Supplementary response to Ofwat's call for evidence – Retail cost modelling

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1. Executive Summary

Understanding the distributional impact of potential household retail markets, especially the impact on vulnerable customers, is of paramount importance in assessing the overall benefits and costs of the proposal. In order to explore this potential impact, we have collaborated with a number of companies and Water UK to produce a report which is being separately submitted to Ofwat[1] on the distributional impacts of retail competition under a number of potential market scenarios.

In addition, we have also undertaken some modelling to understand how the retail costs for different household (HH) customer types vary for the Anglian Water customer base. This note summarises this work. This analysis shows that when stratifying household customers by their payment type, the underlying retail costs vary significantly.

These variances could be significant if introduction of household retail competition results in the unwinding of the inherent cross subsidies which currently exist. This could result in potential increases in bill levels for vulnerable customers. We suggest that this issue requires further consideration.

2. Modelling approach

Currently household retail charges are not differentiated by payment type. There is however, evidence that the retail costs of serving different customers who pay their bills differently can vary significantly. The most recent Final Determination calculated household retail revenue allowances based upon an average cost to serve that smoothed total retail expenditure across the customer base i.e. it did not take account differences in the cost to serve between different customer groups.

The objective of our modelling was to understand and estimate the potential impact on end-user customer tariffs that accounted for different payment types and their associated retail costs.

Our starting assumption is that, in a competitive market, HH tariffs would more likely reflect the actual cost to serve for each customer group (i.e. competition would discover and unwind the existing cross subsidies). We have therefore sought to calculate tariffs that take into account differences in cost to serve between different customer groups.

The parameters we have used are:

- The customer's payment methods (impact on costs to payment handling);

[1] ICS Consulting (2016) Distributional impact of Household Retail Competition – Report to Water UK and participating companies.

- Whether customers are metered or unmetered (impact on customer service costs); and
- Whether the customers are in debt (impact on debt management and doubtful debt costs).

Step 1 – Average retail cost to serve per HH (ACTS)

The starting point for our analysis is the 2015-16 Household retail costs allowed revenue by customer class as allowed within the Final Determination[2].

These values allow for differences in costs between metered and unmetered customers as well as an economies of scope factor where both water and sewerage services are provided:

Table one: 2015-16 Household retail costs allowed revenue by customer class (£/customer)

Customer type	Final Determination (£)
Unmetered water only customer	22.21
Unmetered wastewater only customer	22.21
Unmetered water and wastewater customer	28.88
Metered water only customer	25.01
Metered wastewater only customer	25.76
Metered water and wastewater customer	32.82

Step 2 –Disaggregation of total operating costs reflected in Final Determination Retail Allowance

The values contained in table one reflect a bundle of operating costs which were subsequently allocated across the number of unique customers to derive the Average Cost To Serve (ACTS) value per household. The total value of these costs reflected in the 2015-16 ACTS was £65.9m.

The next step of our modelling is to allocate these costs proportionally across different retail cost categories as defined in the Regulatory Accounting Guidelines. This allocation is informed by the actual costs reporting the regulatory accounts for the 2012-13 report year under these categories and is captured in table two below:

[2] Table AA2.2 (2014) Final Determination

Table two: Retail operating expenditure allocated by expenditure type:

	Anglian % allocation
Customer services	23.6%
Debt management	10.6%
Doubtful debts	46.8%
Other operating expenditure	18.6%
Local authority rates	0.3%
Total	100%

This shows that the highest proportion of retail costs are those associated with doubtful debts.

This analysis allows us to calculate an ACTS value[3] per each unique customer for each of the components. Using this disaggregated operating cost data we can calculate the contribution of each element of operating costs to the average cost to serve as shown in table three. For example £9.29 of the unmetered ACTS is attributed to doubtful debt costs.

Table three: Average cost to serve disaggregated by expenditure type:

Costs	ACTS value (£/customer)
Customer services	£4.69
Debt management	£2.10
Doubtful debts	£9.29
Other operating expenditure	£3.70
Local authority rates	£0.06
Total	£19.84

[3] Table three uses the single service unmeasured ACTS for this analysis.

