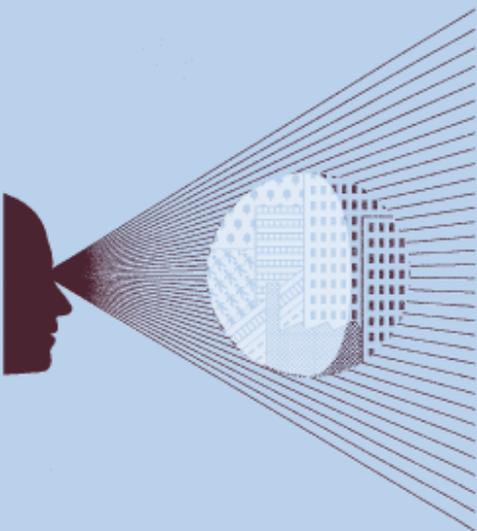


The potential impact of 'no exit' from the non-household retail competitive market

Prepared for
Water Industry Commission for Scotland

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1 Introduction

The government's water White Paper sets out proposals to introduce retail competition for non-household customers in England.¹ It also commits to putting in place arrangements for a seamless cross-border retail market for non-household customers in England and Scotland. Unlike the situation in Scotland, the Draft Water Bill envisages that incumbents will have to retain an integrated licence, so precluding them from exiting the competitive retail market even if they make losses in that market.²

Oxera understands that over 30% of non-household water customers in Scotland have now tendered their retail water and sewerage services. Public sector and multi-site customers have been at the forefront of activity in this regard and would be expected to be equally so when the non-household retail competitive market opens in England.³

The Water Industry Commission for Scotland (WICS) asked Oxera to model the potential financial impact on the vertically integrated companies in England arising from a loss of public sector and multi-site customers—ie, the model assumes that such a loss occurs. In doing this, WICS is particularly interested in considering whether the financial impact is sufficiently material as to encourage companies to behave in a way that limits the potential loss in customers. This could be a concern if this involved incumbent retailers limiting the scope for new entrants to participate, by aggressively protecting market share. Such an outcome could then limit the successful integration of the retail market into the non-household retail market in Scotland.

In completing its analysis, Oxera has considered the impact on the providers of debt and equity capital if the non-household retail side of the business loses customers that are relatively low cost to serve—ie, customers with low bad debt costs, etc.

It is worth noting upfront that this is a high-level exploratory analysis that is intended to draw out the key issues for discussion. It is not intended to provide an assessment of how retail competition might develop in England, or how a cross-border market with Scotland might function.

The report is structured as follows:

- section 2 provides context to the analysis;
- section 3 summarises the main assumptions that underpin the analysis;
- section 4 gives an overview of the results from the model;
- section 5 discusses the main implications.

The appendices provide more detail on the analysis (Appendix 1), the steps undertaken in the analysis (Appendices 2 to 5), some of the main assumptions that underpin it (Appendices 6 to 9), and the results based on the allocation of costs in Scotland (Appendix 10).

2 Context

Oxera examines the downside scenario of the vertically integrated company losing all of its public sector and multi-site customers through a competitive tender in the first year in which

¹ Defra (2011), 'Water for Life', December.

² Defra (2012), 'Draft Water Bill', July.

³ The Draft Water Bill has set an indicative date of April 2017 for the opening of the English market.

the non-household retail market opens. Oxera's understanding is that the operational leverage of the retail business is such that revenue losses are unlikely to be matched by cost reductions, particularly in the short run, owing to the following factors:

- the fixed costs associated with IT systems and other overheads—ie, rent, rates and other types of fixed cost;
- transaction costs can be reduced but not necessarily immediately or 'one for one'—ie, it takes time to reduce the number of key account staff, etc;
- in general, tariffs do not reflect the bad debt costs of individual customers or particular market segments—ie, they may be averaged across all customers and not reflect the underlying bad debt risk of market segments or individual types of customer.

As such, companies may be expected to incur losses when they lose market share. The losses may be particularly acute where public sector customers are lost, as these carry little, if any, bad debt risk.

The analysis is based on published information from the company regulatory accounts in 2011/12. Where information was unavailable for the companies in this year, alternative information sources were used—as discussed in Appendices 1 to 5. The next section considers the main assumptions that underpin the assessment.

3 Assumptions

3.1 Main assumptions

The modelling is based on the following assumptions:

- 40% of competitive retail revenues are related to public sector and multi-site customers, as in Scotland;
- all of these customers are lost to competitors;
- the proportion of transaction unit operating costs that are variable in the short term is 20%;
- public sector and multi-site customers have no bad debt costs attached to them.

The rationale and the calculations underpinning these assumptions are set out in Appendix 6. In the absence of actual information on these parameters, and in order to keep the analysis simple, the assumptions are applied uniformly across all companies in the industry.

3.2 Other assumptions

For the purposes of the scenario modelling, retail and wholesale revenues are calculated using the traditional building-block approach.⁴ The costs in the building blocks are based on those costs reported in the regulatory accounts for each company (see Appendix 3), with the exception of additional operating costs related to retail competition, which are based on those costs incurred in Scotland.⁵

Oxera assumes that, in the absence of a loss of market share, companies earn the same return on capital as determined by Ofwat at PR09.⁶ Oxera does, however, allocate returns between the wholesale and retail business. The financial return attributable to retail is based on the work undertaken by WICS prior to the opening of the non-household retail market in April 2008—essentially, the cost of financing the working capital requirement of the non-household retail business unit. The return was calculated in this way in Scotland given that retail is an asset-light activity—ie, it has no regulatory capital value (RCV).⁷ Working capital includes the prepayment of wholesale charges; however, Oxera recognises that Ofwat is yet to make a decision on the terms of payment between wholesale and retail.

It is also assumed that all of the retail activities that are reported in the retail cost tables—as set out in the company's regulatory accounts in 2011/12⁸—are allocated to the non-household retail business unit. Again, Oxera recognises that Ofwat has yet to make a decision about the allocation of activities and costs between wholesale and retail,⁹ and a

⁴ Regulators use the building-block approach to estimate the revenue requirement for regulated companies. It involves summing the estimated costs for the company, and is used to ensure that revenue is sufficient to cover the efficient costs of the regulated companies.

⁵ The calculations are set out in Appendix 8. The costs used in this analysis are indicative for modelling purposes only. Any cost assessment for the price review in 2014 (PR14) would require a more extensive analysis.

⁶ Ofwat (2009), 'Future water and sewerage charges: final determinations', p. 128 for the WASCs; p. 135 for the WOCs; and Competition Commission (2010), 'A reference under section 12(3)(a) of the Water Industry Act 1991', p. 66 for Bristol Water.

⁷ The calculation of the cost of capital for retail and the approach used to estimate the financial return are set out in Appendix 7.

