchanged from the guidance issued with our final RFI in March[9]. We do however note four instances where the cost allocation methodology has changed from the previous guidance we issued:

1. Customer acquisition and customer retention costs – from number of customers acquired to revenue weighted customer size.

   We consider the costs of acquiring and retaining customers to be driven not only by the number of customers acquired or retained but also by the size of the relevant customers. That is, we would expect acquisition costs to be higher for larger consumption than smaller consumption customers. We have therefore constructed a driver that weights customer numbers by revenue. This reduces the proportion of such costs allocated to Group One customers, compared to our original driver based on customer numbers.

   The formula for deriving the weight for each customer group is as follows:

$$w = \frac{№\ customer\ acquired_{G1}}{№\ customer\ acquired_{Total}}\ x\ Revenue_{G1} + \frac{№\ customer\ acquired_{G2}}{№\ customer\ acquired_{Total}}\ x\ Revenue_{G2} + \frac{№\ customer\ acquired_{G3}}{№\ customer\ acquired_{Total}}\ x\ Revenue_{G3}$$

2. Non-attributable costs – from sum of operating costs to revenue

   In our previous cost allocation guidance issued in the final RFI guidance we noted that non-attributable costs should be allocated based on the overall allocation of operating costs. The majority of cost drivers for operating costs are correlated closely to the number of customers and therefore utilising the operating cost allocation as a weight led to a large portion of non-attributable costs being allocated to Group One customers. Given the types of costs included in this category, the key driver of this cost is likely to be the relative size of a customer rather than merely the number of customers. We therefore consider it likely that these costs are driven more by a large customers than a small customers. To capture this, we propose a more appropriate driver of non-attributable costs is revenue which will reflect the fact that larger customers drive a higher proportion of this cost than small customers

3. Meter reading costs – from relative number of Group One SPIDS to relative number of meter reads

[9] See: https://www.ofwat.gov.uk/regulated-companies/markets/business-retail-market/business-retail-market-2021-22-review-of-the-retail-exit-code/

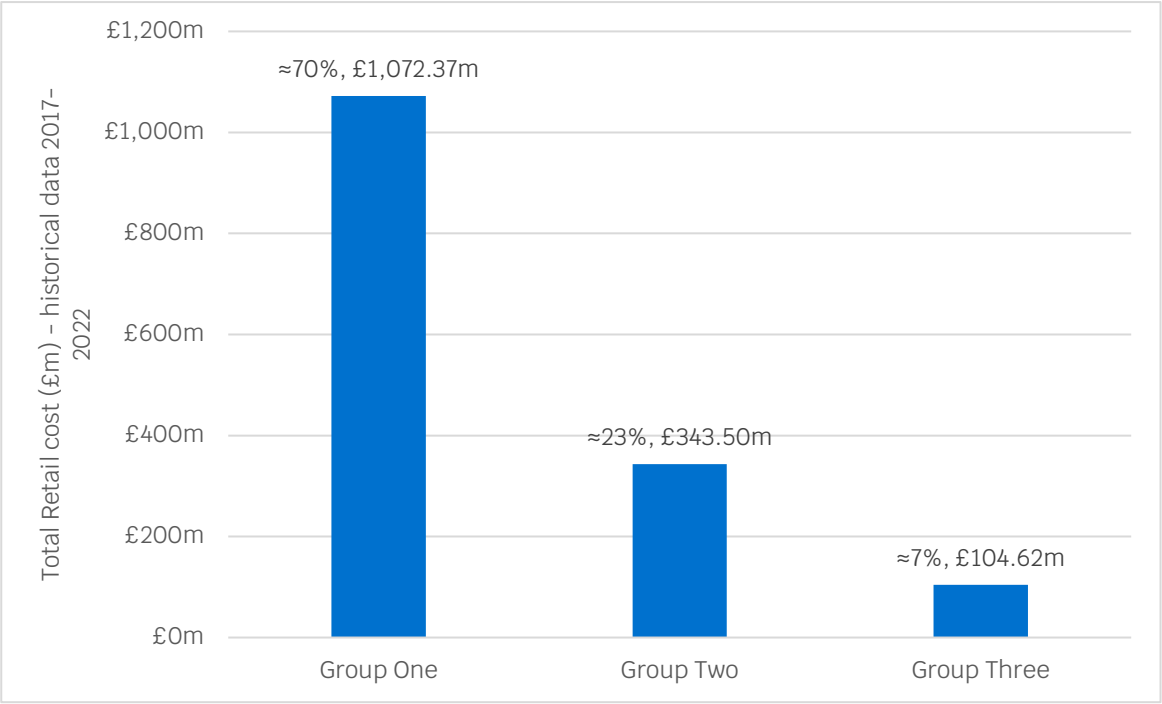
We have revised the allocation method and have now allocated total meter reading costs to Group One customers on the basis of the number of meter reads. Further details of our rationale is noted in §3.3 below.

4. Bad debt costs – from the number of customers in arrears to the value of debtors over 90 days

   We have revised the allocation method and have now allocated customer bad debt costs to Group One customers on the basis of the value of debtors over 90 days. Further details of our rationale is given in §3.4 below.

After allocating top down Retailer reported costs using the drivers set out in the table above we note the majority of Retailer retail business costs continue to be allocated to the smallest customers in the market. The chart below sets out the allocation of total retail cost between Group One, Two and Three customers following our cost allocation methodology detailed above.

Figure 2.2.2 – Split of retail cost allocated to each customer group



Source: Retailer REC22 RFI returns, after Ofwat allocations

3. Development of proposals for Customer Group One

3.1 Approach

The primary activity of Retailers is to efficiently manage billing and revenue collection processes for business customers. There are a number of activities and costs that underlie this activity. We also consider that retail business activity is likely to be primarily a function of the number of customers served and therefore the number of unique services provided.

Hence our overarching aim for the purposes of revising REC price caps for Group One customers is to set an allowance for efficient Retail costs incurred in the service of Group One customers. As noted in the main consultation document we intend to set this at a national England wide level with a single allowance for each unique service a Retailer provides to customers. We also intend to set an allowed meter reading costs in respect of measured water services provided by a Retailer to a Group One customer.

Note by 'unique service' we mean a water, wastewater, and/or trade effluent service that a Retailer provides to a customer. Where a Retailer provides a business customer with water services only, wastewater services only, or trade effluent services only, we regard that as one unique service provided. Where a Retailer provides a business customer with water and wastewater services, we regard that as two unique services. Further note that where a Retailer provides a business customer with wastewater services and a trade effluent service, we regard that as a single unique service, and with water, wastewater and trade effluent, we regard that as two unique services. Table 3.1 below summarises the possibilities.

Table 3.1 Unique services provided

Retailer serves a customer with the following services:	Translates to number of unique services provided
Water only	1
Wastewater only	1
Trade Effluent only	1
Wastewater and Trade effluent	1
Water and wastewater but no Trade effluent	2
Water and Trade effluent	2
Water, Wastewater, and Trade Effluent	2

To construct the allowances for retail costs we have used a 'building block' approach. That is, we have assessed the level of efficient costs for a number of cost categories. After summing contact, billing, customer acquisition and retention, debt management and de-registration,

other operating costs and non-attributable costs to give a single 'Running costs' figure, we use the following building blocks to construct our final allowances[10]:

- Allowed cost to Serve (ACTS) comprising:
  - Running cost allowance
  - MOSL, CCW and Ofwat fee allowance
  - Demand side water efficiency allowance
- Meter reading costs allowance
- Customer bad debt costs allowance
- Allowed Net Margin

Our final Group One customer retail business allowance for each unique service will comprise ACTS plus, for measured water services, an allowed meter reading cost, together with allowances for customer bad debt costs and allowed Net Margin both applied as a variable allowance based on the total bill.

3.2 Assessment of allowed retail cost to serve (ACTS)

Our allowed retail average cost to serve (ACTS) allowance comprises: Running costs; MOSL, CCW and Ofwat fees; and demand side water efficiency costs. This section details our methodology for assessing each of these three components.

3.2.1 Running costs

Running costs comprise the key operational costs Retailers incur in the operation of a Retail business. These costs comprise around 75% of the retail business costs of serving Group One customers and we have therefore particularly focused on how we may assess an allowed cost for the revised REC price cap.

Table 3.2.1 sets out the cost line items that aggregate to give Running costs for Group One customers, together with an indication of the portion of Group One Running costs that they account for, on average, across eight Retailers across 2017-18 to 2021-22. These costs are given following Ofwat's adjustments and allocations as set out in §2.1and §2.2 above.

[10] An allowance for customer bad debt and Net Margin is considered separately and is not incorporated into the ACTS section

Table 3.2.1 – Total Retailer reported Group One running costs across period (2017-18 to 2021-22)

Cost category	Total Retailer historical reported cost (£m)	Percentage of total running costs (%)
Customer retention	1.56	0.5%
Customer acquisition	2.89	0.8%
De-registration	10.63	3.1%
Non-attributable costs	13.37	3.9%
Debt management	48.70	14.1%
Billing costs	53.00	15.4%
Contact costs	63.92	18.5%
Other operating costs	150.86	43.7%

Source: Retailer REC22 RFI returns, after Ofwat adjustments

Note, for the purposes of our assessment of efficient forward looking Running costs, our analysis has focused only on historical costs for 2017-18 to 2021-22. We have had regard to Retailer forecast data for 2022-23 and 2026-27 but data for these years have not formed part of our assessment of efficient forward looking costs, since we consider that such data is based on a subjective forward view rather than an objective recording of outturn values.

We recognise that Retailer costs may in principle be influenced by a variety of factors, some of which are unique to some Retailers, and some of which may be outside the direct control of some or all Retailers. In our assessment of efficient Running costs, we have sought to gauge whether these factors may be significant, and whether it is reasonable to assume such effects are small. Where these effects are small, we conclude that it is reasonable to compare Retailer Running costs directly against each other. In this case, differences in costs are likely to reflect differences in Retailer approaches and efficiencies.

Our analysis of Running costs therefore comprises two parts:

- Multi-variate regression analysis: Here we have analysed Retailer costs in terms of possible multiple drivers with a view to understanding if it is reasonable to explain Retailer costs in terms of common cost drivers, or whether other factors more unique to particular Retailers play a significant role. This analysis was utilised as a cross check to test drivers and not to estimate an efficient allowance for running costs.
- Comparison of average Running costs across Retailers: Here we have compared Retailers' average Running costs per unique service against each other, with a view to understanding where efficient levels of costs may lie.

The detailed methodology and findings of each of these approaches is set out below.

Regression approach to benchmarking Running costs

We consider it a reasonable hypothesis that given the primary activity of Retailers is to efficiently manage billing and revenue collection processes for business customers, the key driver of cost will be the number of customers served and hence number of unique services provided. We have nevertheless tested this hypothesis through the use of regression models to assess and test possible drivers of Running costs. In particular we have taken a multi-variate approach to test whether there may be additional factors in addition to scale (eg. customer numbers or number of unique services) that could be regarded as significant drivers of variations in Running costs.

Our regression analysis sought to understand the following possible effects or potential drivers of Running costs:

- Scale drivers - such as customer numbers or number of unique services provided
- Economies of scale – that is, whether some cost variations between Retailers could be explained in terms of their relative size of retail business
- Structural shifts over time – that is, whether some variation in costs could be explained in terms of the year or years in question. For example costs may have increased across all Retailers as a result of the Covid-19 pandemic.
- Additional drivers which may explain some variation in costs between Retailers, such as the proportion of customers taking multi-services, or size of average customer bill

With the above effects in mind, we tested a suite of models to understand the effects of the following drivers on both total Running costs and on a cost per unique service basis. Specifically we focused on the following variables to understand how well they explained Running costs:

- Scale variables – ie. customer numbers, number of SPIDs and number of unique services
- Bill variables – revenue, wholesale charge, average bill proxy[11]
- Time period – dummy variables to understand if any particular year or years of data significantly affected Running costs
- Number of multi-service customers
- Proportion of customers in arrears

In the main, our regression models used annual panel data for 8 Retailers over 2017-18 to 2021-22 (with some model specifications excluding 2017-18 data for some Retailers), and used OLS and RE ('Random Effects') regression techniques. Where relevant we tested linear and log-log specifications. Our conclusions derived from understanding the explanatory

[11] Calculated as total Group One revenue divided by total number of Group One customers

power of models (R^2 and adjusted R^2) as well as statistical tests on parameter estimates, and economic interpretation of estimated coefficients.

Our principal findings from our regression analyses are as follows:

Scale drivers are the principal explanators for Running costs. We found that all three scale variables (customer numbers, SPIDs, and unique services) gave statistically significant coefficients and provided a model with high explanatory power with regard to total Running costs per Retailer. We also tested scale variables within our models of cost per unique service. These variables were found to have low explanatory power with coefficients that were not statistically significant or did not produce consistent economically significant results. This however is not surprising given the inclusion of the scale variable in the dependent variable to calculate average cost per unique service.

There is little evidence that other explanatory variables explain differences in Running costs between Retailers. We tested a number of other variables where there was an economic rationale that they may explain variations in Running costs between Retailers. We found no compelling evidence that variables related to size of bills, number of multi-services, or the proportion of customers in arrears were drivers of Running costs; these variables were found to have either low explanatory power with no statistical significance , inconsistent results across different model specifications, and/or a non-intuitive interpretation regarding the economic rationale.

There is little evidence of significant economies of scale. Given our findings on scale variables, we used such variables to test evidence of economies of scale for Retailer Running costs using a log - log model specification. Our findings did not give compelling evidence of economies of scale effects.

There is little evidence of significant time effects We tested regression models with time 'dummies' for particular years and sets of years. We did not find evidence of 'shocks' where impacts are restricted to a given period not controlled or explained by other explanatory variables. In particular, given that estimated coefficients from time 'dummies' were in general not statistically significant, we conclude that time effects do not add significantly to explaining Running costs or differences between Retailers.

Our analysis therefore suggests that scale is the major explanator of Running costs across Retailers.

Comparison of costs on an average cost per unique service basis

As set out above, our regression approach suggests the key driver of Running costs is scale. We therefore consider it appropriate to assess efficient forward looking Retailer Running costs in terms of simply comparing average Running costs between Retailers. Accordingly we

have not sought to control for other factors because there is no compelling evidence that other factors significantly affect costs.

We have used the number of unique services provided as the denominator in calculating average Running costs, as we consider this metric best aligns with the form of the REC price cap for customer Group One and the capping of the maximum charge to a customer for a particular service. The total number of unique services that a Retailer provides in a year is given by the number of Group One customer tariff types multiplied by the relevant number of unique services that a customer receives, as noted in table 3.1 above.

We have calculated the average Running cost per unique service per Retailer as follows:

1. For each Retailer we have summed total Running costs[12] for Group One customers set out in table 3.2.1 above for each year of historical data (2017-18 to 2021-22)[13], with all costs translated to 2021-22 price base.