Step 3 – Allocation of costs to different Customer groups

The next step of our analysis seeks to understand how the proportion of retail costs associated with particular customer groups vary.

In order to allocate costs accurately between different customers groups with different cost to serve we have segmented the different customer classes by the following characteristics:

- The customers' current payment method
    - Paid by Direct Debit;
    - Paid on customer's behalf by Department of Work and Pensions (DWP);
    - Stub or booklet ("over the counter") payment
- Whether the customer is metered or unmetered; and
- Whether the customer is in debt or not (for stub customers).

Ex-ante we know that the associated customer service costs, debt management and doubtful debt costs will vary by these customer types. For example there are additional costs associated with chasing payment from customers in debt relative to customers who pay on time.

For these three cost elements which vary between these different customers tariff groups we have carried out a detailed analysis to calculate the contribution of each of these customers groups to the overall specific operating cost element. This included either directly allocating costs to specific customer groups or allocations of costs based upon appropriate cost drivers. Table four provides the results:

Table four: Distribution of customer numbers and costs between the different tariff groups:

Tariff groups	% of customers	Customer Services % of costs	Debt management % of costs	Doubtful debts % of costs
Direct Debit - Measured	55.9%	52.3%	0.3%	0.2%
Direct Debit- Unmeasured	15.3%	14.3%	0.1%	0.1%
DWP - Measured	0.6%	0.5%	0.6%	8.6%
DWP- Unmeasured	0.2%	0.2%	0.3%	4.1%
STUB- Measured (no debt)	13.3%	15.1%	0.0%	0.0%
STUB- Measured (in debt)	5.3%	6.0%	75.9%	50.7%
STUB- Unmeasured (in debt)	1.3%	1.5%	20.1%	27.9%
STUB- Unmeasured (no debt)	0.5%	0.5%	0.0%	0.0%
BOOKLET- Measured	5.0%	6.3%	1.9%	5.9%
BOOKLET- Unmeasured	2.5%	3.2%	0.8%	2.6%
	100%	100%	100%	100%

This shows that in general, customer service costs are proportional to the number of customers in each tariff group.

However, the results from this allocation exercise show some significant outliers. For example, whilst Stub customers who are on meter and are currently in debt represent only 5% of the customer base, they represent 76% and 51% of the respective total debt management and doubtful debt costs.

Step 4 – Calculate actual cost to service by different Customer groups

The next step of the analysis is to reflect these cost variances in to the actual cost to serve for each customer group.

For example as "Stub measured (in debt)" have 9.648 times[4] greater level of doubtful debt costs compared to the average customer, the allocation of doubtful debt costs should be £89.60 (£9.29*9.648) each for these customers.

Another example is Direct Debit- Measured customers. These represent 55.9% of the customer base, but only 0.2% of doubtful debt costs. So these customers should therefore only be allocated doubtful debt costs of £0.03 (0.2%/55.9%*£9.29) per customer.

Under this analysis it is worth noting that the reallocation of costs between customer groups implies that the company would still recover the same aggregate level of cost for each cost element. But the new values calculated now reflect each customer group's actual cost to serve, rather than a smoothed average across the HH customer base.

Table five shows the recalculated actual cost to serve for each tariff group. We highlight the differences to the PR14 Final Determination average allowances in brackets.

[4] Calculated by dividing the total proportion of the relevant cost category by the proportion of total customers in the specific group. For example for doubtful debt costs for Stub measured customers this is 50.7% of the debt management costs divided by 5.3% of the total HH customer base to give a ratio of 9.648.