⁸ The information is from the table in the regulatory accounts that is equivalent to table 21b in the former June Return.

⁹ Ofwat (2012), 'Consultation on retail controls for the 2014 price review', June.

sensitivity analysis is therefore included based on an allocation of non-household retail operating expenditure (OPEX) as a percentage of total OPEX in Scotland in 2007/08.¹⁰

An alternative for capital maintenance expenditure is also included in the sensitivity analysis—on the basis of the approach used by WICS to estimate capital maintenance expenditure for the non-household retail business unit in Scotland. Appendix 9 gives an overview of the approach used to estimate non-household retail costs—operating and capital maintenance expenditure—based on the allocation of costs from Scotland in 2007/08. The analysis based on the allocation of costs in Scotland is set out in Appendix 10.

The main analysis in this report is based on published information in the regulatory accounts. The next section gives an overview of the results and the potential implications.

¹⁰ The allocation of non-household retail costs in Scotland—as a percentage of total costs—is set out in Appendix 8. Information is used from 2007/08 as this was the year prior to market opening in which Business Stream was separate, but still had 100% share of the market. Its efficiency position in 2007/08 is also likely to be more comparable to that of the companies in England and Wales than to the initial allocation based on costs in 2003/04.

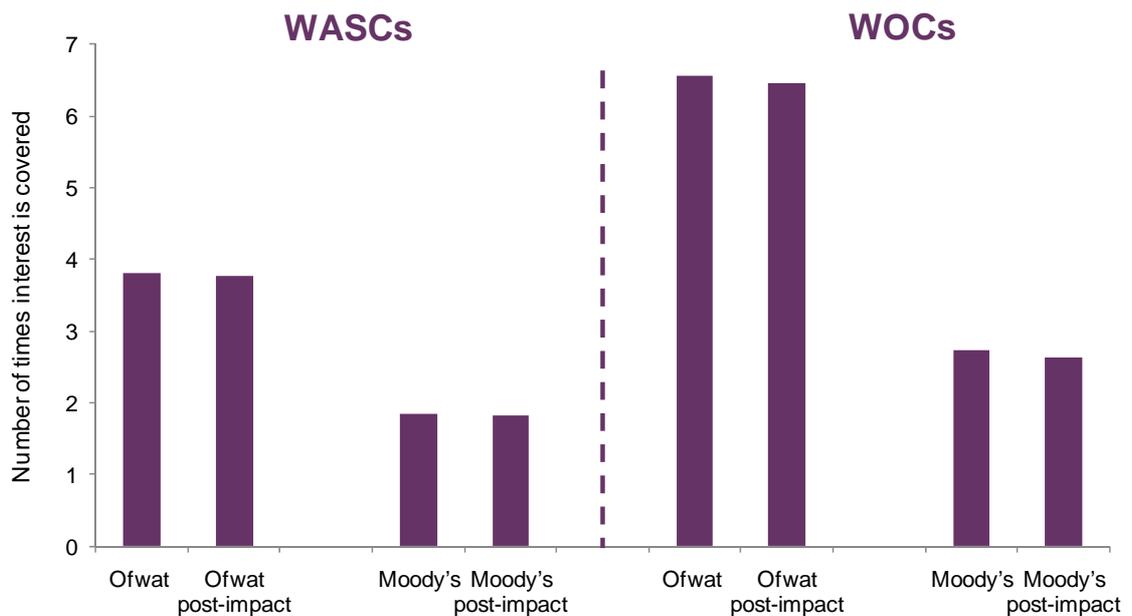
4 Overview of the results and potential implications

Oxera estimates the impact on the cash interest coverage ratios and profit for each vertically integrated company under a scenario of a loss of public sector and multi-site customers in the first year in which the retail market opens.¹¹ Reviewing the impact on these financial metrics provides an assessment of the potential impact on providers of debt (based on cash interest coverage) and equity capital (based on profit) if the non-household retail side of the business loses all its public sector and multi-site customers and is unable to exit from the retail market.

4.1 Potential impact on cash interest coverage ratios

Given that the reduction in non-household retail revenue net of the savings in costs is small in comparison to funds flow from operations (FFO)—the measure of profit used in the cash interest coverage ratios—the initial impact on the cash interest coverage ratios from the loss of public sector and multi-site customers is also small, as is evident from Figure 4.1.

Figure 4.1 Impact on cash interest coverage ratios—number of times interest is covered



Note: 'WASCs', average of the water and sewerage companies; 'WOCs' average of the water-only companies. 'Ofwat', Ofwat cash interest coverage ratio (ie, based on gross interest), as defined in Appendix 5. 'Moody's', Moody's corporation cash interest coverage ratio, also defined in Appendix 5.

Source: Oxera analysis based on financial information reported in the regulatory accounts in 2011/12 and the assumptions set out in Appendices 3 and 4.

This analysis is based on the impact in the short term—the first year of the non-household retail market. The impact may grow over time, as the company has to borrow a greater amount in each year in order to cover both the shortfall in revenue and the additional interest

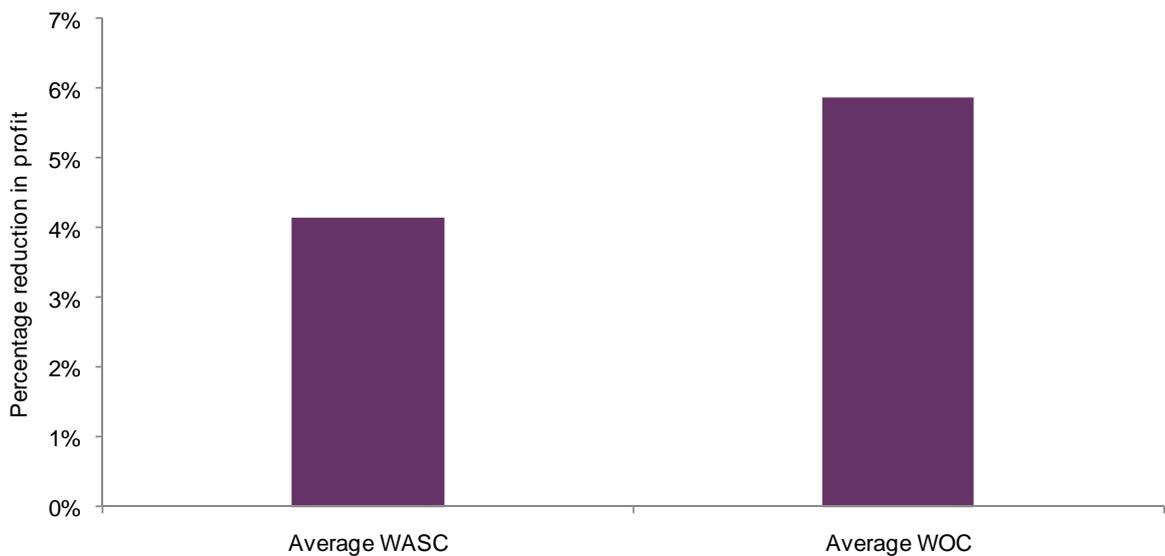
¹¹ Modelled profit is defined as modelled revenue minus the sum of OPEX, additional OPEX, capital maintenance expenditure, net interest payment and taxation. All items of expenditure relate to cash (see Appendix 2).

in each of the previous years. For the purposes of this current analysis, this longer-term impact is not measured.