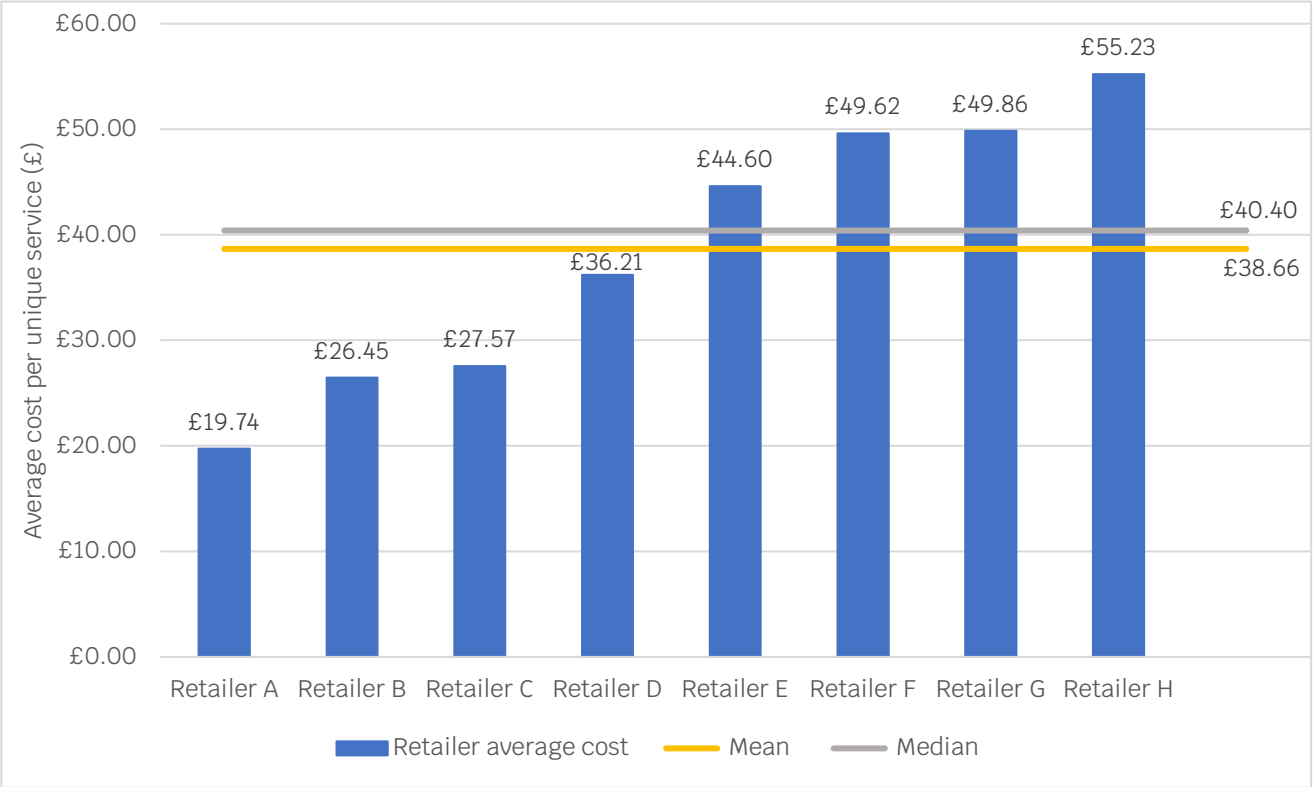
2. We derive an average Running cost per unique service in each historical year by dividing total cost by number of services provided by a particular Retailer.

3. We have then taken an average across the five years of historical data to provide a single average Running cost per unique service for each Retailer.

The results of the above for the eight Retailers included in this analysis are set out in figure 3.2.1 below.

[12] Post Ofwat intervention set out in section 2.1
[13] One Retailer was unable to provide data for 2017-18, we have calculated an average for this Retailer based on the period 2018-19 to 2021-22.

Figure 3.2.1 – Comparison of Retailer average Running cost to serve per unique service



Source: Retailer RFI returns, 2021-22 prices, post Ofwat adjustments and allocation to Group One

We note that there is significant variation in Retailer running costs across the industry with reported costs ranging from an average of £19.74 per unique service to an average of £55.23 per unique service. When considering the reasons behind the variation in Retailer costs we note the following points:

- The findings from our regression analysis suggest scale is the main driver of Retail Running costs. We also found no substantial evidence of economies of scale.
- In response to our December 2021 consultation we did not receive compelling evidence from Retailers explaining why Running costs should vary per region. Furthermore we received confirmation from some Retailers that their view was that costs should be consistent across regions.
- We have explored whether differences in Retailer reported costs could be explained by differences in performance but found no obvious correlation.

Given a lack of compelling evidence to the contrary we therefore conclude that the variation in costs between Retailers is likely to be the outcome of business operating models and working practices within Retailers' control, resulting in some Retailers with higher costs than others.

Many Retailers have, in their REC22 RFI returns or in their accompanying narratives, mentioned or described measures they are taking designed to achieve forward looking cost efficiencies for their Running costs, but few have quantified these forward looking efficiencies. Some Retailers have also highlighted reasons why their average forward looking costs might increase (after inflation) rather than decrease. Reasons included for example views that unit labour costs and meter reading costs are likely to increase. Furthermore, the majority of Retailers saw average costs increasing since market opening.

The costs reported by Retailers reflect where relevant increased costs associated with market frictions for example relating to the need to deal with market wide data quality issues (e.g. poor data on meter assets). We have not sought to explicitly quantify or remove these costs from Retailer-reported cost data. We note that some progress has already been made to resolve market frictions – for example the September 2021 establishment of a bilateral hub should help streamline Wholesaler-Retailer interactions. We are working closely with industry to take action to resolve other key market frictions and expect significant progress to be made over the next couple of years including through improved cost efficiencies.

Assessment of Running costs and efficiency challenge

We have in our December 2021 consultation and elsewhere emphasised the need for cost allowances to reflect efficient, forward-looking costs to serve. We note here that regulators have historically used a range of efficiency challenges. Ofwat in determining an efficient allowance for household retail water services has for example based efficient costs against the upper quartile of the most efficient operators[14]. Ofgem in determining an allowance for household gas and electricity prices has also focused on an upper quartile[15]. Ofgem more recently has focused on the 85th percentile in helping determine efficient operator costs in respect of gas and electricity distribution businesses[16].

We have therefore explored what type(s) of efficiency challenge would be most appropriate and we set out consideration of a forward looking efficiency challenge before going on to set out and assess three options for setting a national allowance for an efficient level of running costs.

Question of forward looking efficiency challenge

As noted in our main consultation document we may expect to see more efficient methods of working to emerge over time, including new innovations or business models. We could therefore expect even the current most efficient Retailer to make efficiency savings over time. We note the CMA in its recent redetermination following Ofwat's 2019 price review for

[14] PR19 Final Determinations - Securing cost efficiency technical appendix (ofwat.gov.uk) page 128
[15] Default Tariff Cap - Overview Document (ofgem.gov.uk) page 26
[16] RIIO-ED2 Draft Determinations | Ofgem page 30

the water sector signalled its support for the assumption that forward looking efficiencies of around 1% a year (in real terms) could be considered reasonable.[17]

Whilst we would ordinarily consider a forward-looking efficiency challenge, we do not think this would be appropriate at this time. This is because the simplifications we are making – in particular the move from regional to a national allowance – will provide an additional efficiency challenge for some Retailers.

With the above in mind, we have considered three broad options for the appropriate catch-up efficiency challenge and hence where we might gauge forward looking efficient Running costs per unique service.

Option 1: Set the allowance at the median of Retailer reported costs

Setting allowances at the median of Retailer reported costs would provide some degree of efficiency challenge to those Retailers that reported high Running costs relative to the average. We note this option would provide very little, or negative, efficiency challenge to the majority of Retailer's in the market. Our analysis of Retailer-reported historical costs further implies that few efficiencies have been delivered since market opening five years ago, and furthermore we have not sought to remove Retailer costs that may have arisen as a result of market frictions. To the extent that more efficient Retailers have managed to reduce costs, including those relating to market frictions, we consider there is more of a case for targeting our efficiency challenge towards the lower cost set of Retailers.

We therefore do not consider it appropriate to set a national average cost to serve at the median of Retailer reported costs.

Option 2: Set the allowance at the upper quartile of Retailer reported costs (i.e. 25th percentile)

The upper quartile (in this case the 25th percentile) is a commonly used benchmark utilised by regulators when assessing where an efficient level of performance might lie within an industry. To protect the interests of business customers, we would ordinarily consider setting a catch-up efficiency challenge using the upper quartile or stronger. The strongest efficiency challenge would be to set an allowance at the level of the most efficient (ie. least cost) Retailer. We consider, however, that such a challenge would raise some risks. It would for example focus attention on a single (lowest cost) Retailer, potentially ignoring factors other than efficiencies that may have resulted in such a Retailer reporting lower costs, and so risk a spurious accuracy.

[17] CMA - Ofwat Price Determinations | Final report page 263

There are also risks that such a single Retailer would not consistently over time result as the lowest cost operator. Setting allowances for all other Retailers on the basis of such a strong efficiency challenge could risk over stating the potential for sustained 'catch up' efficiencies.

Option 3: Set the allowance at the 37.5th percentile

We note there is considerable regulatory precedent for using the upper quartile in price controls as an efficiency challenge, ie. as an expectation of the cost levels that efficient operators could achieve. This has some merit in focusing attention towards the more efficient quarter of Retailers. In principle, we would generally be more confident about focusing attention on the upper quartile and hence a smaller set of Retailers to the extent that we have more confidence in our understanding of the cost bases for this smaller set.

On the other hand, we acknowledge that not all market friction issues are within the control of Retailers and/or will take time to resolve, including transition to lower costs for some Retailers. This may point to a less challenging efficiency challenge for now, though we expect Retailers to continue efforts to resolve and reduce the effects of market frictions. Furthermore, we note that the simplifications we propose – in particular the move away from regional retail allowances based on existing tariffs pre-market opening to a national retail allowance – will create an additional efficiency challenge by itself for some Retailers, and so might point to use of a less challenging efficiency challenge.

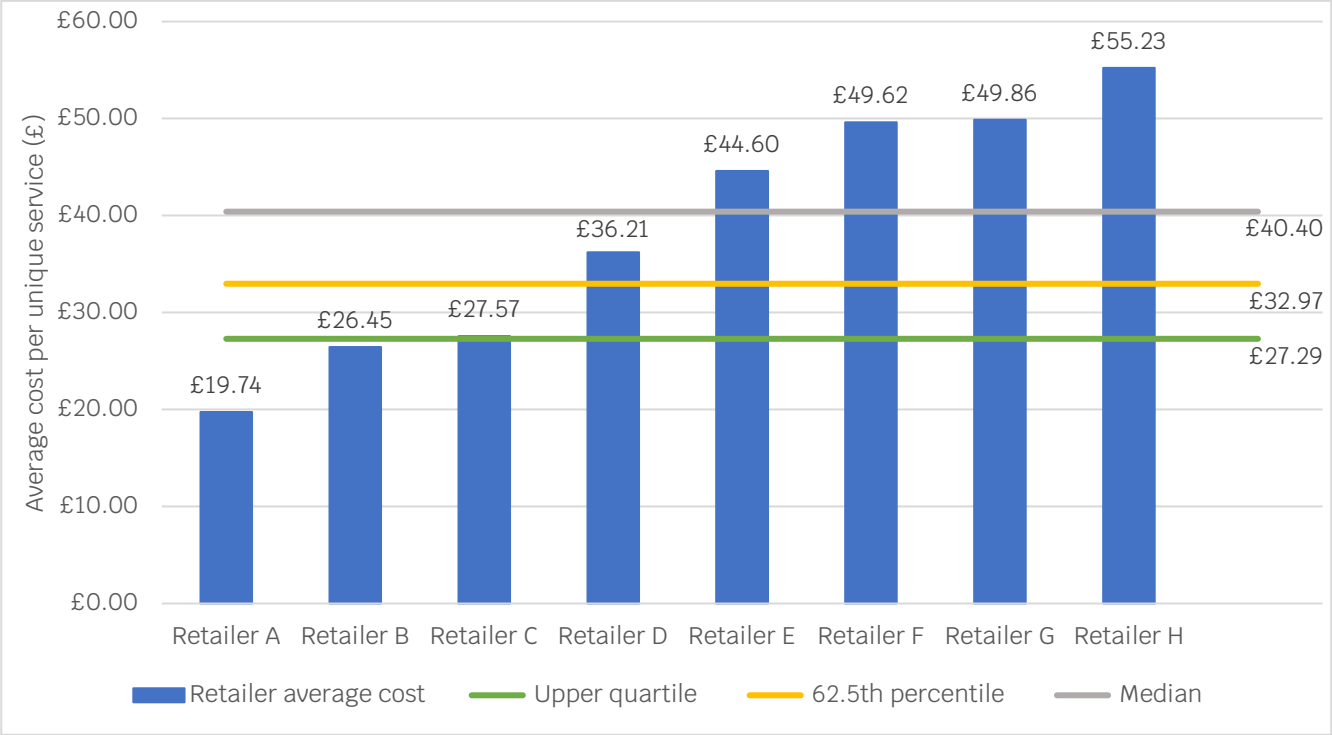
Overall, we think it reasonable – for the present purposes of revising REC price caps to apply to Group One customers - to strike a balance and so set an efficiency challenge between the median and upper quartile. We therefore propose to set an allowance based on the 37.5th percentile, ie. towards the level of the lower cost Retailers. Our analysis suggests that this will result in a reasonably challenging efficiency challenge on average for several large Retailers in the market, with the challenge sharpened by the effect of moving from regional REC price cap allowances (which are at present higher for some higher cost Retailers) to a single England wide allowance.

For these reasons we propose to set a catch-up efficiency challenge between the median and upper quartile using the 37.5th percentile of Retailer reported costs. We emphasise that this should in no way be seen as an indication of future regulatory precedent - in future reviews of the REC we would ordinarily expect to set a stronger catch-up efficiency challenge and consider a forward-looking efficiency challenge.

We therefore propose to set an allowance for running costs at the 37.5th percentile, reflecting the stretching nature of the move towards national tariffs. We therefore propose to set a Group One allowance for running costs of £32.97[18] per unique service.