Table five – Variance from average expenditure split by customer payment group

£/Customer	Customer service		Debt management		Doubtful Debt		Total costs	
	Adjusted ACTS	Variance to FD	Adjusted ACTS	Variance to FD	Adjusted ACTS	Variance to FD	Adjusted ACTS	Variance to FD
Direct Debit - Measured	4.38	(-0.31)	0.01	(-2.09)	0.03	(-9.26)	8.04	(-11.64)
Direct Debit - Unmeasured	4.38	(-0.31)	0.01	(-2.09)	0.07	(-9.22)	8.08	(-11.60)
DWP - Measured	4.38	(-0.31)	2.36	(+0.26)	140.07	(+130.78)	150.42	(+130.74)
DWP- Unmeasured	4.38	(-0.31)	2.59	(+0.49)	162.09	(+152.8)	172.67	(+152.99)
STUB- Measured (no debt)	5.31	(+0.62)	0	(-2.10)	0	(-9.29)	8.92	(-10.76)
STUB- Measured (in debt)	5.31	(+0.62)	30.28	(+28.18)	89.6	(+80.31)	128.8	(+109.12)
STUB- Unmeasured (in debt)	5.31	(+0.62)	31.35	(+29.25)	192.89	(+183.6)	233.16	(+213.48)
STUB- Unmeasured (no debt)	5.31	(+0.62)	0	(-2.10)	0	(-9.29)	8.92	(-10.76)
BOOKLET- Measured	5.89	(+1.20)	0.8	(-1.30)	10.84	(+1.55)	21.14	(+1.46)
BOOKLET- Unmeasured	5.89	(+1.20)	0.63	(-1.47)	9.43	(+0.14)	19.55	(-0.13)

This table shows that the primary driver of variance to the average assumed within the Final Determination is the reflection of doubtful debt costs associated with in-debt customers.

Step 5 – Calculate potential bill impacts by different Customer groups

The final step is to calculate the final end customer bills based on the revised retail costs.

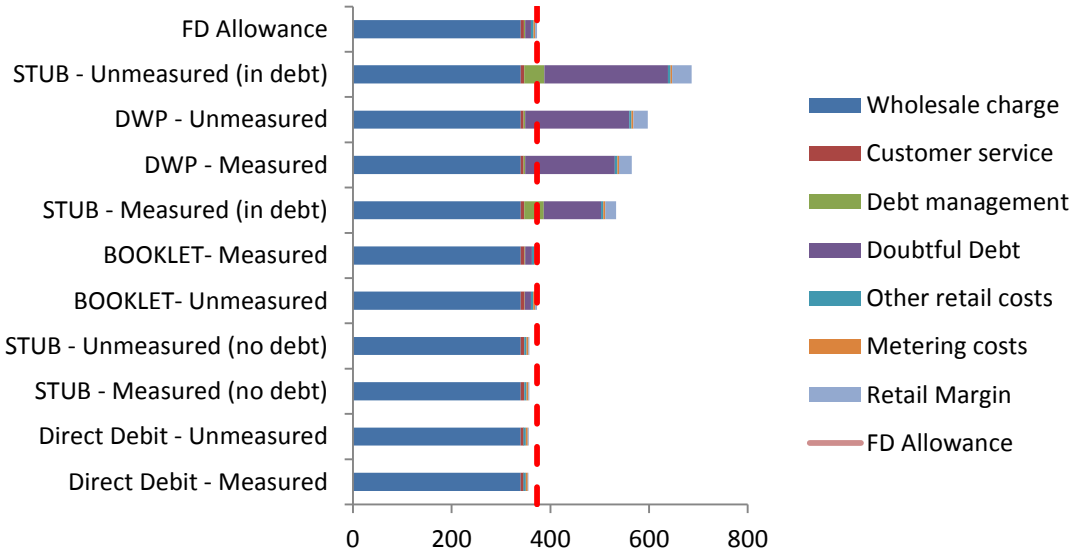
The final bill to customers includes wholesale costs, retail costs and retail margin. For Anglian Water the average combined bill allowance from the Final determination for 2015-16 was £372. This consists of wholesale allowed revenue for a dual service customer of £340 and average retail allowed revenue per customer of £32. The wholesale part of the final bill is unaffected by the reallocation of retail costs to between each customers group.

Based upon the change in retail costs outlined in the previous sections we have re-estimated the revised average combined bill by each customer group. The table below captures the revised retail costs from table five plus the revised retail margin for each customer group and compares this to the Final Determination average bill of £372.