4.2 Potential impact on profit

Profit is calculated from a simple profit-and-loss analysis, set out in Appendix 2. It refers to the profit available for shareholders—ie, once interest payments to providers of debt capital have been made. Oxera’s analysis suggests that a loss of all public sector and multi-site customers could cut profits of the typical WASC by around 4%. For the typical WOC this increases to 6%, reflecting the relative importance of non-household retail OPEX in comparison to RCV for the WOCs. This impact on profit is evident in Figure 4.2 below.

Figure 4.2 Percentage reduction in profit (%)

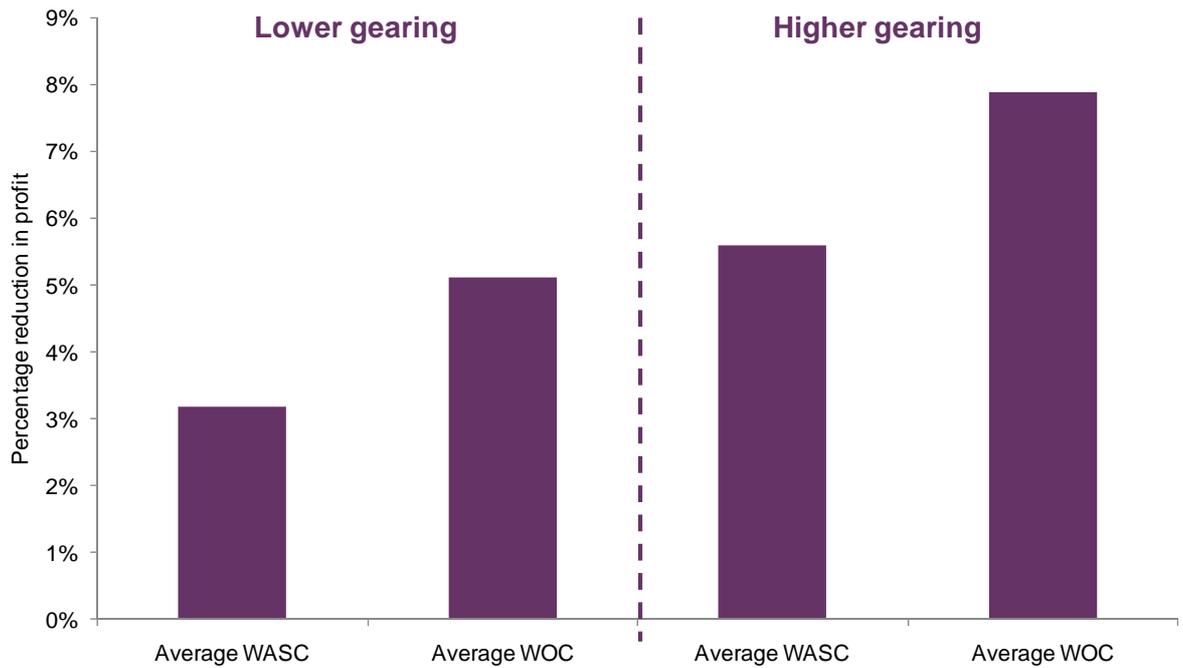


Source: Oxera analysis based on financial information reported in the regulatory accounts in 2011/12, and the assumptions set out in Appendices 2 to 5.

Oxera has further analysed the impact on profit based on the level of gearing (ie, as measured by net debt to RCV).¹² The analysis shows that companies with higher gearing (defined as 80% and above) are more likely to experience a larger proportionate impact on profits on average.

¹² Gearing is measured from the regulatory accounts for the companies and is calculated as net debt—ie, defined as total borrowing minus cash and short-term deposits—divided by the RCV. The RCV is taken from Ofwat (2009), 'Future water and sewerage charges: final determinations', November, pp. 154–60.

Figure 4.3 Percentage reduction in profit according to level of gearing (%)



Source: Oxera analysis is based on financial information reported in the regulatory accounts in 2011/12, and the assumptions set out in Appendices 2 to 5.

Figure 4.4 shows that the impact from a loss of all public sector and multi-site customers is likely to be most material for the highly geared WOCs—ie, the typical highly geared WOC experiences a reduction in pre-competition profit of around 8% on average. The typical highly geared WASC, on the other hand, experiences a reduction in profit of around 5% on average. This is because the highly geared companies have a lower proportion of pre-competition profits on average—ie, as a percentage of revenue—across companies, given that they incur higher cash interest payments.

Appendix 10 shows the impact on profit for the typical WASC and WOC based on the allocation of costs in Scotland. Overall, the analysis shows that, under this scenario, the impact on pre-competition levels of profit is greater, which could reflect differences in the allocation of retail activities and/or costs between England and Scotland.

4.3 Potential impact on company unit costs and competitiveness

Being unable to exit from the non-household retail market could mean that the reduction in profit could affect providers of equity capital over a sustained period. Such an outcome could become self-perpetuating under a scenario of a loss of public sector or multi-sites, as this is likely to lead to an increase in the unit costs of the non-household retail business unit. This is because the operational leverage of the companies is such that, under this scenario, while they would keep most of the non-household retail costs, they could lose a large proportion of their customers or supply points.

An increase in unit costs could mean that the company is unable to offer as competitive a price and service package to new and existing customers as those offered by its competitors. As a result, it could continue to lose its customers and eventually be left with the customers that are the most expensive to serve. Box 4.1 below presents an example of this impact—all numbers are indicative.

Box 4.1 Example of the impact on unit costs

To illustrate the potential impact on unit costs arising from the loss of just the public sector customers—ie, around 30% of the non-household retail market—an example is given below. This assumes that the two companies are identical in respect of:

- non-household retail costs, which are £10m for each company;
- the number of non-household customers, which are 100,000 for each company.