[18] In 2021-22 prices

Figure 3.2.2 – Average cost per unique service across the historical period, in 2021-22 prices



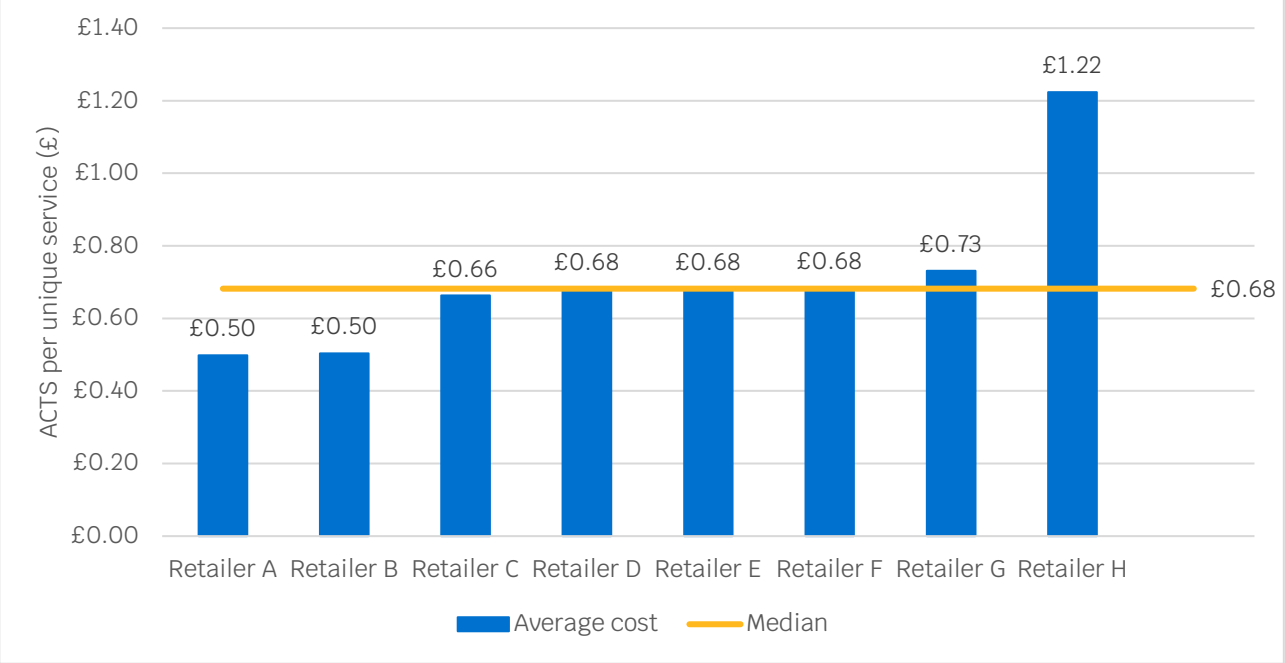
Source: Retailer RFI returns, Ofwat allocation, 2021-22 prices

3.2.2 MOSL, CCW and Ofwat fees

Retailers are required to pay fees to the market operator MOSL, as well as Ofwat and CCW, which are contributions to the costs of operating and regulating the market. As noted at the start of this section we intend to make an allowance for these costs within our assessment of allowed cost to serve (ACTS).

In line with our approach to allocating Retailer costs to customer Groups One, Two and Three, we have allocated Retailers' top down reported costs for MOSL, CCW and Ofwat fees to customer Group One, and for this cost category we have used wholesale charges as a cost driver. We have analysed how these costs for Customer Group One vary across Retailers and across years. We note that these costs are to a large degree outside Retailers' control and therefore we are not proposing a strong efficiency challenge for these costs. Instead we will look to set allowances at a level that aims to allow Retailers on average to recover their costs. The chart below sets out the average cost of MOSL, CCW and Ofwat fees allocated to Group One customers, per unique service.

Figure 3.2.3 – Average MOSL, CCW and Ofwat fees allocated to Group One customers across the historical period (2021-22 prices)



Source: Retailer REC22 RFI returns, Ofwat allocation, 2021-22 prices

Average costs are relatively consistent across the eight Retailers, ranging from £0.50 to £0.73 per year per unique service. One Retailer has reported significantly higher costs compared to other Retailers. We propose to set an allowance for MOSL, CCW and Ofwat fees as the median of Retailer average costs. We will therefore set an allowance at £0.68[19] per unique service.

3.2.3 Demand side water efficiency

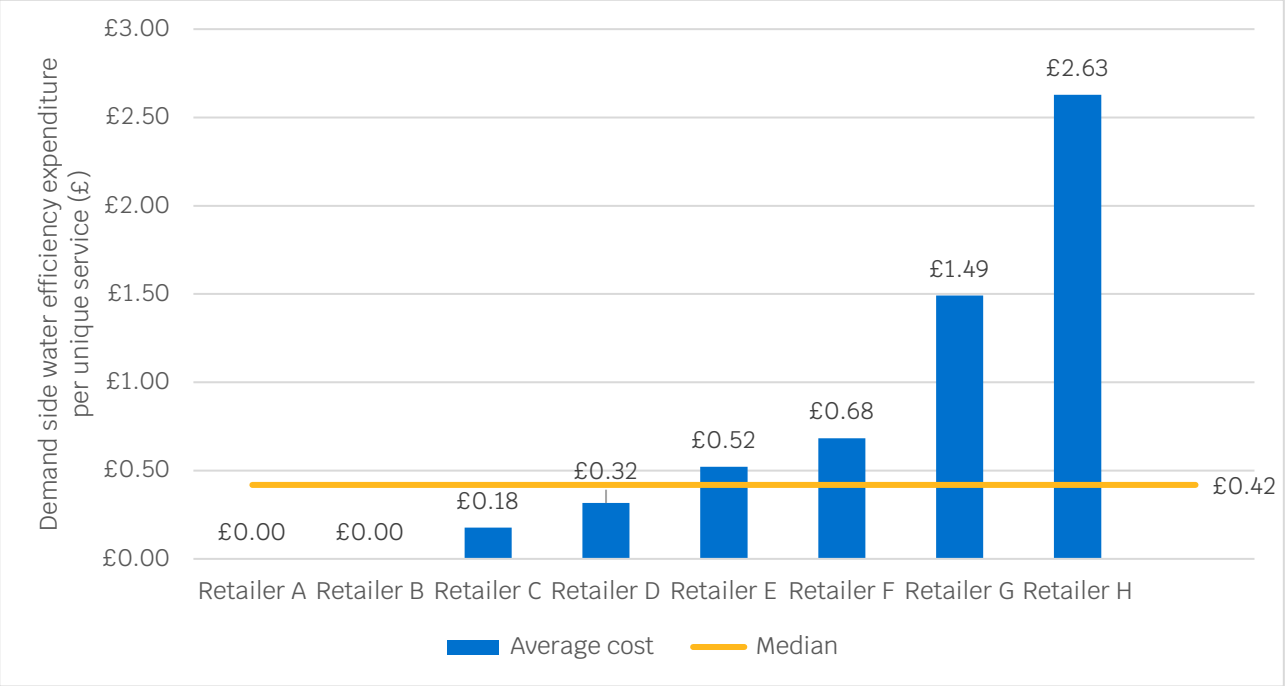
A key aim for the opening of the business retail market is to create greater scope for improved water efficiency in the non-household sector, with the expectation that Retailers would offer business customers a range of water efficiency services. This also mirrors the need more generally for improved water efficiency and demand side management to play a role in meeting the nation's future water needs, as set out by UK government, Defra and the Environment Agency.

Accordingly, we asked Retailers in their REC22 RFIs to separately identify what part of their retail business costs constituted expenditure on providing water efficiency services to non-household customers (demand side water efficiency). This could include for example promotion of water saving initiatives, retro-fitting of water saving devices, or water efficiency audits. We propose to include an allowance in respect of water efficiency expenditure within the REC price cap for Group One customers.

[19] 2021-22 prices

We have allocated Retailers' reported water efficiency costs to Group One customers using unique customers as a cost driver. This enabled us to analyse how these costs vary across Retailers and across years, as in the chart below.

Figure 3.2.4 – Average water efficiency cost across the historical period in 2021-22 prices



Source: Retailer REC22 RFI returns, Ofwat allocation, 2021-22 prices

We note there is significant variation in costs per unique service across Retailers, with some Retailers reporting no costs in respect to water efficiency services. We do not think the REC is the most appropriate lever to incentivise improved water efficiency but at the same time do not think it would be appropriate to set a strong efficiency challenge in relation to these costs. We therefore consider a proportionate approach is to make an allowance equal to the median of reported costs set at £0.42[20] per unique service.

Overall allowed cost to serve (ACTS)

On the basis of our assessment set out above, we propose to set an allowed retail average cost to serve (ACTS) per unique service at £34.07 (2021-22 price basis), given as the sum of:

Ofwat view efficient forward looking Running costs per unique service	£32.97
Allowance for MOSL, CCW and Ofwat fees per unique service	£0.68
Allowance for demand side water efficiency expenditure per unique service	£0.42
Allowed Average Cost to Serve per unique service	£34.07

[20] 2021-22 prices

3.3 Meter reading costs

Retailers are responsible for reading business customers' meters. Retailer RFI submissions indicate that they have varied meter reading arrangements. Where available, they can procure meter reading services from individual Wholesalers[21] on a per Wholesale region basis. Some Retailers either additionally or alternatively contract with national third-party meter reading services who provide meter reads for business customers across England.

Our December 2021 document (§6.1.3) explained that as part of our review of the REC price caps for Group One customers, we would consider if and to what extent retail costs to serve may materially vary across regions. To the extent that the cost to serve does not in fact vary materially between regions, we said we would consider simplifying retail price caps. We sought views via December 2021 consultation question 11.

Our REC22 RFI noted that meter reading costs might be an example of costs that might vary significantly across regions. Hence we asked Retailers as part of their REC22 RFI returns to provide meter reading cost and cost driver data – particularly the number of meter reads and the number of metered and unmetered SPIDs by service type - split by Wholesale region, together with a narrative commentary concerning their view of the extent of, and reasons for, any regional variation in meter reading costs.

In response to consultation question 11 in our December 2021 consultation and in their REC22 RFI returns, a number of Retailers put forward their view that meter reading costs vary significantly across Wholesale regions. Responses here noted that this was in part due to differing meter reading arrangements across areas or wholesale regions. As such, a number of Retailers argued that a regionally differentiated meter reading cost allowance within the REC price caps would be warranted. In contrast, other Retailers pointed to or noted their support of a single national price per meter read. Annex B summarises the responses received to consultation question 11.

Following our review of Retailer consultation responses and REC22 RFI data, our assessment of efficient forward looking meter reading costs considers two key components:

1. The extent to which meter read costs may systematically and materially vary across Wholesaler regions and therefore whether a separate regional meter read cost allowance may be warranted for Group One customers; and
2. The level of allowance(s) for meter read costs within the revised REC price cap for Group One customers.

[21] Select Wholesalers offer meter reading service commercially to Retailers.

This section sets out our methodology for assessing meter reading costs and our proposals for an allowance for meter reading costs within the revised REC price caps for Group One customers applying from 2023-24.

Approach

Following our assessment of consultation responses and Retailer RFI submissions, we first considered the degree of regional variation in meter reading costs. Separately, we looked to set an allowance for efficient forward-looking meter reading costs, with a regional adjustment if warranted, based on the average cost per meter read.

In line with our approach to allocating Group One customer costs set out in §2.2, we have allocated each Retailer's total meter reading costs across customer Groups One, Two and Three. Our REC22 RFI guidance initially specified that for the purposes of formulating a bottom-up assessment of Retailer costs, meter reading costs should be allocated to Group One customers by the relative number of SPIDs. However, after further consideration, we have revised the allocation method and have allocated total meter reading costs to Group One customers on the basis of the number of meter reads.

We consider this as an appropriate allocation method as it is likely to reflect a reasonable proportion of meter reading costs to Group One customers. In particular we note that Retailers take more frequent meter reads for higher consumption customers (Group Two and Group Three) than for Group One customers; and the cost per meter read, all other things equal, is unlikely to differ according to the type or size of business customer.

As per our methodology for other building blocks of the average cost to serve allowance, we have used historical data (i.e. 2017-18 to 2021-22 data) reported by Retailers in our analysis.

Assessing the extent of regional variation in meter reading costs

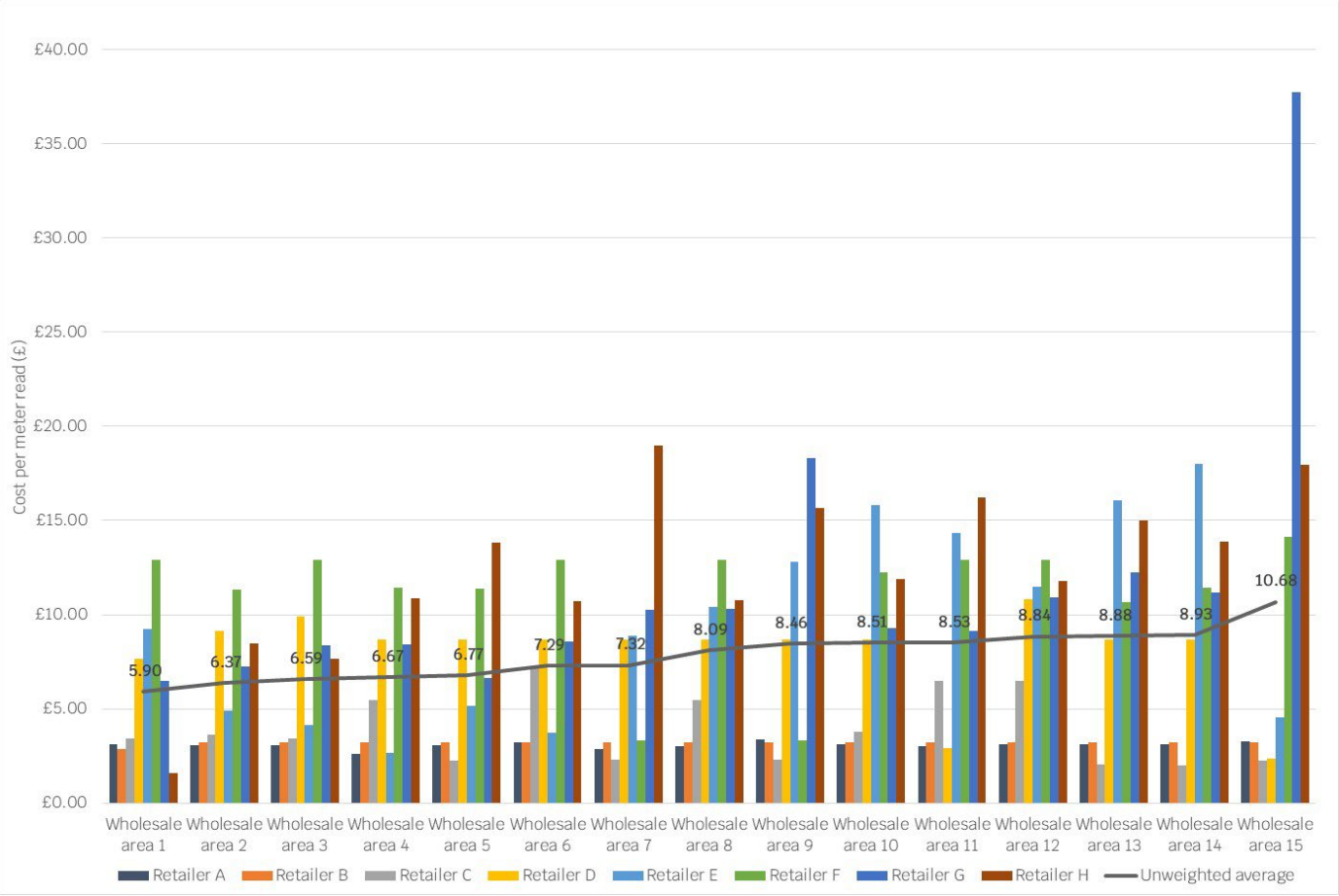
To help us understand if and to what extent meter reading costs may vary geographically, our REC22 RFI sought Retailers' meter reading cost and cost driver data for each Wholesale region for the period 2017-18 to 2021-22. Meter reading cost data and the number of meter reads for Group One customers in each Wholesale region allowed us to assess the cost per meter read across Wholesale regions and thus inform our understanding of whether a regional meter reading cost allowance may be warranted. Note, our assessment of regional variation considers only whether a regional adjustment may be warranted; our determination of an efficient and forward-looking meter reading cost allowance is given separately below.