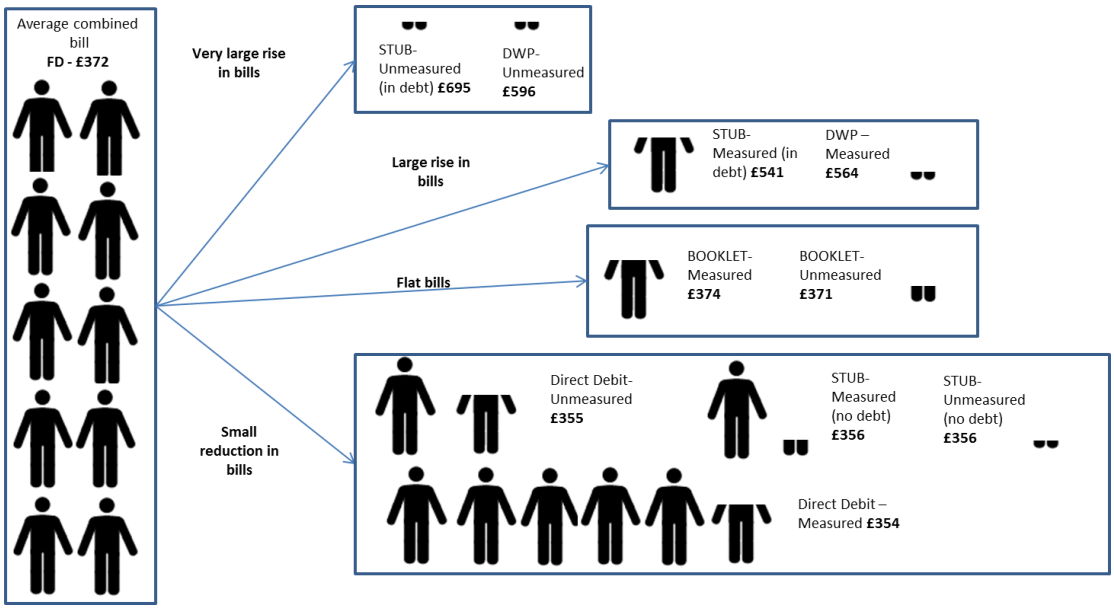
Table six: Impact of reflecting actual retail cost to serve compared to Final Determination, by customer payment group

Comparison to Final Determination	% of customers	Average combined bill (£)	£ change compared to FD	% change compared to FD
Direct Debit - Measured	55.9%	354.35	-17.08	-5%
Direct Debit- Unmeasured	15.3%	354.41	-17.02	-5%
DWP - Measured	0.6%	564.06	191.86	52%
DWP- Unmeasured	0.2%	596.78	224.52	60%
STUB- Measured (no debt)	13.3%	355.51	-15.78	-4%
STUB- Measured (in debt)	5.3%	541.27	160.14	45%
STUB- Unmeasured (in debt)	1.3%	694.76	313.29	87%
STUB- Unmeasured (no debt)	0.5%	355.51	-15.78	-4%
BOOKLET- Measured	5.0%	373.62	2.15	0%
BOOKLET- Unmeasured	2.5%	371.23	-0.18	0%
	100%	372.06		

The following graph shows the contribution of each retail cost element to the change in average combined bill ordered by the largest bill impact:



Finally, the info-graphic below shows the proportion of customers who would experience a small reduction, minimal change, large rise or very large rise in their bill in the event that their actual retail cost to serve was reflected in their bill. 1 person represents 10% of the Anglian customer base. So for example all of the direct debit customers on a water meter (55.9% of the customer base) would see a modest reduction of £17 (5%) in their bill, whereas a bill reflecting the actual retail cost to serve for an indebted unmeasured customer who is a stub payer would increase dramatically by £313 (87%).



3. Conclusions

The analysis contained in this note outlines the potential bill impacts for different HH customers by payment type if actual retail costs to serve are reflected in their bills. This shows that in the event that customers' bills reflected the actual retail cost to serve in relation to customer service, debt management and doubtful debt costs, some customers would see their bills rise dramatically. This impact would be particularly acute for some specific vulnerable groups such as those on lower incomes and those who either pay their bills through the DWP or are currently in-debt.

We consider this analysis is an important consideration for policy makers considering the likely impacts of the introduction of retail HH competition. In particular, if either being debt- free is a pre-requisite to being able to participate in the market, or the presence of a retail market creates (as would be expected) pressure to unwind the inherent cross subsidies which currently exist in the averaging of retail costs to serve.