It is also assumed that company A loses all of its public sector customers to company B through a competitive tender; and that company B has the spare capacity to acquire company A's customers—ie, it can acquire these customers without incurring additional fixed costs.

| | Assumptions | Company A | Company B |
|---|-------------|----------------|----------------|
| Opening non-household retail costs | | 10 | 10 |
| Costs allocated to public sector customers (assume 30%) | 3 | | |
| Transaction costs (assume 20%) | | 0.6 | 0.6 |
| Closing non-household retail costs | | 9.4 | 10.6 |
| Opening number of customers | | 100,000 | 100,000 |
| Public sector supply points (assume 30%) | 30,000 | | |
| Closing number of customers | | 70,000 | 130,000 |
| Cost per customer—opening | | £100 | £100 |
| Cost per customer—closing | | £134 | £82 |

Note: The above analysis assumes that the reduction in revenue is the same as the reduction in the number of supply points—ie, 30%. Such a one-to-one correlation is unlikely to apply in practice, however.
Source: Oxera indicative analysis.

The cost per customer for company A increases by around 30%, while the cost per customer for company B reduces by around 20%. As a result, it would be expected that company B could offer deals that are more competitive than those offered by company A.

The analysis is very indicative, in that it is unlikely that a company would be able to acquire an additional 30% of customers and only incur additional transaction costs—ie, it may have to hire additional key account managers or upgrade its billing systems, etc. Nevertheless, the finding—that a company which wins a large proportion of customers that are relatively low cost to serve could benefit from more favourable unit costs than the company that lost the customers—is likely to apply in practice.

5 Potential implications arising from 'no exit'

The analysis shows that a scenario of losing all public sector and multi-site customers, and being unable to exit from the non-household retail market, is likely to have more of an impact on:

- providers of equity than providers of debt;
- smaller and or more highly geared companies.

The analysis shows that the magnitude is small on the cash interest coverage ratios and, on its own, based on the indicative analysis, is unlikely to prejudice the cost, or availability, of debt capital to the industry. However, the analysis does show that the impact on profit is greater and as a result providers of equity capital to the industry—particularly those providing equity to small and or highly geared companies—are likely to be most adversely affected under this scenario.

In most other competitive markets, companies can exit the market when they start losing customers and making losses, or when it appears likely that losses will be incurred in future—in particular, if losses are likely to continue to be incurred for a sustained period of time. Limiting the option to exit from the non-household retail market in this regard may therefore affect equity investors' perception of the risk of investing in the industry.

Finance theory suggests that, given that the risk is specific to the water industry in the UK, investors in the industry could diversify away such risks. As a result, the regulator does not necessarily have to increase the rate of return allowed in price limits. In practice, however, an increase in the risk that investors perceive is likely to raise the cost of equity capital that investors require in order to retain their investment in the industry, or to provide fresh capital to the industry. Equity investors may be unwilling to keep their investment in the industry or to provide fresh capital to the industry when the cost of equity capital that they require increases above the rate of return allowed by the regulator. From this perspective, therefore, the rate of return allowed by the regulator may have to rise to reflect the increase in the cost of equity capital that investors require.

In summary, therefore, the increase in the risk that investors' perceive—related to the possibility of retail losses and being unable to exit from the non-household retail market—may increase the cost of capital required by equity investors and the rate of return allowed by the regulator.

Restricting the option to exit from the non-household retail market may also remove two of the ways in which companies could realise value from non-household retail reform, for example by:

- developing a successful retail operation; or
- selling the non-household retail business unit to another organisation that has a competitive advantage in providing non-household retail services.

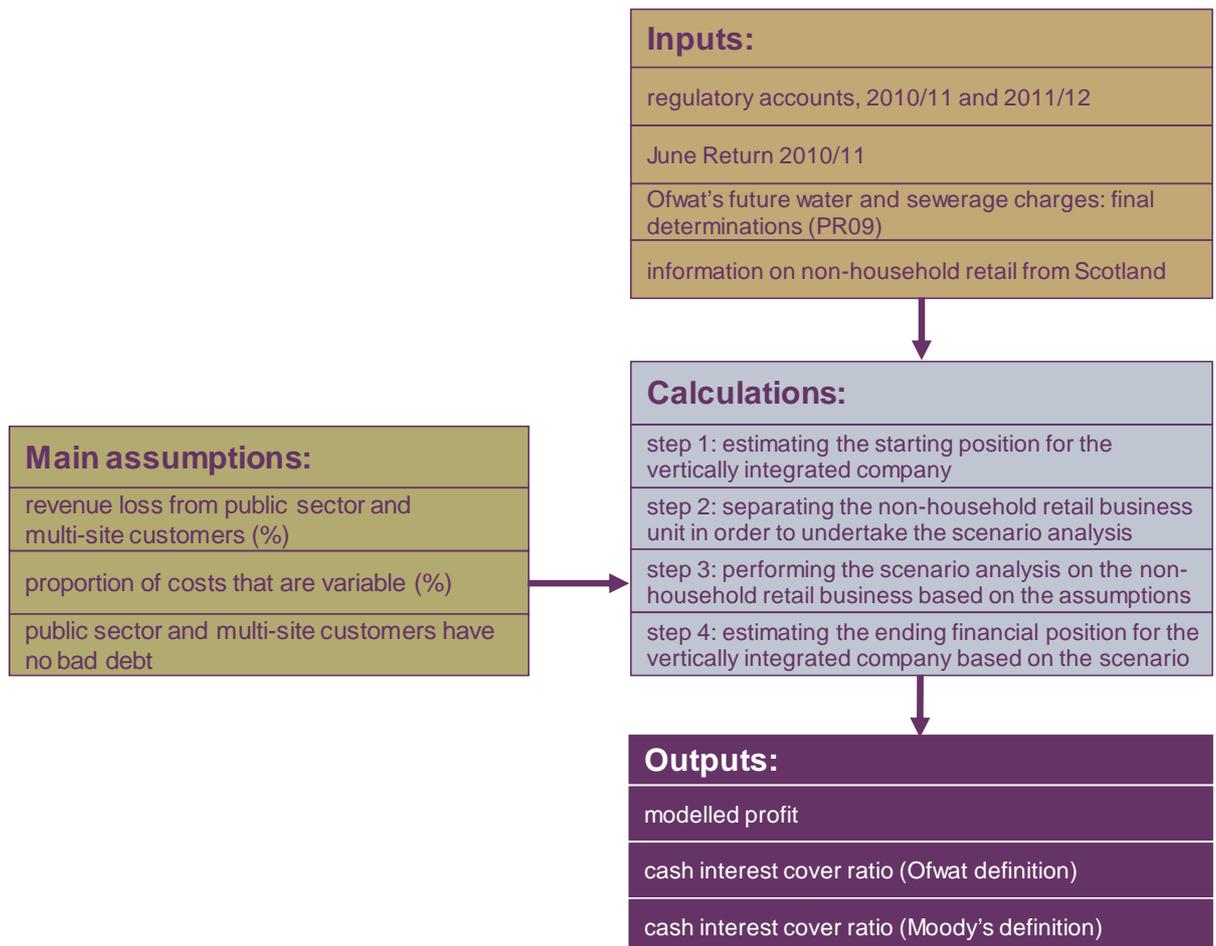
Again, this could influence investors' perception of the overall balance of risk.