We have primarily focused on average (mean) meter reading costs that each Retailer has reported in each wholesale region. This sidesteps simply comparing meter reading costs across all Retailers for each wholesale region, since legacy market arrangements mean that one Retailer typically has a large market share in each wholesale region and is therefore

responsible for the majority of meter reads within that region. Consequently, regional analysis of the weighted average cost per meter read would largely reflect differences in the main Retailer's reported costs, rather than systematic differences in regional meter reading costs. As this measure is unlikely to reflect systematic variation in regional meter reading costs, we consider that the unweighted average cost per meter read as a more appropriate measure for assessing regional variation.

Our analysis of data for each Retailer's average (unweighted mean) meter reading costs for each Wholesale region suggests that some Retailers face relatively high average meter read costs in some Wholesale regions, as shown in figure 3.3.1, likely reflective of varied meter reading cost arrangements adopted. However, we do not see systematically high (or low) average meter read costs for a significant majority of Retailers in any one Wholesaler region. Furthermore, some Retailers report relatively consistent average meter reading costs across all regions, especially outside their incumbent area.

Figure 3.3.1 – Unweighted average Group One cost per meter read by Wholesale region



Source: Retailer REC22 RFI returns, Ofwat allocation, 2021-22 prices

We do however note that Retailers tend to experience lower than average meter reading costs in incumbent regions. This could indicate that some Retailers benefit from economies of

scale in regions where they serve a large number of customers and where Wholesaler meter reading services are utilised. This is supported by responses to December 2021 consultation question 11 and in REC22 RFI submissions, where Retailers noted that variation may be in part due to the use of mixed meter reading arrangements between Wholesalers and national meter reading organisations. Typically, though not always, Wholesalers offer commercial meter reading services to Retailers at a lower cost per cyclical read compared to national meter reading services. This would suggest that the cost per meter read outside incumbent regions is a driver of significant regional variation in meter reading costs. However, a number of Retailers noted that they have contracts with third-party services that offer universal pricing, with a single price offered across all Wholesaler regions. This would suggest that regional differences are not systematically linked to the Wholesale area, with variation in fact linked to mixed meter reading arrangements, and differences in Retailer strategies and contracting.

Overall, we consider that while Retailer data suggest meter read costs can and do vary by region, we do not consider that such differences are sufficiently material or systematically linked to the Wholesale region which they apply to. As such, we do not consider there is sufficient evidence to suggest meter reading costs materially vary across Wholesale areas. **Therefore, we propose setting a single England wide allowance in respect of meter reading costs.**

Meter reading cost allowance

As set out above, we propose to set a single annual England wide meter reading cost allowance, with the allowance applicable for a Group One customer taking a measured water tariff[22]. We set the allowance with respect to two factors:

- an allowed cost per meter read; and
- an assumed annual meter read frequency.

We set out our considerations below.

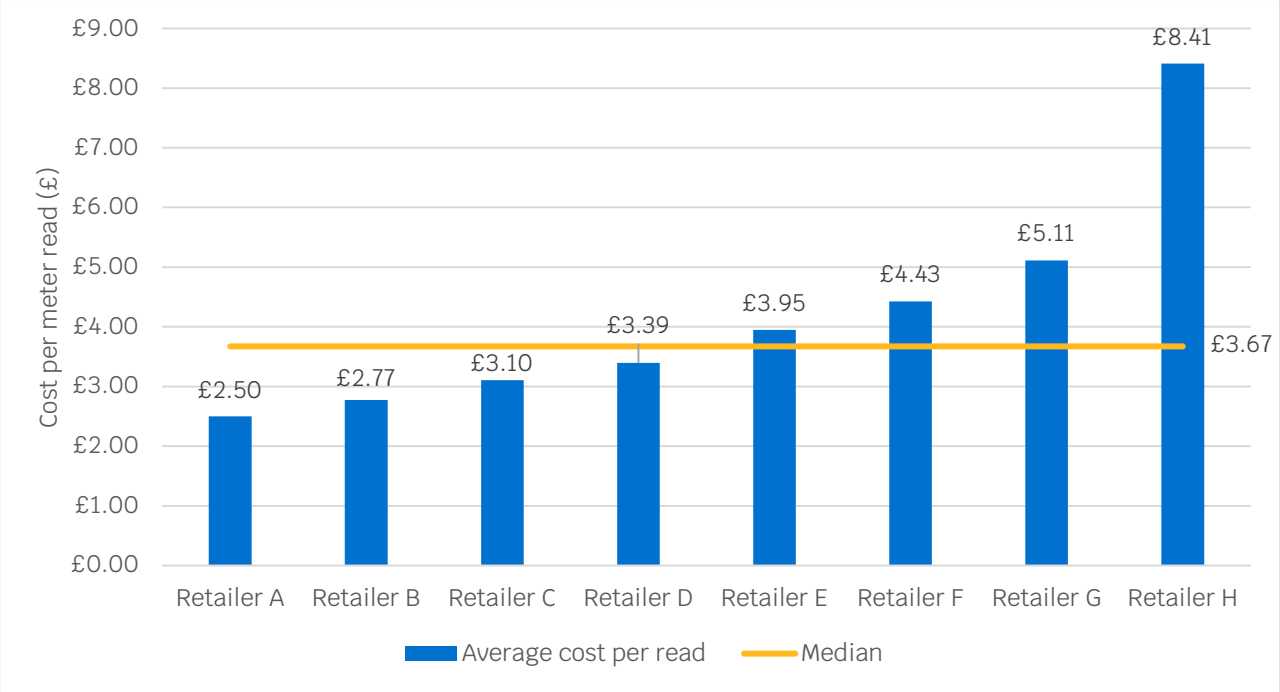
Allowed cost per meter read

Using Retailers' reported data, and on the basis of Ofwat's allocation of meter reading costs to customer Groups One, Two and Three, we have calculated each Retailer's weighted average cost per meter read across the period 2017-18 to 2021-22, weighted by the number of meter reads, as shown in figure 3.3.2. The data suggest a consistent (weighted) average cost per meter read across Retailers, with the exception of Retailer H that is a noticeable outlier.

[22] Our proposed allowance is applicable to the REC measured water tariff only as we understand meter reads taken to measure water consumption may be used to determine both measured water and measured wastewater charges.

We consider it reasonable, in the light of variation in average meter read costs that reflects meter reading costs are partly but not wholly within Retailers' control, not to benchmark allowed meter read costs against the lower cost Retailers (e.g. through an upper quartile efficiency challenge). We therefore propose to benchmark efficient meter read costs against the median of Retailers' weighted average cost per meter read. **The median measure gives a value of £3.67 per Group One water meter read, in 2021-22 prices.**

Figure 3.3.2 – Retailers' weighted average cost per meter read



Source: Retailer REC22 RFI returns, Ofwat allocation, 2021-22 prices

Assumed annual meter read frequency

We note that approximately 99%[23] of meters in the market are designated as twice-yearly read meters, required under industry codes to be read twice per year. Standards set out in the Customer Protection Code of Practice[24] (CPCoP) retain the backstop requirement for Retailers to obtain at least one visual or remote read per year where a verified business customer read is not provided. Furthermore, the Code Change CPW109[25], implemented in July 2021, removed the restrictions on the number of customer reads that may be entered into CMOS[26] and so deemed a verified customer submitted meter read as a valid read. Should a

[23] Information obtained from MOSL's analysis of metering in the market, see: MOSL - metering dashboard
[24] Customer Protection Code of Practice - version 1.5
[25] Wholesale Retail Code Change Proposal – Ref CPW109 - Ofwat
[26] The Central Market Operating System (CMOS) is the core IT system for business retail market, operated by MOSL. CMOS manages all the electronic transactions involved in switching customers and provides water usage and settlement data.

customer be unable, or unwilling, to provide a meter read, the relevant Retailer will ultimately be required to obtain a visual or remote read in accordance with the market codes.

As a cross check, we used Retailers' reported number of Group One meter reads and metered water SPIDs from the REC22 RFIs to determine the average number of reads per year per Group One metered water SPID. As shown in table 3.3.3, the average number of reads per metered water SPID per year is around 2, consistent with the requirements set out in the industry codes.

Table 3.3.3 Average number of Group One meter reads per metered water SPID

	2017-18	2018-19	2019-20	2020-21	2021-22	Average across years
Average number of meter reads per metered water SPID	1.96	2.14	2.31	1.93	2.30	2.13

Source: Retailer REC22 RFI returns

For the purposes of setting an allowance under REC price caps, **we assume that a Retailer reads a Group One customer's meter twice a year where there is a metered water service**, given Retailers' reported data is consistent with the industry codes that require bi-annual meters to be read twice a year. However, we note that in practice, such reads may include a verified customer submitted read.

Annual allowance for meter reading costs for Group One customer taking measured water tariff

We propose a meter reading allowance of £7.34[27] per REC Group One measured water service, ie. 2 x £3.67 (2021-22 price basis).

Note our proposed allowance for meter reading costs has been assessed and will be defined separately to the allowed cost to service (ACTS) component set out in §3.2 above. This approach provides an opportunity to review this cost allowance in the future should we see significant market developments relating to meter reading. As the sector works to resolve key market frictions, there is the potential for the market to see a fall in meter reading costs as programmes of work, such as the Strategic Metering Review[28], are expected to deliver some efficiency savings to Retailers. Where there are significant developments in the industry's

[27] In 2021-22 prices
[28] Strategic Metering Review (MOSL)

meter reading arrangements, it may be appropriate for Ofwat to review this component to reflect a revised efficient meter reading cost allowance.

3.4 Customer bad debt costs

Industry bad debt costs

Retailers incur costs in managing customer debt (debt management costs) and, where relevant, in making provisions and/or write offs for customer debt that cannot or is unlikely to be recovered (customer bad debt costs). Regarding debt management costs, we propose to include these within our definition of Running costs and hence our proposed ACTS allowance (see section 3.2). Regarding customer bad debt costs, we have separately considered an allowance for these. This section details the methodology adopted in determining our proposed customer bad debt cost allowance.

Background

During 2020 and 2021, we examined customer bad debt costs for Retailers to understand if and where these had exceeded business as usual (BAU) levels due to measures to combat Covid-19. Our April 2020 decision document[29] concluded that on a BAU basis, Retailers on average and over all customers incurred bad debt costs of about 1.0% of revenue, and that they should plan to bear 2.0% levels over the normal course of the business cycle. In response to elevated customer bad debt cost levels following the pandemic, we provided additional regulatory protection. That is, Ofwat's February 2022 bad debt decision document confirmed a small and temporary uplift to the Net and Gross Margins in the REC price caps for customer Groups One and Two over 2022-23 and 2023-24, such that Retailers could recoup a portion of the excess customer bad debt costs.

Retailer reported customer bad debt costs suggest industry bad debt levels peaked in 2019-20 and 2020-21 with 2021-22 customer bad debt costs returning to the long-term average BAU level of around 1.0%, as shown in table 3.4.1. Note, the total industry figures incorporate an Ofwat adjustment to an individual Retailer's reported costs, as well as exclusion of some customer bad debt costs for one Retailer for 2019-20 which the Retailer reported as part of exceptional costs. Our review of Retailers' reported bad debt costs noted the inclusion of costs relating to the write off of debt that they acquired on market opening, which saw some Retailers, as part of the acquisition of the business retail customers, taking on the outstanding debt from the respective Wholesaler. We do not consider that these costs relate directly to the level of BAU customer bad debt costs since market opening, therefore, we have excluded these from our assessment here.

[29] Covid-19 and the business retail market: Proposals to address liquidity challenges and increases in bad debt - decision document

Table 3.4.1 – Sector bad debt levels between 2017-18 and 2021-22

Industry bad debt costs as % total industry revenue	2017-18	2018-19	2019-20	2020-21	2021-22
Total (weighted)	0.6%	0.8%	3.4%	2.2%	0.8%

Source: Retailer REC22 RFI returns, after Ofwat adjustment

Approach to setting an allowance for bad debt costs for Group One customers

We have adopted the following approach:

- Allocation of customer bad debt costs to Customer Group One;
- Assessment of efficient level of an allowance for customer bad debt costs for Group One customers

We explain our approach as follows.

Allocation method

Using Retailers' total reported bad debt costs across all business customers in England and Wales, we have allocated bad debt costs to Group One customers on the basis of value of outstanding debt over 90 days. Ofwat's original REC22 RFI allocation guidance suggested that bad debt costs should be allocated based on the number of customers in arrears. We consider on reflection that as the number of customers in arrears is closely correlated to the number of customers, this allocation method could lead to a relatively large portion of all bad debt costs being attributed to Group One customers.

Instead, given customer bad debt costs relate to debt that cannot or is unlikely to be recovered, we consider that the key driver of these costs is likely to be the relative size of customers' debt rather than the number of customers in arrears. To capture this, we view the value of debtors exceeding 90 days as an appropriate cost driver given it reflects the relative proportion of a customer group's outstanding debt that may not be recoverable. Furthermore, this allocation method is consistent with our approach to modelling working capital costs where we have modelled the value of outstanding debt up to 90 days. Therefore, we assume debt over 90 days old may, where it is not recovered, become a customer bad debt cost.

Our analysis of the Retailer data indicates that the level of bad debt cost, as a percentage of revenue, for Group One customers are approximately double those of the combined levels for customer Groups Two and Three. We consider this is a plausible result as credit and default risks are likely to be smaller for higher consumption, larger business customers (Groups Two and Three) compared to smaller customers (Group One).

Group One bad debt costs

Customer bad debt costs for Group One customers vary across both Retailers and years. Consistent with our analysis of industry bad debt costs, Group One bad debt costs were higher during 2019-20 and 2020-21, following the pandemic.

Our proposed customer bad debt allowance for Group One customers is intended to reflect the level of bad debt an efficient Retailer might incur on a business as usual (BAU) basis. As elevated bad debt levels in periods 2019-20 and 2020-21 occurred in exceptional circumstances and do not reflect the levels expected over the normal course of the business cycle, we have excluded the years 2019-20 and 2020-21 from our assessment of the bad debt allowance. Furthermore, Ofwat's decision to implement a small and temporary uplift to REC price caps considered these years in isolation and allowed Retailers to recoup a proportion of the excess bad debt costs arising following the pandemic. Therefore, we have set our proposed bad debt allowance with reference to three years of data (2017-18, 2018-19 and 2021-22), as we consider these better reflect an average BAU level of customer bad debt costs.

We have considered two metrics of average Group One bad debt costs across the three BAU years:

- Mean across Retailers per year

  The mean determines the unweighted average of Retailers' reported bad debt level in each year and uses this value to determine the unweighted average across the three years. This approach is consistent with our bad debt work in 2020 and 2021 that used a mean measure for our calculation of industry bad debt costs. This approach gives an average bad debt cost of 2.1% for Group One customers.

- Median across Retailers per year

  We have also considered, for each of the three BAU years and across eight Retailers, the median level of bad debt costs. We have then taken the average of these three median values. We consider that this approach is consistent with our analysis of meter reading costs, and MOSL, CCW fees, as a median measure was used to determine allowance for these cost components. Furthermore, variation in Retailers bad debt costs show outlier levels in each period. As such, the median level may also provide an appropriate benchmark that would attenuate outlier costs. This approach gives an average bad debt cost of 1.9% for Group One customers.

We are mindful that there is a degree of uncertainty around the level of customer bad debt costs that Retailers may face. Uncertainty reflects the understanding of past debt cost levels, as bad debt costs take time to materialise, and as it becomes clearer whether or not

outstanding bills may be paid. There is also uncertainty concerning future levels of BAU bad debt costs, as they may be influenced by a number of factors, some of which are within the control of Retailers (e.g. customer management processes) and some outside (e.g. broader economic environment). We are also mindful that, in setting an allowance for bad debt costs, we are both protecting customers by limiting this allowance and providing some incentive for Retailers to reduce their customer bad debt costs below the allowance, so gaining some competitive advantage.

With these points in mind, and given these costs are difficult to predict with accuracy, we propose that a customer bad debt cost allowance of 2.0% of a Group One customer's bill is in broad terms an appropriate allowance. Furthermore, it is consistent with the mean and median measures we outline above. Therefore, **we propose a 2.0% Group One bad debt cost allowance per service**, as shown in table 3.4.2.

Table 3.4.2 Average Group One bad debt costs as a proportion of Group One revenue

Measure of average bad debt	2017-18	2018-19	2021-22	Average (mean) across years
Mean	0.9%	3.5%	1.9%	2.1%
Median	2.0%	2.1%	1.5%	1.9%
Group One bad debt allowance				2.0%

Source: Retailer REC22 RFI returns, Ofwat allocation

As a further cross check, we have used the same approach to consider the bad debt levels for Groups Two and Three. Assessing these groups together, our analysis shows that the sector average bad debt level is determined as 0.9% of revenue, aligning with our previous bad debt work that stated a BAU level of bad debt across all customers is ≈1.0% of revenue.

3.5 Assessment of Net Margins for Group One customers

As noted in our consultation document we are proposing broadly to retain the current form of the price protections that apply to Group One customers. We propose therefore to set an allowance for Net Margin that Retailers are allowed to charge, in addition to the allowed cost to serve (ACTS) component, and where relevant the allowed meter reading cost. The Net Margin here, which was introduced at PR14[30], is intended to remunerate the capital employed by Retailers (including expected working capital requirements) and the risks companies bear in providing retail services. PR14 set the current Net Margin allowance at 2.5% on average across tariff types, and this formed the basis for REC price caps as amended from April 2020.

[30] See https://www.ofwat.gov.uk/wp-content/uploads/2015/11/gud_tec20140127riskreward.pdf

Our December 2021 consultation explained we were minded to retain the current allowed Net Margin of 2.5% for Group One customers and sought views (December consultation question 7). In their responses to our December consultation the majority of Retailers noted they were in favour of reviewing the allowed Net Margin for Group One customers. In particular Retailers raised concerns about the current margins failing to reflect the current costs and risks in the market, meaning they are earning low or negative returns on Group One customers. CCW by contrast emphasised their view that unless there is convincing evidence that the current 2.5% margin is disadvantageous for customers, they did not think this should be changed. A more detailed summary of responses is available in Annex B.

We have in the light of responses to our consultation reviewed the allowed Net Margin. This chapter sets out our full methodology for assessing Net Margins and our proposals for allowed Net Margins applying from 2023-24.

Assessment of allowed Net Margins

We have conducted two analyses in order to assess whether the current allowed Net Margin remains appropriate, as follows:

1. **External benchmarking** – we have used comparators from similar retail industries to compare how the allowed Net Margin in the water retail industry sits within a range of appropriate comparators
2. **Analysis of efficient working capital requirements** – we have undertaken analysis to assess what level of working capital may be required by an efficient Retailer. We have used this as a cross check to ensure our proposals on allowed Net Margin would be likely, under reasonable assumptions, to allow an efficient Retailer to recover their working capital costs.

We set out more detail on these approaches below and set out our findings and what they mean for our proposals for allowed Net Margin.

Assessment of external benchmarks

Our external benchmarking approach is intended to provide a range of suitable Net Margins in similar retail industries to allow us to assess where an efficient allowed Net Margin should sit for the water retail market in England, for Group One customers.

This section sets out our approach and findings.

Methodology

Our starting point for assessing an appropriate and efficient level of Net Margin is to use the methodology which underpinned the 2.5% allowed Net Margin for business retail at PR14,

ahead of market opening. This analysis and allowance was based on a PwC report commissioned by Ofwat[31]. The report focused on a comparative analysis that examined Net Margins achieved by similar retail companies in both the wider water industry and within comparable external industries (e.g. the energy market). This analysis established a range within which an appropriate Net Margin for non-household water Net Margin should sit.

We consider the external benchmarking approach utilised at PR14 provides a reasonable and robust framework for determining an allowed Net Margin for Group One customers in the business retail market. We do however note that the comparators used in the original analysis are now out of date and we have therefore sought to update the underlying comparator data to determine if and how to update the allowed Net Margin in the business retail market for Group One customers. We have therefore undertaken a benchmarking exercise using a similar methodology employed by Ofwat at PR14 using up to date comparators to establish a suitable range within which a water retail Net Margin may sit.

Our methodology has drawn on two types of benchmarks, notably:

1. Regulatory determinations – where regulators set prices for Retailers we have where relevant taken into account their assessment of (allowed) Net Margins; and
2. Actual company margins – we have estimated outturn margins for a number of appropriate comparator companies using published accounts and where relevant consolidated segmental statements (for the six larger energy companies)

All Net Margin comparators are considered based on EBIT. An EBIT margin is a measure of profitability of a company calculated without taking into account the effect of interest and taxes. It reflects the benefit generated by the economic activity of the company and is neutral concerning how the business is financed.

The EBIT margin is calculated as follows:

$$EBIT\ Margin = \frac{Operating\ profit}{Revenue}\ x\ 100\%$$

When calculating actual achieved company margins we have, where possible, looked at data for the years 2010 to 2021 to smooth year on year volatility. Where possible we have tried to separate non-household margins from household margins, however this split is only available for the six larger six energy retailers.

We have, as far as possible, updated all relevant comparators used to assess allowed Net Margin at PR14. We have however omitted some comparators for the following reasons:

- A comparator company no longer exists or has been incorporated into another company with a scope of activities that is no longer a direct retail comparator.

[31] PwC report on net margins for water retail business

- We do not consider the comparator to be appropriate in terms of scope of activities, in particular we have omitted all rail comparators.
- Where regulatory determinations were used as comparators for an efficient household Net Margin.

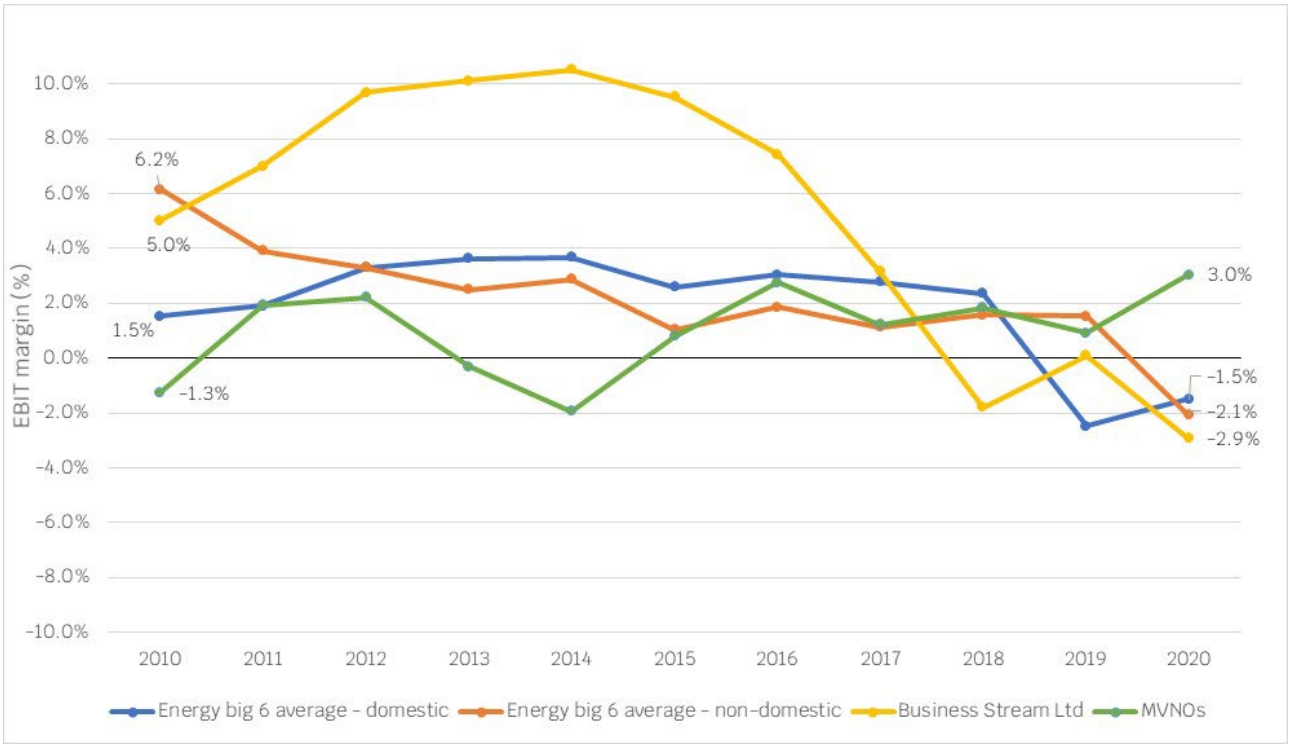
The methodological approach used at PR14 was to apply comparative benchmarks to construct a Net Margin range to provide an 'envelope' within which to make a decision on an appropriate level of allowed Net Margin. In practice this meant constructing an upper and lower bound of the range and setting the final allowed Net Margin at the mid-point of the range. We propose to undertake a similar approach of constructing a range using an upper and lower bound and using this to determine where an efficient allowed Net Margin might sit.

In addition to the benchmarking analysis the PR14 methodology included a bottom-up return on capital assessment to cross check the findings of the benchmarking analysis. We do not consider this method to be appropriate in the current circumstances given the competitive nature of the market and the fact that the retail element of the market is split from the wholesale business. In addition this method risks underestimating the allowed Net Margin given the asset light nature of retail businesses and the risks inherent in a competitive market.

Overview of benchmarking findings

Figure 3.5.1 below sets out our findings for actual EBIT margins achieved by energy companies, MVNOs and Business Stream (Scotland and England business) across the period 2010 to 2020. Our analysis indicates that margins for both Business Stream and the six larger energy companies have fallen over the time period we have examined. We do find some evidence that margins within the MVNO sector have increased in recent years, however we note significant levels of volatility in the year on year margin estimates and therefore we caveat this finding as such.

Figure 3.5.1 – EBIT margins over time



Sources: Companies house accounts and consolidated segmental statements (Energy only)

We observe a clear drop in the level of EBIT margin in 2020-21, with average margins for energy companies and Business Stream falling to negative levels. The fall here likely reflects government measures to combat the effects of the pandemic on the UK economy and utility markets. Given the exceptional nature of this year and the impact it may have on estimating a level of Net Margin appropriate under BAU conditions, we have excluded 2020-21 data when calculating updated comparator estimates set out in table 3.5.2 below.

The figure below sets out an updated view of the comparators calculated at PR14. The updated estimates of Net Margin are calculated as an unweighted average across the period 2010-11 to 2019-20, as noted above the updated estimates exclude the impact of 2020-21 on the average Net Margin for each comparator.

Table 3.5.2 – Updated EBIT margin estimates

Company[32]	PwC EBIT margin	Updated EBIT margin[33]
Centrica	4.70%	3.54%
E.ON	5.99%	3.66%
EDF Energy Holdings Ltd	3.54%	0.96%
Scottish Power Ltd	7.19%	2.26%
SSE plc	2.24%	2.80%
RWE Npower plc	2.27%	1.62%
First Utility Limited	N/A	N/A
Good Energy Limited	5.62%	4.68%
Average Energy – non domestic	**4.32%**	**2.47%**
Scottish Water Business Stream Limited	5.26%	6.08%
Average Energy non domestic and Water	**4.46%**	**2.99%**
BT Retail	15.70%	N/A
Tesco Mobile Limited	0.03%	0.34%
Lebara Mobile Limited	3.06%	-0.08%
Lycamobile UK limited	-9.53%	2.19%
Average mobile	**2.32%**	**0.82%**

Source: Companies house accounts and consolidated segmental statements (Energy only)

We note that the updated EBIT margins in table 3.5.2 above indicate that when averaged across the period 2010-2020 Net Margins have fallen compared to the equivalent margins calculated at 2014. In particular we see significant reduced margins for five of the largest energy companies and one MVNO compared to the estimates previously calculated. We do however see increased margins for Scottish Water Business Stream compared to the previous estimates from PR14.