There may be ways for companies to 'exit' partially from the non-household retail market—eg, by entering into a joint venture with another company or 'contracting out' non-household retail activities. However, it is likely that the incumbent company will have to retain overall responsibility for providing non-household retail services. As such, the potential risks related to 'no exit' and the prospect of future losses cannot be removed entirely.

A1 Modelling the scenario of a loss in customers: an overview

This appendix gives an overview of the overall approach used in this analysis to model the scenario of a loss of all public sector and multi-site customers.

Figure A1.1 Structure of the model



Source: Oxera.

As indicated in Figure A1.1, the model is made up of four parts, as follows.

- **Inputs:** the base information is from the published regulatory accounts for the WASCs, Ofwat's final determinations covering the period 2010–15,¹³ and information on the allowed return and allocation of non-household retail costs in Scotland in 2007/08.¹⁴
- **Assumptions:** the main assumptions used in the scenarios being modelled relate to the loss of all public sector and multi-site customers. In addition, other assumptions include the percentage of the company's costs that are variable and can be reduced in the short term, and that public sector and multi-site customers have no bad debt.

¹³ Ofwat (2009), 'Future water and sewerage charges: final determinations', November.

¹⁴ WICS (2005), 'The strategic review of charges 2006–10: the final determination', November. WICS (2009), 'Staff paper 6: allowed for operating costs', June.

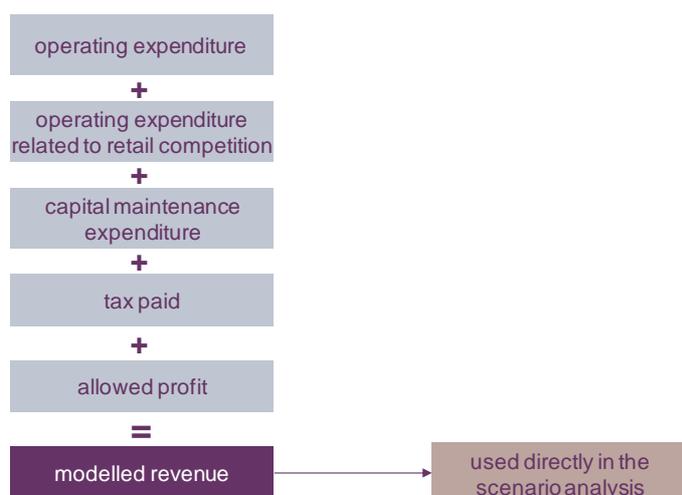
- **Calculations:** Oxera models the impact on the profit available to shareholders and the cash interest coverage ratios for the vertically integrated companies. This is based on the assumption that the non-household retail business unit loses all of its public sector and multi-site customers. The calculations in the model are undertaken in four steps (see Appendices 2 to 5).
- **Outputs:** the outputs from the model show the impact on the modelled profit available to shareholders and on the cash interest coverage ratios as defined by Ofwat and Moody's.

Appendices 2 to 5 below give an overview of the steps undertaken in the calculations sheet.

A2 Step 1: estimating the starting position

The first step in the scenario modelling involves estimating, for each vertically integrated business, pre-competition profit and FFO. First, revenue is estimated for the vertically integrated business based on the traditional building-block approach used to estimate revenue. This approach is adopted because it is assumed that a price control is set in order to prepare for competition using 2011/12 as the base year for costs. The approach also allows for the inclusion of additional expenditure related to retail competition. The costs included in the building blocks are set out in Figure A2.1.

Figure A2.1 Building blocks used to estimate modelled revenue



Source: Oxera analysis.

Table A2.1 sets out the calculation of revenue for the vertically integrated business (based on the traditional building block approach) and the associated source of the information.

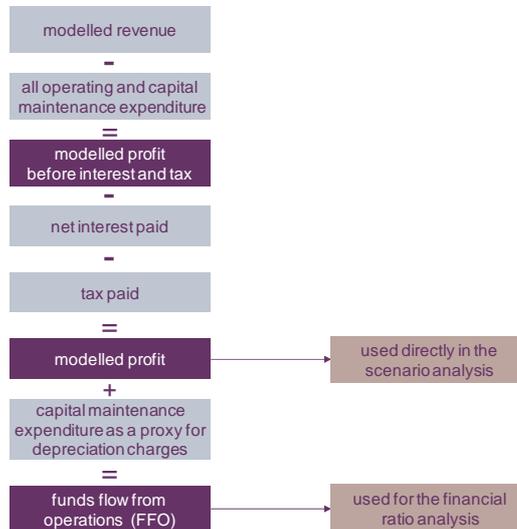
Table A2.1 Sources of information and calculations used to estimate revenue

| Item | Source/calculation |
|------------------------------------|--|
| OPEX | Reported in the 2011/12 regulatory accounts for the companies—ie, the activity-based cost tables equivalent to tables 21 and 22 in the 2010/11 June Return. (Information from 2010/11 is used for South Staffordshire Water as the regulatory accounts were unavailable at the time of the analysis) |
| OPEX related to retail competition | Calculated using information from Scotland (see Appendix 8) |
| Capital maintenance expenditure | Reported in the 2011/12 regulatory accounts for the companies—ie, the activity-based cost tables equivalent to tables 21 and 22 in the 2010/11 June Return. (Information from 2010/11 is used for South Staffordshire Water as the regulatory accounts were unavailable at the time of the analysis) |
| Tax paid | Reported in the cash-flow statement in the 2011/12 regulatory accounts |
| Allowed profit | Calculated based on the allowed weighted average cost of capital (WACC) for the WASCs, set out in Ofwat (2009), 'Future water and sewerage charges: final determinations', November pp. 128 and 135; and the RCV assumptions (pp. 154–60). The cost of capital for Bristol Water is based on the rate of return allowed in Competition Commission (2010), 'A reference under section 12(3)(a) of the Water Industry Act 1991', p. 66 |
| Modelled revenue | Calculated as the sum of the above |

Source: Oxera analysis.

Modelled revenue is the starting point for estimating profit and FFO. Profit is estimated by subtracting cash expenditure in 2011/12, as reported in the regulatory accounts, from modelled revenue. FFO is calculated as profit plus capital maintenance expenditure as a proxy for depreciation charges—ie, the measure of depreciation used in the building-block approach. Figure A2.2 illustrates the approach used to estimate profit and FFO.