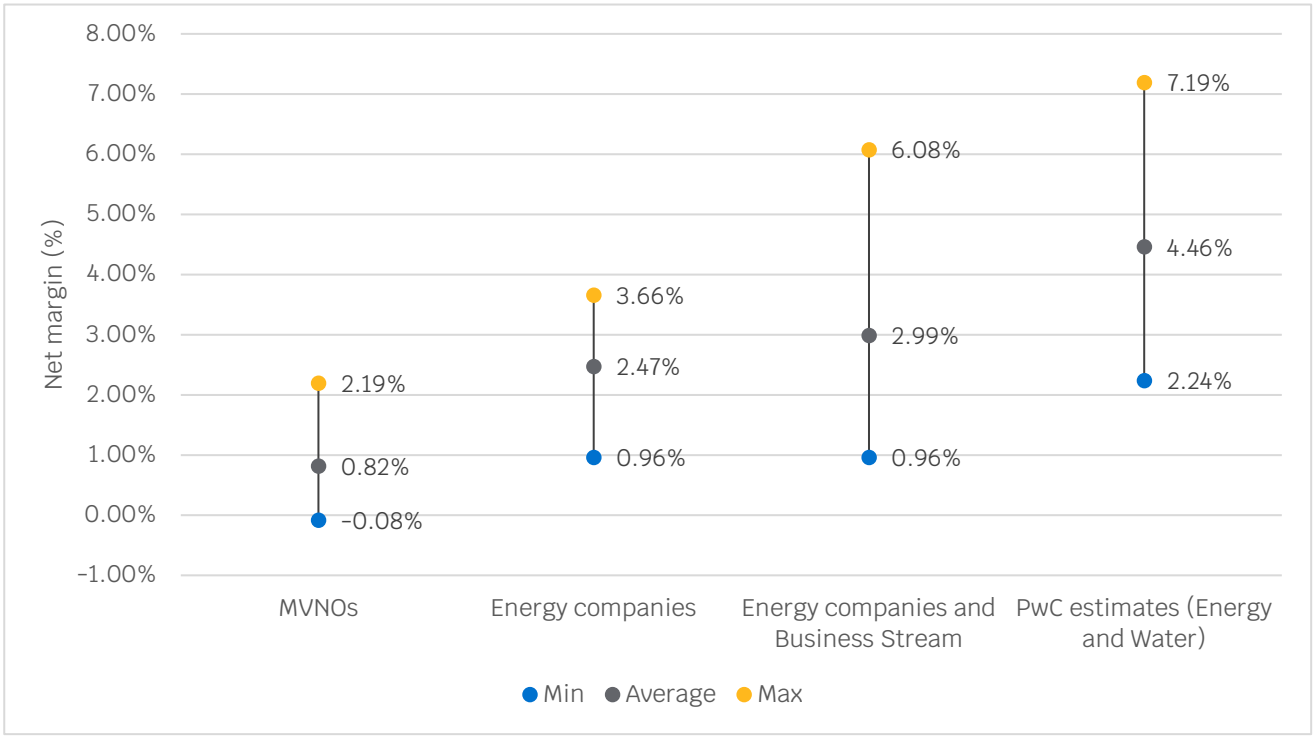
When constructing the lower bound of our range we have noted that the exposure to competition for larger customers in the business retail market means that Retailers face higher levels of risk from competition compared to sectors that are purely monopolistic in nature. Although we have not yet seen effective competition develop for the Group One segment, we do see some activity, which may increase over time, including as market frictions are resolved and customers become more aware of alternative propositions. As a consequence we retain the view that any allowed Net Margin set by Ofwat for the competitive

[32] The largest six energy company EBIT margins are for non-domestic customers only
[33] Average over the period 2010-2020

retail market should be set at a higher level than the allowed Net Margin set for household customers of the monopoly water companies. We therefore **propose to set the lower bound of our range for allowed Net Margin at 1%,** equivalent to the lower bound used by Ofwat for the PR14 final determinations. We note that this view is consistent with the finding of PwC's analysis for PR14.

Figure 3.5.3 below sets out the average alongside the range for a number of comparator industries that we have examined when considering an upper bound of our range.

Figure 3.5.3 – Spread of comparative industries' EBIT margins



Source: Companies house accounts and consolidated segmental statements (Energy only)

The current Group One Net Margin allowance is broadly in line with the margins actually obtained by the energy companies over the last 10 years but is higher than the current allowance made by Ofgem in its default tariff price cap determination (1.9% Net Margin), although we note Ofgem are currently consulting on the level of margin for default tariffs[34]. PwC previously set out an upper bound of 4% stating that it did not consider non-household water margins should be as high as energy noting an average margin of around 4.5% for the six larger energy non-domestic customers. We agree that allowed Net Margins in the business retail market should not be as high as in energy given the additional risk involved in energy retail and the relatively wider scope of activities when compared to water retail businesses. Our updated analysis has found that margins have fallen when compared to previous estimates with average energy returns around 2.5% on average (excluding 2020 data) and Ofgem have set out a Net Margin of 1.9% for their domestic customer price cap.

[34] Consultation (ofgem.gov.uk)

Given these findings we therefore consider that an upper bound of 4% is no longer appropriate for Group One customers.

We note that the Scottish water market represents a valid comparator to the English business retail market. We note that Business Stream Net Margins remain high at around 6.1% across the period we have examined and previous allowances were set at 3.2%[35]. We do however note that this relates to returns across Business Stream's activities in England, Wales and Scotland and we also note that the Scottish market is relatively mature compared to the England and Wales business retail market. Furthermore, we do not consider the Scottish market to be the only valid comparator to the English market and therefore have drawn upon other relevant industries, including the British energy market.

Given the overall trend in energy Net Margins over the period, falling to an average of 2.47% compared to 4.32% found at 2014, and the determinations for the energy default tariff cap we consider that 4% is no longer an appropriate upper bound for water retail Net Margins. Instead, **we propose that an upper bound for Net Margins should be 3%,** broadly in line with the average of returns for Business Stream and the six larger energy retailers.

Our assessment of external benchmarks therefore suggests that an efficient level of allowed Net Margin in the business retail market would lie in the range of 1% - 3% of total revenue. Consistent with the previous approach used at PR14, we propose to set the allowed Net Margin for Group One customers at the midpoint of the revised range. **We therefore propose that an allowance for Net Margin for Group One customers should be set at 2%.**

3.6 Working capital requirements

We note that the Net Margin is intended to compensate investors for the risk of providing investment and much of that, for the retail business market, is likely be represented as working capital. Accordingly, we have modelled ranges for working capital costs for Group One customers that we might expect an efficient Retailer to incur.

Working capital costs arise where customer revenues lag costs incurred in serving customers. For the business retail market such costs comprise payments to Wholesalers as well as costs of running the retail business. Lags may occur because the majority or many Group One customers pay quarterly in arrears, and /or because some Retailers pay Wholesalers in advance. Differences in revenues and costs must be financed, at prevailing finance costs.

[35] PwC report on net margins for water retail business

To inform our proposal for the allowed Net Margin, we have considered Retailers' likely working capital costs to test that our proposals are likely to allow an efficient Retailer to recover their working capital costs.

Note we have separately published an Excel spreadsheet – REC22 September consultation - Working capital model – alongside this consultation document which sets out our model of an efficient Retailer's working capital costs. The model provides a range of working capital costs – depending on the assumed financing cost - that an efficient Retailer may incur in serving a Group One customer.

Section 3.6.1 sets out our modelling approach and the key findings. Section 3.6.2 sets out an illustrative example of our approach to calculating working capital costs. Section 3.6.3 provides details of the accompanying spreadsheet model's components and calculations.

3.6.1 Methodology and key findings

Methodology

To assess the working capital costs for an efficient Retailer, we have set out a scenario for a notional Group One customer such that the timing difference of an (efficient) Retailer's payment of Wholesale charges and the receipt of the customer payment creates a monthly working capital requirement. Using an assumed annual financing cost, we apply a monthly interest rate[36] to the Retailer's monthly working capital requirement. The total annual cost of financing working capital is then calculated as a proportion of the notional customer's annual bill, which enables comparison against the proposed Net Margin for an efficient Retailer serving Group One customers. We consider that our analysis is representative of an upper bound of the working capital costs an efficient Retailer may incur in serving a Group One customer.

Our model uses several significant assumptions to produce a range of working capital costs. Details of the assumptions used are noted below.

Modelling period

The spreadsheet model is set over 3 notional financial years (01 April to 31 March) – FY-1, FY, and FY+1. Please note that the accompanying spreadsheet model this is represented by the period 01/03/2023 to 30/06/2026, this is for illustrative purposes only and should not be viewed as a calculation of working capital costs during this period.

The modelling period is set over three financial years so we can assess a steady state (BAU) level of working capital (taken as year 2 'FY'), taking account of opening (year 1 'FY-1') and

[36] Monthly compound interest rate

closing (year 3 'FY+1') balances. Our assessment of working capital costs is determined in the middle year (financial year FY) as we view this as representative of a BAU payment schedule.

Group One customer billing inputs

Our model assumes a notional annual Group One customer bill of £500; 90% of the which is attributed to Wholesale charges, the remaining 10% to the retail cost of serving the notional Group One customer.

Customer payment timing

Information collected as part of Ofwat's May 2021 Bad Debt Request for Information (RFI)[37] suggested that Retailers have varied billing arrangements across their customer base. For those consuming less than 0.5Ml annually, customers are typically billed monthly or quarterly in arrears. A more frequent billing cycle reduces the working capital requirement for Retailers as the date between payment to Wholesalers and payment from end customers is reduced. As such, to model an upper bound of Retailers' working capital, **our analysis makes the assumption that the notional customer is billed quarterly in arrears.**

In practice, Retailers are likely to receive payments from end customers throughout the month (a customer could pay anytime between the first and last day of a month), affecting the working capital for that month. **To account for differing customer payment dates in our model, we have assumed 50% of the scheduled payment is paid on the 15th day of each month and 50% is paid on the last day of each month.**

Payment of Wholesaler charges

We recognise the timing of Wholesale charges will differ depending on the Wholesaler settlement agreements; Retailers agree pre or post payment arrangements with Wholesalers. A pre-payment agreement involves payment one calendar month in advance by the Retailer of the estimated cost associated with delivering Wholesale services by the Wholesaler. Where a post-payment agreement is in place, Retailers pay Wholesale charges in arrears which all other things equal would reduce a Retailer's working capital as the period between payment to Wholesalers and payment from customers is reduced.

Our analysis considers the scenario of a Retailer paying Wholesale charges in advance. We view this as an appropriate assumption as this suggests a range of working capital costs that would represent an upper bound of what a Retailer may incur.

Outstanding debt profile

[37] Business retail market: Customer bad debt - Decision on adjustment to REC price caps from April 2022 - Ofwat

Retailer REC22 RFI returns suggest that customer debtor days vary across Retailers. Outstanding debt impacts Retailers' working capital requirements and costs, where an increased value in arrears increases working capital costs. Using Retailers' reported data, we have made an assumption about the proportion of scheduled customer payment that is received within 90 days of the billing month. Table 3.6.1 sets out the assumed debt profile of an efficient Retailer. Our assumed outstanding debt profile is based on our view of the debt management practices of an efficient Retailer, and the debt profiles of REC22 Retailers.

Table 3.6.1 – Assumed debt profile of an efficient notional Retailer

Revenue outstanding	% of revenue collected	Value outstanding (£)[38]
% of revenue collected after 30 days	52.00%	240.00
% of revenue collected after 60 days	68.00%	160.00
% of revenue collected after 90 days	84.00%	80.00

Our model considers the value of debt up to 90 days only as we have assumed that an efficient operator would collect payment within 90 days. That is, our modelling does not allow working capital costs on debt that may be collected after 90 days. Note that we assume a proportion of the value over 90 days may be recovered through the REC customer bad debt cost allowance – see §3.4 for further details. In a market context, we view earlier payment as something that efficient Retailers encourage customers to do in order to reduce their working capital costs.

Assumed financing cost

Evidence submitted by Retailers as part of our customer bad debt work[39] suggested that Retailers incurred a wide range of financing costs in meeting the increased working capital requirements from excess bad debt and other Covid-19 related costs. Response to Ofwat's October 2021 bad debt RFI indicated that Retailers use a range of equity and debt facilities (sometimes via parent company loans) to finance additional borrowing requirements. The majority of those responding indicated a competitive cost of debt financing in the region of 3.50%. Ofwat's 2022 bad debt decision set out the bad debt cost relief on the basis that an efficient Retailer could finance their short-term borrowing at 3.50%. **Our analysis of working capital costs uses 3.50% as a lower bound of the assumed financing costs.**

We acknowledge that Retailers use a range of financing facilities. Information relating to financing costs shows that those Retailers that are more reliant on equity capital have reported finance costs above the 3.50% level. As such, we have also considered a cost of capital that reflects both debt and equity financing. Having reviewed Retailers' reported

[38] Based on the assumed annual bill value of £500
[39] See for example Ofwat December 2021 §3.4.1 Business retail market: Customer bad debt Consultation on adjustment to REC price caps from April 2022 - Ofwat; February 2022 §2.3 Business retail market Customer bad debt decision on adjustment to REC price caps from April 2022

financing costs in response to our bad debt relief, **we have set the upper bound of an assumed financing cost at 10.00%**, reflecting an indicative cost of capital based on the higher costs reported in Retailers' October 2021 bad debt RFI responses.

Key findings

Noting the assumptions set out above, table 3.6.1 shows the range of working capital costs as a percentage of assumed total customer bill across a range of annual financing costs. We consider that our estimates of working capital costs under quarterly customer billing in arrears are, under a range of plausible financing costs, consistently below the prospective 2.0% Net Margin for an annual financing cost of 9.00% or lower.

Table 3.6.1 – Range of working capital costs depending on the assumed annual financing cost

	Annual financing cost					
	3.50%	4.00%	5.00%	7.00%	9.00%	10.00%
Working capital cost as % of the annual bill	0.78%	0.89%	1.10%	1.53%	1.95%	2.16%

Source: REC22 September consultation – working capital model

3.6.2 Summary calculation

This section provides an illustrative example of our calculation of working capital costs that incorporates the assumptions noted in the section 3.6.1. Table 3.6.2 sets out an example calculation that uses an assumed 5% annual financing cost to estimate the working capital cost for a notional Retailer. This example estimates a total working capital cost for the year FY of £5.51, implying a working capital cost of 1.10% of the total annual customer bill (assumed to be £500).

A step-by-step explanation of the calculation is detailed below. For additional detail on the assumptions underpinning our model, please refer to section 3.6.1 above.

Note this is summary calculation represents estimated working capital costs in the period FY and is a simplified example of the accompanying Excel spreadsheet model. For further detail on our modelled working capital costs, please see the accompanying Excel model – REC22 September consultation - Working capital model.

Period

This example considers the working capital costs in the illustrative financial year FY for months April to March. As noted in our explanation of the model parameters and

assumptions, FY is representative of BAU working capital costs that reflects our assumptions of an efficient Retailer's outstanding balances.

Opening balance

The Retailer's net financial position at the beginning of the first day of the relevant month in financial year FY. This balance is calculated as the end balance of the previous month after an adjustment for the proportion of revenue that is assumed not to be received within 90 days. For the period FY-APR, the opening balance is taken from the adjusted closing balance in FY-1 (please refer to the accompanying Excel model for further details).

Retailer outflow

As noted in our modelling assumptions in section 3.6.1, we assume an annual bill of £500 for the notional Group One customer. Assuming a constant consumption pattern and charging scheme, we assume the wholesale and retail cost of serving the Group One customer is borne by the Retailer consistently across the 12 month period. As such, Retailers incur a monthly cost of £41.67.

Bill issued

We have assumed the notional Group One customer is billed quarterly in arrears. For the assumed annual bill of £500, this equates to a quarterly customer bill of £125.00.

Table 3.6.2 – Example calculation of working capital costs in financial year FY

Period	Opening Balance (£)	Retailer Outflow (£)	Bill issued (£)	15 days after (£)	30 days after (£)	45 days after (£)	60 days after (£)	75 days after (£)	90 days after (£)	End balance (£)	Unrecovered revenue (£)	W.C. (£)	W.C cost (£)
FY-Apr	-71.50	-41.67				10.00	10.00			-93.17	-6.67	-101.50	0.41
FY-May	-86.50	-41.67						10.00	10.00	-108.17	-6.67	-116.50	0.47
FY-Jun	-101.50	-41.67	125.00	32.50	32.50					-78.17	-6.67	-120.25	0.49
FY-Jul	-71.50	-41.67				10.00	10.00			-93.17	-6.67	-101.50	0.41
FY-Aug	-86.50	-41.67						10.00	10.00	-108.17	-6.67	-116.50	0.47
FY-Sep	-101.50	-41.67	125.00	32.50	32.50					-78.17	-6.67	-120.25	0.49
FY-Oct	-71.50	-41.67				10.00	10.00			-93.17	-6.67	-101.50	0.41
FY-Nov	-86.50	-41.67						10.00	10.00	-108.17	-6.67	-116.50	0.47
FY-Dec	-101.50	-41.67	125.00	32.50	32.50					-78.17	-6.67	-120.25	0.49
FY-Jan	-71.50	-41.67				10.00	10.00			-93.17	-6.67	-101.50	0.41
FY-Feb	-86.50	-41.67						10.00	10.00	-108.17	-6.67	-116.50	0.47
FY-Mar	-101.50	-41.67	125.00	32.50	32.50					-78.17	-6.67	-120.25	0.49
Total													5.51

Source: REC22 September consultation – working capital model

15, 30, 45, 60, 75 and 90 days after

We have assumed that 50% of the scheduled payment is paid on the 15th day of each month and 50% is paid on the last day of each month. In combination with our assumed debt profile of an efficient Retailer, our estimate of working capital costs assumes a proportion of the outstanding bill value is paid on certain days following a bill being issued to the customer. We set out the payment from the customer to the Retailer as follows:

- 52% of the annual bill value is received within 30 days; half of which is received 15 days after the bill is issued, and the remaining half is received on day 30.
- An additional 16% is received between 30 days and 60 days after the bill is issued. Half of this additional revenue is received on day 45 and the other half is received on day 60. This implies that 60 days after the bill has been issued to the customer, 68% of the quarterly bill value has been received.
- Between days 60 and 90, we assume an additional 18% of the bill value is received from the end customer; half on day 75 and half on day 90. Consistent with our assumed efficient debt profile, our calculation shows that after 90 days, 84% of revenue has been recovered from the end customer.

End balance

The Retailer's end balance is determined as sum of the opening balance in the relevant period, the monthly Retailer outflow, and the total payment received from the customer during the month.

Unrecovered revenue

Our estimate of working capital costs considers the value of debt up to 90 days only as we have assumed an efficient operator would collect payment within 90 days. As such, the calculation of working capital excludes the proportion of debt that is not recovered within 90 days. The assumed debt profile of an efficient Retailer shows that 84% of their outstanding debt is recovered within 90 days. For further details on our assumed efficient debt profile, please see section 3.6.1 of this document. Therefore, the calculation incorporates the assumption that the 16% of the Retailer's monthly outflow will not be received within 90 days and is excluded from our calculation of working capital.

Working capital (W.C.)

The Retailer's monthly working capital requirement is calculated using the following components in each period:

- the opening balance;

- the Retailer outflow with an adjustment for the proportion of revenue that not recovered within 90 days;
- and the sum of customer payments received on the 15th day of the relevant month, with an adjustment to account for a working capital requirement of this value for only 15 days in the month.

Our adjustment to the payments received from customers takes into consideration that the Retailer only has a working capital requirement for this value for only half of the relevant month. To incorporate this into our calculation we multiply the sum of payments received on the 15th day of the relevant month by 0.5 to reflect the working capital value required for only half the month.

Working capital (W.C.) cost

The example calculation assumes an annual financing cost of 5.00%, which equates to a monthly compound interest rate of 0.41%. The monthly working capital cost is calculated as the monthly working capital requirement multiplied by the monthly compound interest rate of 0.41%.

3.6.3 Use of the Excel spreadsheet model

We have set out our working capital model as an Excel spreadsheet, published alongside this consultation document. The model is set out in the 'FAST' standard – Flexible, Appropriate, Structured, and Transparent, with the aim of presenting our published spreadsheet models in a consistent and assured format. Please note the following features and use of the spreadsheet model:

- Inputs

  Sets out key parameters of the model. This includes our assumptions of customer payment, timing of payments, the outstanding debt profile we assume for an illustrative efficient Retailer, and an annual financing cost. The input sheet also defines the modelling period and financial year parameters. Further detail of the assumptions is noted in §3.6.1.

- Time

  Records information concerning the time and modelling periods. This model considers the working capital costs for a Retailer in the illustrative financial year FY given this represents a consistent payment schedule that would be expected from an established customer on a BAU basis.

- Calculations

Sets out the steps that calculate the cost of financing working capital as a proportion of the notional bill for a Group One customer (cell F87). Given our assumption of the outstanding debt profile for an efficient Retailer, the model calculates the working capital costs for the proportion of revenue received within 90 days of the scheduled billing.

- Working capital costs

Recaps the key results from the working capital model. Note the modelled working capital cost as a proportion of the annual customer bill is given in cell F14.

- Check

Checks the modelling period is consistent, and that the calculation of the working capital costs as set out in the *Calculations* sheet only accounts for the proportion of revenue that is assumed to be received within 90 days.

4. Assessment of Group Two Gross Margins

As set out in the main document (§3.3.2) and Annex B (§1.2.5), we propose for customer Group Two to retain Gross Margins at 8% (water) and 10% (wastewater).[40] In formulating our proposals, we have cross checked how our proposals for customer Group One, including our assumptions concerning the allocation of retail business costs between customer Groups One, Two and Three, may be consistent with the application of Gross Margins for Group Two customers, including that such margins would enable Retailers to cover their retail business costs of serving Group Two customers. This section sets out our assessment.

Our focus in assessing current Group Two Gross Margins is whether or not they are sufficient to cover Retailers' reported retail business costs for this customer group (following Ofwat allocation of Retailers' overall costs to customer Groups One, Two and Three). As noted in our December 2021 consultation and the main document to this annex, larger customers tend to have higher levels of awareness and engagement in the market and as such the protections for these customers are less stringent, as we expect competition to act as a stronger constraint on pricing for this customer group. The Gross Margin protections for Group Two customers, set at 8% for water and 10% for wastewater, are intended to provide more of a backstop protection rather than reflect efficient, forward-looking costs for Group Two customers (in contrast to our proposals for Group One customers).

Assessment of current Group Two allowances against Retailer reported costs

To inform our assessment of whether the current level of Group Two protections remain appropriate we have compared the allowances in Group Two against Retailer reported costs in order to assess whether the current protections (8% and 10%) are likely to provide a sufficient margin for Retailers to recover costs. This analysis underpins our proposals in our main consultation document to retain the current 8% and 10% Gross Margin for Group Two.

We have estimated Retailer Group Two costs using the same cost allocation methodology as for Group One, set out in §2.2, that is we have allocated top down costs reported by Retailers in tab TD1 of the REC22 RFI using the same cost drivers set out in table 2.2.1. Where we have allocated non-attributable costs, the top down costs are post the interventions set out in §2.1 of this document. Our approach here results in the allocation of c.£337m[41] (c.23%) of cost being allocated to Group Two over the period 2017-18 to 2021-22.

[40] Note the current REC specifies Gross Margins for Group Two customers at 8.49% (water) and 10.49% (waste water), with the 0.49% over and above 8% and 10% respectively representing temporary additional pricing flexibility in respect of elevated levels of customer bad debt costs following the pandemic. We expect the 0.49% additional allowance will not, all other things equal, apply after April 2024. We have therefore ignored the 0.49% uplift for the purposes of this analysis and in order to propose forward looking gross margins on a BAU basis.
[41] Costs include running costs, MOSL, CCW and Ofwat fees, demand side water efficiency costs, meter reading and bad debt costs

Retailers in their REC22 RFI responses provided us with information on the breakdown of Wholesaler charges both for Group Two customers and for seven separate individual tariff types. By utilising this data set and the allowances set out for Group Two customers in the REC we calculated the theoretical maximum allowance that Retailers could charge Group Two customers under the REC price caps. Where Retailers have provided a breakdown of tariffs into water and wastewater we have used the appropriate Gross Margins as set out in the REC (8% for water, 10% for wastewater). Where Retailers provided data for both water and wastewater tariffs we have taken an average of the two Gross Margins (i.e. 9%) to calculate the maximum allowance.

To determine whether Group Two allowances remain appropriate, we have compared the maximum allowance for each year for each Retailer with the equivalent reported cost. Our aim is to understand if and where the overall (theoretical) allowance for Group Two does not cover Retailer reported costs for such customers. Our findings indicate that most Retailers are able to more than cover their reported costs each year if they were able to price up to the full margin allowed under the Group Two price protections. In addition, the data suggest a significant number of Retailers would in fact have allowances significantly above their reported costs.

Our December 2021 consultation (§5.3.2) set out that, in reviewing and assessing REC price caps for Group One customers, we would look to have regard to the implications of any cost assumptions for Group Two and Group Three customers and the overall costs an efficient Retailer serving all three customer groups may face. We consider that, on the basis that we are proposing REC price caps for Group One customers assessed against efficient forward looking costs for Group One customers, our proposed Gross Margins appear to be sufficient to cover retail business costs for serving Group Two customers. Furthermore, as Retailers have pricing freedom in respect of Group Three customers, we consider that our proposed REC price caps are consistent with an efficient Retailer operating in the market, serving some or all customer segments.

Accordingly we do not consider there to be a rationale to change the current Gross Margins (8% for water and 10% for wastewater) set out in the REC (absent 0.49% in respect of elevated bad debt costs in 2023-24). The Group Two protections are intended to act as a backstop protection and therefore we do not consider it necessary for them to strictly reflect efficient costs. We also note that Retailers' ability to price up to the Gross Margin caps is constrained to some extent given the competitive constraints in this part of the market.

Margins for customers on the border of Group One and Group Two

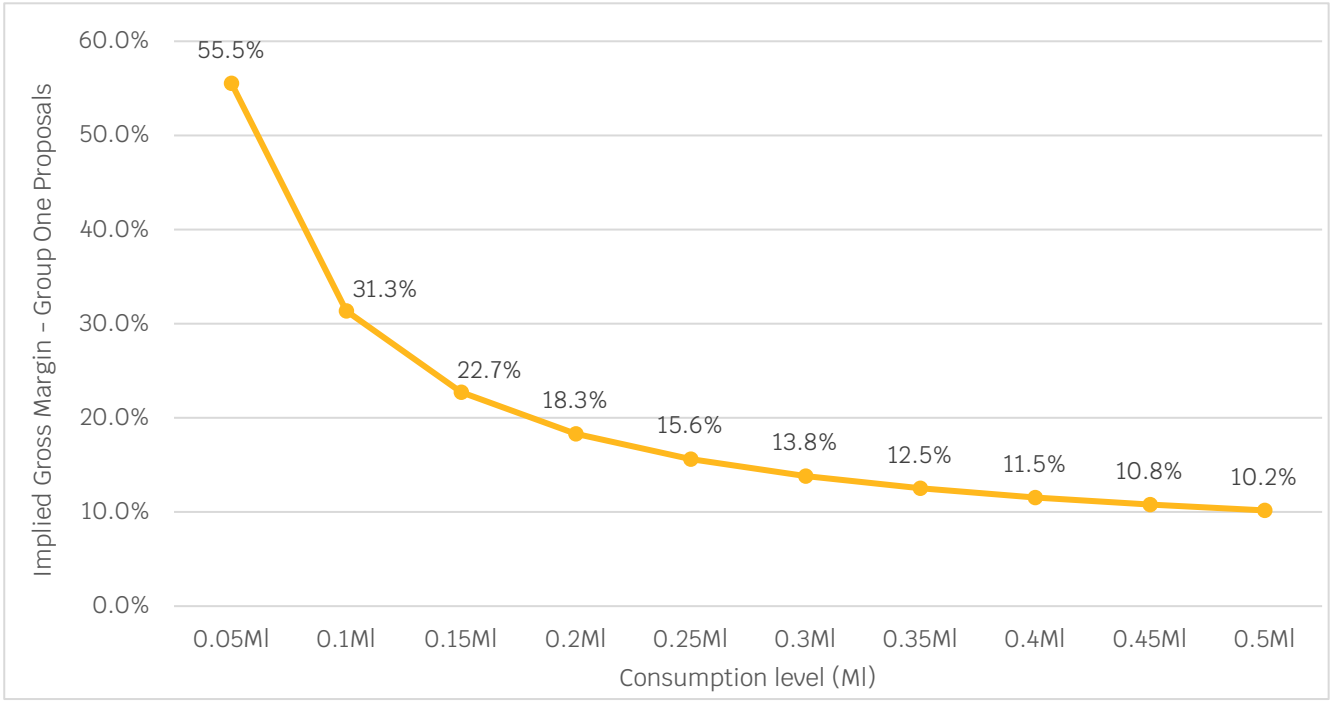
In addition to the analysis set out above we have sought to understand how our proposals affect customers whose consumption is near 0.5Ml meaning they are close to the boundary between Group One and Group Two protections. In particular we are interested in understanding whether a Group One customer near the boundary (e.g. consuming 0.49Ml per

annum) would see significant price impacts were they to increase consumption in a particular year and be subject to the Group Two protections or vice versa.

To understand the impacts on customers we have analysed how Group One price protections vary as a customer's consumption increases. To compare this to the Group Two allowances we have translated the relative (proposed) Group One price protection at each consumption level into an implied Gross Margin. We have assumed a notional wholesale charge using Wholesaler 2022-23 charging information against the assumed consumption level and calculated a weighted average Gross Margin across the industry. Note that we have simplified this analysis by looking solely at customers that take both water and wastewater services and are metered.