Figure A2.2 Estimation of profit and funds flow from operations



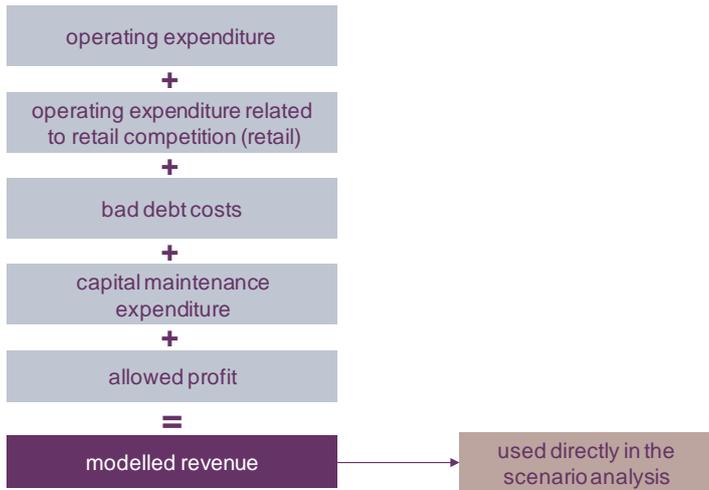
Source: Oxera analysis.

Modelled profit and FFO provides the starting point for the analysis—ie, pre-competition profits.

Step 2: separating non-household retail

The non-household retail business unit is separated for the purposes of the scenario analysis in order to measure the impact on the non-household retail side of the business arising from the loss of public sector and multi-site customers. The revenue requirement is estimated using the building blocks, given non-household retail revenue is not reported separately for the companies in England and Wales. The building-block approach is based on the same category of costs used to estimate revenue for the vertically integrated business. Figure A3.1 shows the estimation of the revenue requirement for the non-household retail business unit.

Figure A3.1 Revenue requirement for the non-household retail business unit



Source: Oxera analysis.

In most instances the costs used in the analysis are based on those costs reported in the regulatory accounts for the companies in England—ie, operating, bad debt and capital maintenance expenditure, etc. The additional costs related to retail competition are based on the additional costs incurred in Scotland. Appendix 8 shows the calculation of the additional costs related to the introduction of retail competition and the allocation of those costs to the non-household retail business unit. The allowed rate of return for the companies is estimated based on the approach used to estimate the allowed rate of return in Scotland. Appendix 7 shows the estimate of the allowed rate of return for the non-household retail business unit.

Table A3.1 shows the source of information and the calculations underpinning the calculation of the revenue requirement for the non-household retail business unit—ie, based on the building-block approach.

Table A3.1 Sources of information and calculations used to estimate retail revenue

| Item | Source/calculation |
|---|---|
| OPEX | Reported in the retail tables in the 2011/12 regulatory accounts for the companies—ie, the table equivalent to table 21b in the 2010/11 June Return ¹ |
| OPEX related to retail competition (retail) | Calculated based on the allocation of additional expenditure to non-household retail in Scotland—as set out in Appendix 8 |
| bad debt | Reported in the retail tables in the 2011/12 regulatory accounts for the companies—ie, the retail table equivalent to table 21b in the 2010/11 June Return. Includes the costs of bad debt and debt recovery ¹ |
| capital maintenance expenditure | Reported in the retail tables in the 2011/12 regulatory accounts for the companies—ie, the retail table equivalent to table 21b in the 2010/11 June Return ¹ |
| allowed profit | Calculated based on the retail WACC multiplied by the working capital of the non-household retail business unit—as set out in Appendix 7 |
| modelled revenue | Calculated as the sum of the above |

Note: ¹ Information from 2010/11 is used in the case of South Staffordshire Water as the regulatory accounts were unavailable at the time of the analysis. Some companies do not report retail costs separately for household and non-household customers—ie, Anglian, Wessex, Cambridge, Portsmouth, and Veolia Central. As such, an allocation is made based on the percentage allocation in 2010/11 from the June Return in 2010/11.
Source: Oxera analysis.

Given that the allocation of activities and costs are yet to be finalised by Ofwat, a sensitivity analysis is included based on the allocation of OPEX in Scotland in 2007/08.¹⁵ The calculation is based on non-household retail OPEX in Scotland as a percentage of total OPEX in Scotland in 2007/08.¹⁶ An alternative for capital maintenance expenditure is also included in the sensitivity analysis based on the approach used to estimate capital maintenance expenditure for the non-household retail business in Scotland.

Appendix 9 provides an overview of the approach used to estimate the allocation of costs in England based on the allocation of costs in Scotland. The revenue requirement and costs for the non-household retail business unit are used as a starting point for the scenario analysis in step 3.

¹⁵ Ofwat (2012), 'Consultation on retail controls for the 2014 price review', June.

¹⁶ The allocation of non-household retail costs in Scotland—as a percentage of total costs—is set out in Appendix 8.

A4 Step 3: performing the analysis

Revenue and costs for the non-household retail business are used in the scenario analysis. The financial impact from losing public sector and multi-site customers is based on the following assumptions:

- public sector and multi-site customers account for 40% of revenue—based on the revenue from public sector and multi-site customers in Scotland as estimated in Appendix 6;
- 20% of non-household retail costs are transaction costs that can be reduced in the short term—ie, based on Business Stream’s reported costs in 2007/08 as set out in Appendix 6;
- public sector and multi-site customers have no bad debt.

Figure A4.1 shows that the calculation of the financial impact—ie, the ‘net revenue impact’ in the figure below—related to the loss of public sector and multi-site customers is based on the previous three assumptions.

Figure A4.1 Calculating the impact on revenue, net of the savings in costs, from losing public sector and multi-site customers



Source: Oxera analysis.

Table A4.1 sets out the approach used to calculate the financial impact arising from the loss of public sector and multi-site customers.

Table A4.1 Sources of information and basis of calculating the net revenue impact

| Item | Source |
|--|--|
| Reduction in retail revenue | Retail revenue is reduced by 40%—ie, the percentage of revenue related to public sector and multi-site customers |
| Reduction in OPEX | OPEX is reduced by 8%—ie, 40% of costs related to public sector and multi-site customers (assuming the same proportion of revenue) multiplied by 20%, which is the assumed percentage of variable costs |
| Reduction in OPEX related to retail competition (retail) | OPEX related to retail competition is reduced by 40% since the majority of these costs are based on market share—ie, the contribution to the Central Market Agency costs and to the regulator's licensing costs |
| Reduction in bad debt costs | It is assumed that public sector and multi-sites have no bad debt |
| Reduction in capital maintenance expenditure | It is assumed that capital maintenance is fixed |
| Savings in working capital financing costs | Working capital multiplied by $(1 - 40\%)$ —ie, the percentage reduction in revenue from public sector and multi-site customer customers—multiplied by the assumed cost of debt (see Appendix 7) |
| Savings in group taxation | Calculated as the sum of the above multiplied by 26%—the corporation tax rate in 2011 (HMRC, 'Corporation tax rates', available at http://www.hmrc.gov.uk/rates/corp.htm , accessed on October 3rd 2012) |
| Net revenue impact | Calculated as the sum of the above |

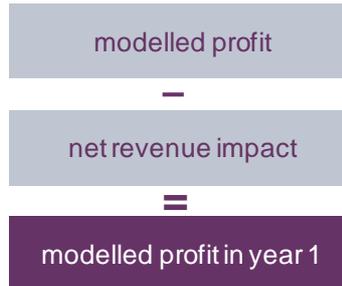
Source: Oxera analysis.

The financial impact—the reduction in revenue net of the savings in costs—is subtracted from the pre-competition profit and FFO. This shows the impact on the vertically integrated business arising from the loss of public sector and multi-site customers.

A5 Step 4: estimating the ending position

The final step in the analysis involves subtracting the financial impact arising from the loss of public sector and multi-site customers from the pre-competition profit and the FFO. This impact is based on the calculation set out in Figure A5.1. As discussed previously, the net revenue impact is the reduction in revenue, net of the savings in costs, for the non-household retail business.

Figure A5.1 Calculation of modelled profit in year 1



The cash interest coverage ratios are calculated based on the following definitions:¹⁷

Ofwat definition

$$\frac{\text{FFO in year 1}}{\text{Gross interest}}$$

Moody's definition

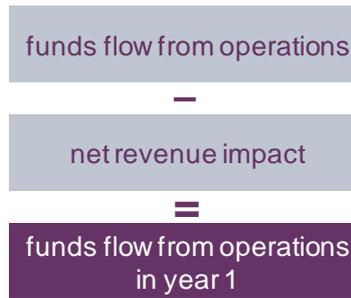
$$\frac{\text{FFO} + (\text{net interest expense} - \text{non-cash interest}) - \text{capital charges}}{(\text{Net interest expense} - \text{non-cash interest})}$$

The loss of public sector and multi-site customers affects both FFO and the interest payment in the cash interest coverage ratios. In relation to the interest payment, the model assumes that the shortfall in the company's financing arising from the reduction in revenue (net of the savings in costs) is financed from additional debt. As such, the loss of public sector and multi-site customers affects the cash interest coverage ratios through the calculations shown in Figures A5.2 to A5.5 below.

The net revenue impact is deducted from FFO as set out in Figure A5.2.

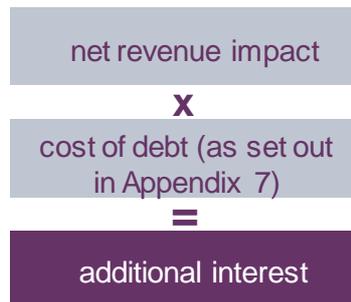
¹⁷ Ofwat (2009), 'Future water and sewerage charges 2010–15: final determinations', November, p. 136. Moody's Global Infrastructure Finance (2009), 'Global regulated water utilities', December, p. 20.

Figure A5.2 Calculation of funds flow from operations in year 1



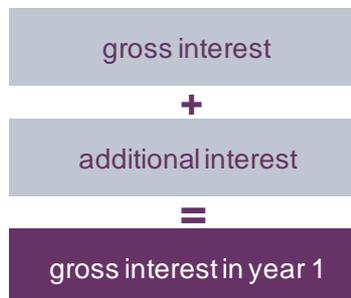
The additional interest payment in the year related to the loss of public sector and multi-site customers is calculated as set out in Figure A5.3.

Figure A5.3 Calculation of the additional interest payment in year 1



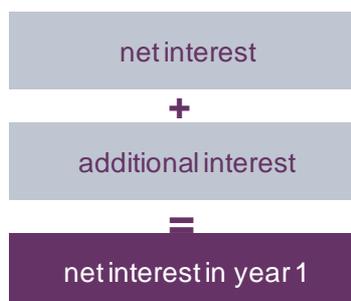
The additional interest payment in the year is added to gross interest—ie, for the Ofwat cash interest coverage ratio—as set out in Figure A5.4.

Figure A5.4 Calculation of gross interest in year 1



The additional interest payment in the year is added to net interest—ie, for the Moody's cash interest coverage ratios—as set out in Figure A5.5.

Figure A5.5 Calculation of net interest in year 1



The cash interest coverage ratios are then calculated at the end of year 1 based on the definitions for the Ofwat ratio and the Moody's ratio set out previously and reproduced below.

Ofwat definition

$$\frac{\text{FFO in year 1}}{\text{Gross interest in year 1}}$$

Moody's definition

$$\frac{\text{FFO in year 1} + (\text{net interest expense} - \text{non-cash interest}) - \text{capital charges}}{(\text{Net interest in year 1} - \text{non-cash interest})}$$

A6 Percentage of revenue from public sector and multi-sites customers

This appendix shows the calculations underpinning the assumptions in the analysis. The analysis is based on information related to Business Stream, and covers two areas:

- 1) revenue from public sector and multi-site customers;
- 2) the percentage of costs that are variable

A6.1 Revenue from public sector and multi-site customers

Revenue from public sector customers is based on the value of the Procurement Scotland tender¹⁸ and the national university tender in Scotland, as submitted by the Advanced Procurement for Universities and Colleges (APUC).¹⁹ See Table A6.1.

Table A6.1 Assumption on the percentage of revenue from the public-sector

| | Revenue |
|--|--------------------|
| Revenue from the public sector contract over three years | £220m |
| Savings estimated over three years | £25m |
| Revenue from the public sector before savings | £245m |
| Revenue from the universities tender over three years | £45m |
| Total revenue from the public sector over three years | £290m |
| Revenue from the public sector and the universities | £97m |
| Business Stream's reported revenue in 2010/11 | £320m ¹ |
| Percentage of revenue from the public sector | 30% |

Note: ¹ Taken from Business Stream (2011), 'Annual report and accounts', March, p. 18, note 2.
Source: Oxera analysis.

Based on the available evidence, and in the absence of company-specific data, it is assumed that the public sector accounts for 30% of the non-household retail revenue for all of the companies in England and Wales. It is also assumed that multi-site customers account for another 10% of revenue for the purposes of the analysis.

A6.2 Percentage of costs that are variable

The percentage of costs that can be reduced in the short term are based on the breakdown of costs reported in Business Stream's quarter 4 annual report and accounts in 2007/08.²⁰ It is assumed that variable transaction costs relate to general and administration costs and customer service third-party costs. These costs, as a percentage of Business Stream's total costs (excluding bad debt), are around 15%. In the absence of company-specific data, for the

¹⁸ Business Stream (2011), 'Public sector to save around £20 million with new Business Stream water deal', March, available at <http://www.business-stream.co.uk/about-us/press-releases/public-sector-save-around-%C2%A320-million-new-business-stream-water-deal>, accessed on September 17th 2012.