The below chart plots the findings of our analysis and shows how our proposals for Group One vary at different consumption levels:

Figure 4 – Implied Group One Gross Margin at each consumption level



Source: Ofwat calculations, based on our proposals for revisions to REC price caps for Customer Group One

Owing to the fixed element within the proposed allowance for Group One customers (ie. the ACTS and meter read cost), Gross Margins fall as consumption (and therefore the wholesale charge) increases. When approaching the boundary of the Group One and Group Two margins we see implied Gross Margins fall to just over 10% with an implied Gross Margin of 10.2% for a

0.5Ml customers. This compares to a current and proposed allowance for 0.5Ml customers under the Group Two protections of 8% for water and 10% for wastewater[42].

We note that our analysis implies the (proposed) Group One protections allow for a slightly higher allowance for a 0.5Ml customer (at the 0.5Ml consumption boundary) than the current Group Two margins. Our analysis does indicate that this issue is isolated to the smallest Group Two customers and largest Group One customers. We note that although our proposed Group One margins for customers near 0.5Ml are likely to be higher level than Group Two protections the scale of the difference does not appear to be material. This is on the basis of information provided by Retailers in response to our 2020-21 State of the Market RFI which indicates that only around 30,000 customers (less than 3% of the market) consume between 0.4Ml and 0.5Ml annually.

Given the analysis presented above and the fact this is likely in practice to only affects a small subset of customers we do not consider this to be a material issue. **We therefore propose to retain the current threshold for Group Two protections at 0.5Ml**.

[42] Ignoring the current 0.49% uplift in respect of elevated levels of customer bad debt costs

5. Assessment of regional competitive pressure

In response to our December consultation some Retailers have argued that current REC price caps give Retailers insufficient 'headroom' within which they may make offers to attract customer switching and within which competitive activity, rivalry and effective competition may develop. Some Retailers have called on Ofwat to relax or remove price protections in order to provide an increased incentive for business customers to engage in the market.

Everflow for example went on to argue that there is, in its view, some evidence to suggest that higher margins or headroom would indeed encourage customer switching. Everflow noted that the current REC price caps for Group One customers differ between wholesale areas, meaning the margin available to Retailers may also differ. Everflow, while acknowledging that its analysis was not intended to be a detailed assessment and that factors other than price can influence switching, remarked that the level of switching is lower in regions where the available discount for customers is lower, and said that in its view "there is broad alignment between the market share Everflow has been able to achieve in each wholesale region, and the available margin in each of these areas."

To test this hypothesis, with a view to understanding if, and where relevant, the extent to which higher levels of REC price cap allowance for Group One customers could lead to an increase in customer engagement, we have examined how regional switching rates vary compared to the size of the default tariff. As we set out in §4.2 of our main consultation, current REC price cap allowances for Group One customers vary significantly across wholesale regions. However we do not consider the Retail costs of serving these customers are likely to vary to the same extent. On this basis we may assume there is currently a greater level of 'headroom' (ie. maximum price less cost to serve) in wholesaler regions with higher retail price cap allowances whereby – all other things equal - Retailers are able to offer customers higher discounts compared to areas with lower retail price cap allowances. It therefore follows that we could expect – all other things equal - wholesaler regions with higher retail price cap allowances to be associated with higher levels of engagement and switching relative to wholesale regions with lower retail price cap allowances.

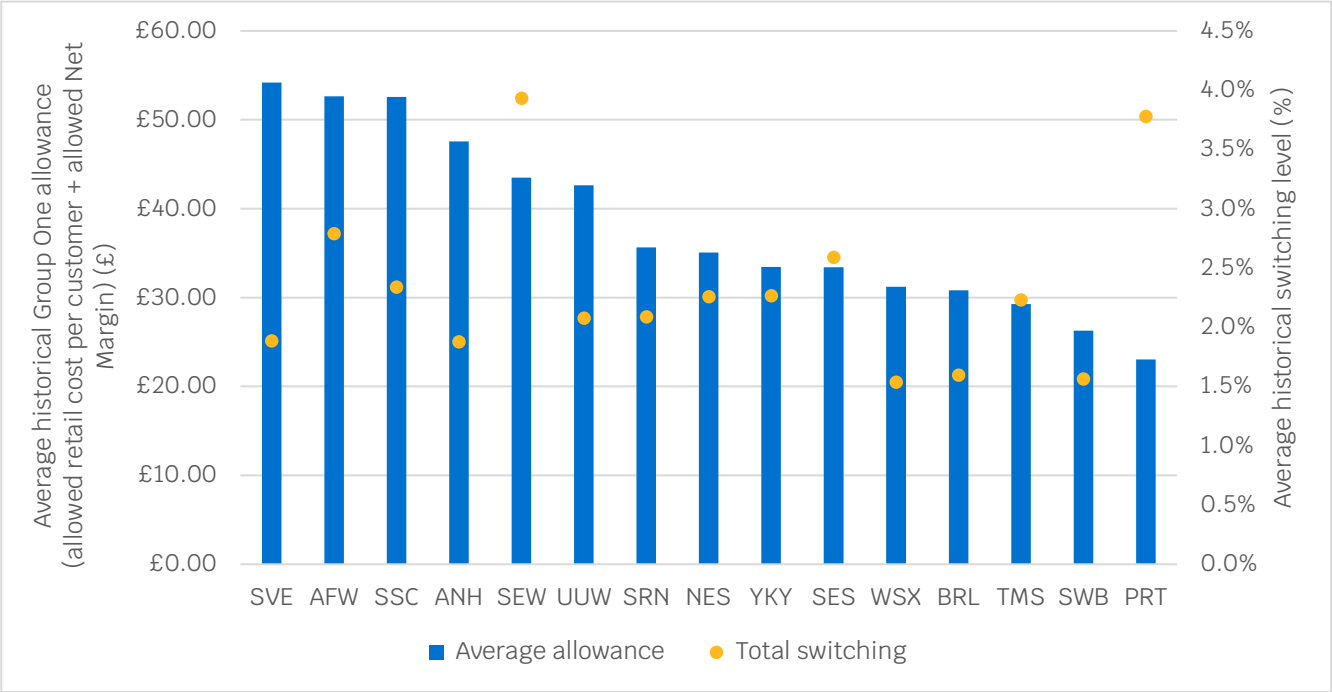
We have therefore analysed the extent to which we see a positive correlation between the level of retail price cap allowance in a wholesaler region and the level of switching. Our analysis is based on MOSL data for Group One customer switching activity[43] for each of the four years since market opening[44] and the calculation of an estimated maximum price cap allowance for each wholesaler region, based on a notional wholesale charge for each region. Given data limitations we have conducted this analysis separately for water and wastewater supply points (SPIDs) rather than at the customer level. Figures 5.1 and 5.2 plot the Group

[43] We recognise switching is not the sole indicator of market engagement, but we do consider it a good proxy for our analysis here and therefore have based our analysis on this metric.
[44] I.e. 2017-18 to 2020-21

One retail price cap allowance against switching rates averaged over the four years 2017-18 to 2020-21, for water and wastewater customers respectively.

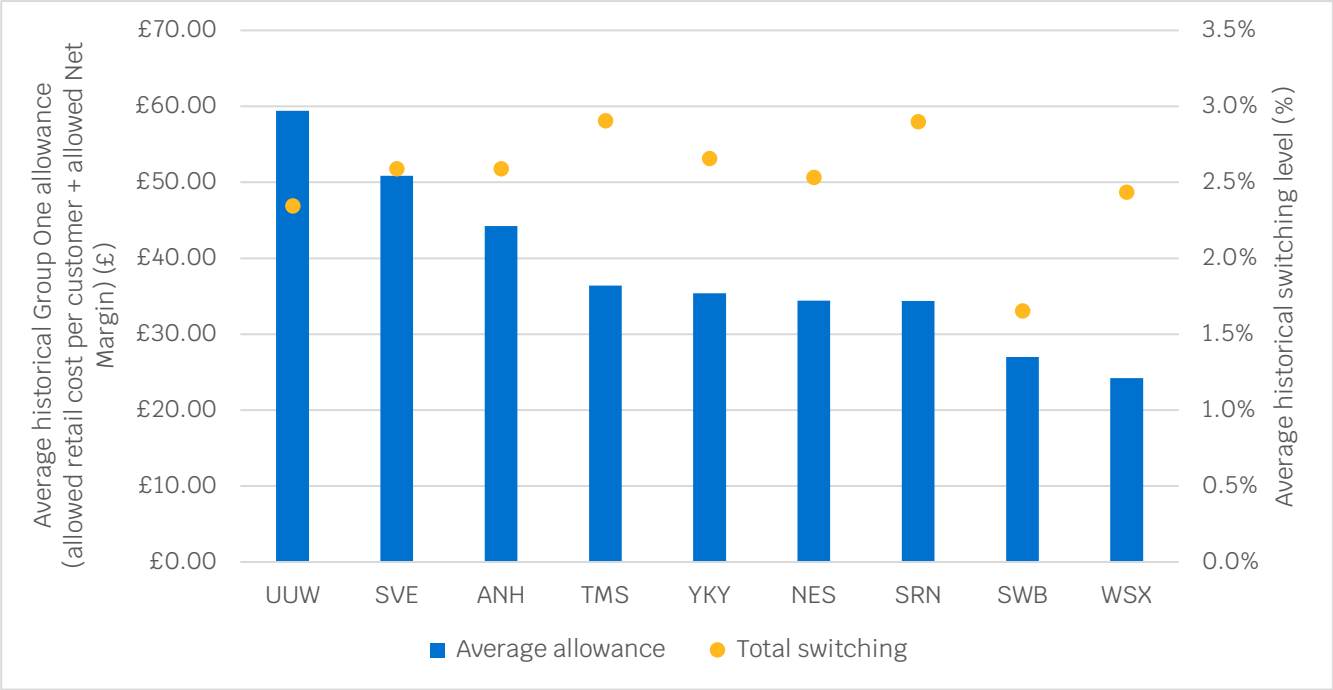
Our plots provide little indication that higher retail price cap allowances (ie. higher margins, all other things equal) since market opening are associated with higher switching levels. In fact we see one of the highest switching rates of water SPIDs in the Portsmouth Water area which has one of the lowest average retail price cap allowances over the period since market opening. Our analysis does not support the hypothesis that increasing Group One margins, for example to some level that is materially higher than efficient costs or which represent some form of 'backstop' tariff, would necessarily stimulate competition for Group One customers given market conditions that have prevailed since market opening.

Figure 5.1 – Historical allowance vs switching rates for Group One water customers



Source: Ofwat calculations of an average Group One REC allowance, MOSL switching data

Figure 5.2 – Historical allowance vs switching rates for Group One wastewater customers



Source: Ofwat calculations of an average Group One REC allowance, MOSL switching data

6. Consistency of proposals with Ofwat duties

Section 2.2 of the main document set out our statutory duties and objectives for our current review of REC protections and explained that in putting forward proposals for revisions to REC protections we would need to have regard to these duties as well as a number of secondary duties that require us to have regard to the principles of best regulatory practice. We explain here our consideration of how our principal proposals concerning revisions to the REC meet our duties, as follows:

1) To protect the interests of consumers, wherever appropriate by promoting effective competition

   The Retail Exit Code (REC) provides price and non-price protections only for eligible business customers who have not engaged with the market ie. who have not switched to a new Retailer or re-negotiated a deal with their existing Retailer. We are proposing to retain price protections for customer Groups One and Two in the form of explicit price caps, and to retain the current set of non-price protections.

   We consider that this protects the interests of existing and future consumers, where such consumers may fall to customer Groups One and Two, since competition by itself is not yet sufficient to provide sufficient restraints on Retailer pricing activity. To this extent we consider we are meeting our primary statutory duty to protect the interests of consumers, wherever appropriate by promoting effective competition.

   We also consider that our proposals are consistent with our duties and objectives for the REC review in that our proposals aim to support a sustainable market where efficient and productive Retailers can earn a fair and sustainable return.

2) To simplify the REC

   Our proposals aim at simplifying the set of REC price caps applying to Group One customers, significantly reducing the number of individually applicable price caps.

   We consider our proposals here are in accordance with the SPS to explore whether changes to business retail market rules can deliver improvements for customers, as simplification here aids customer (and Retailer) understanding and application of the applicable REC price caps. In turn we consider this should promote engagement and activity in the market.

3) To set REC price caps for customer Group One at a level that reflect efficient retailer costs

Our proposals for revised levels for REC price caps for customer Group One aim to align allowances for retail business costs against those an efficient Retailer may incur in serving such customers. We have therefore in assessing such costs:

- excluded certain costs (such as exceptional costs and financial penalties made by Retailers for poor performance under industry rules) from Retailer reported data.
- ensured the price caps reflect a reasonable expectation of efficient forward looking costs. That is, we have set an allowance for Retailer retail business Running costs with reference to the more efficient Retailers in the market rather than at the average level.
- set an appropriate Net Margin. That is, we have set an allowed Net Margin in respect of the REC price caps for customer Group One.

Our aim here is to ensure that revised price caps reflect costs that an efficient Retailer would likely incur in serving Group One customers, including in terms of an overall return (Net Margin). We consider that our proposals here, since they aim to ensure that customers do not face maximum price caps higher than they need to be to enable efficient Retailers to operate in the market, meet our primary duty to protect the interests of existing and future consumers.

We also consider that our proposals meet our secondary duties to be proportionate and targeted, since our approach aims to constrain maximum prices only to the degree necessary to protect consumers, and is targeted at the customer segment (customer Group One) where such protections are most warranted.

4) To set REC price caps for Customer Group Two

We are proposing to set maximum price caps for Group Two customers, set by applying Gross Margins (8% for water, 10% for wastewater) on wholesale charges paid.

We consider our proposals here aim to meet our primary duty to further the consumer objective to protect the interests of existing and future consumers, wherever appropriate by promoting effective competition. This is because our proposals for Group Two customers aim to strike a balance between protecting customers in price terms, with a looser proposed REC price cap compared to our proposals for Group One customers, against our aim to allow price determination through competitive forces and enable the development of effective competition.

5) To set glide paths.

We are proposing to limit the effect of our proposals on a year on year basis by constraining the movement in REC price caps for Group One customers.

We consider that our proposals here meet our primary statutory duty to protect the interests of existing and future consumers, because our proposals aim to limit large and/or unexpected price movements for some Group One customers.

More generally, we have considered our duties to be transparent and accountable through the process that we have followed and intend to follow, and that we have acted in accordance with the SPS to work in collaboration with wider stakeholders. We have engaged with stakeholders throughout our review process, including consultation on the data set we collected from Retailers to inform our review. We are consulting on our proposals and, following publication of our consultation, plan an open webinar for interested parties to seek further understanding and clarification. We are also actively seeking and pursuing further dialogue with Retailers as well as consumer groups.