¹⁹ Business Stream (2010), 'Business Stream wins £45m universities, colleges and public bodies deal', April, available at <http://www.business-stream.co.uk/about-us/press-releases/business-stream-wins-%C2%A345m-universities-colleges-and-public-bodies-deal>, accessed on September 17th 2012.

²⁰ Business Stream (2008), 'Quarterly Finance Report for WICS—March 2008', March, p. 5.

purposes of this analysis it is assumed that variable transaction costs account for around 20% of OPEX on average across all companies, and that the assumptions are applied uniformly across all of the companies.

A7 Allowed rate of return for the non-household retail business unit

This appendix shows the approach used to estimate the financial return for the non-household retail business unit, which relates to the cost of financing the working capital requirement of the unit.

The approach is based on the following steps:

- calculate the current number of working capital days for non-household customers—ie, the sum of measured and unmeasured non-household trade debtors divided by non-household revenue, multiplied by 365;²¹
- add prepayment days—ie, 45 days;
- divide by 365 to estimate the percentage of the year for which revenue is outstanding;
- multiply by non-household revenue (retail and wholesale) in order to estimate the working capital requirement in millions of pounds;
- multiply by the WACC for the non-household retail business unit in order to estimate the allowed return in millions of pounds.

A7.1 Step 1: estimating working capital days for the retail business unit

Using the information reported in the regulatory accounts for the companies in England and Wales in 2011–12, the current working capital days for non-household customers is calculated as the sum of measured and unmeasured trade debtors—eg, Anglian Water²² reports information on trade debtors on page 154 of the 2011–12 regulatory accounts.²³

The number of trade-debtor days is divided by modelled revenue from non-household customers (including retail and wholesale²⁴) to estimate the percentage of non-household revenue that is outstanding on average over the year. This is multiplied by 365 to give the number of days in the year for which non-household revenue is outstanding.

A7.2 Step 2: assuming that the retail business unit prepays the wholesale company

The analysis assumes that the non-household retail business unit pre-pays wholesale charges 45 days in advance to the wholesale business. However, it is recognised that this may not be the case in practice, given that Ofwat has yet to make a decision about the payment terms between the non-household retail business unit and the wholesale business. Prepayment days are added to the working capital days in step 1.

²¹ 'Non-household trade debtors' taken from the regulatory accounts for the company.

²² Anglian Water (2012), 'Annual report and accounts 2012', p. 154.

²³ The regulatory accounts for South Staffordshire Water were unavailable at the time of the analysis; instead, the analysis uses working capital days from 2010–11.

²⁴ Modelled non-household revenue is calculated based on the product of modelled revenue for the vertically integrated company (step 1) and the proportion of revenue from non-household customers (based on the 2010–11 regulatory accounts).

A7.3 Steps 3 and 4: estimating the working capital requirement

The total working capital days from step 2 is divided by 365 to show the percentage of the year for which non-household revenue is outstanding on average. It covers the period from when the non-household retail business unit prepays wholesale charges to the date when it collects charges from customers. The percentage of the year for which revenue is outstanding for the non-household retail business unit is multiplied by non-household revenue to calculate how much (in millions of pounds), the retail business unit has to find on average over the year—ie, the working capital requirement for the non-household retail business unit.

A7.4 Step 5: estimating financing costs for the retail business unit

The working capital financing costs are calculated as the product of the working capital requirement for the non-household retail business—calculated in the previous steps—and the WACC for the non-household retail business unit, which in turn is calculated using the assumptions in Table A6.2.

Table A6.2 Cost of capital assumptions for the non-household retail business unit

| | Assumption | Rationale/basis for the assumption |
|---|-------------------|---|
| Assumed gearing for the non-household retail business unit | 30% | Based on Business Stream's gearing in 2010/11 |
| Assumed nominal cost of equity for the non-household retail business unit | 12% | Based on the cost of equity assumed in Scotland |
| Assumed nominal cost of debt for the non-household retail business unit | 6% | Based on an assumption (7% for the small WOCs) |
| WACC | 7.5% | Calculation |

Note: Oxera has completed a sensitivity analysis on the assumption for the cost of debt. The assumption for the cost of debt is not material to the analysis owing to the way in which the savings in working capital financing costs are calculated in the scenario analysis.

Source: Business Stream (2011), 'Annual report and accounts', March. WICS (2005), 'Strategic Review of Charges 2006-10: final determination', November, p. 367. 3

A8 Additional OPEX based on costs in Scotland

For the purposes of this high-level scenario modelling, Oxera has based the cost estimates on those in Scotland. Actual costs may be higher or lower. This appendix shows the approach used to estimate the additional costs related to non-household retail competition, which cover four areas:

- market settlement and registration costs;
- interface costs (costs related to the interaction between market participants);
- marketing costs;
- licensing costs.

A8.1 Market settlement and registration costs

Settlement and registration costs are based on the costs of operating the Central Market Agency in Scotland,²⁵ which are calculated as an average of two approaches:

- a top-down cost per property analysis;
- bottom-up assumptions.

The approach provides a central estimate of settlement costs for the industry that is then allocated across all the companies using a cost per property analysis. It is assumed that the costs are split 50/50 between wholesale and retail, based on the split in Scotland.

A8.2 Interface costs

Interface costs relate to the additional costs incurred by the wholesaler as a result of the separation of non-household retail activities—eg, covering the additional costs related to the interaction between wholesale and retail. The estimate was made to support a special factor claim in Scottish Water’s first draft business plan and was based on the costs incurred by Scottish Water in 2007/08.²⁶ The costs are allocated across all of the companies based on the number of billed properties.

A8.3 Marketing costs

Marketing costs are based on the marketing costs projected by Business Stream in 2007/08. The marketing cost per customer in Scotland is calculated according to the number of billed properties in Scotland in total. This is multiplied by the number of billed properties for each company.²⁷

²⁵ WICS (2011), ‘Retail competition in Scotland: an audit trail of the costs incurred and the savings achieved’, April.

²⁶ Black and Veatch (2009), ‘Reporter’s Report SR10 2nd draft business plan, appendix H—opex special factors claim’, March, p. H-2.

²⁷ Business Stream’s projection of marketing costs is from Business Stream (2008), ‘Quarterly Finance Report for WICS—March 2008’, March.

A8.4 Licensing costs

It is assumed that licensing costs are £2m a year across the industry,²⁸ and that these costs are allocated across all of the companies according to the number of billed properties for each company.

²⁸ Based on an assumption set out in WICS (2011), 'Retail competition: the story so far, the journey to come', November, p. 19.

A9 Allocation of costs in Scotland in 2007–08

This appendix shows the calculation of the percentage of OPEX (excluding bad debt) for the non-household retail business unit based on the separation in Scotland.

A9.1 Estimate of OPEX for non-household retail

The information for the analysis is from three sources:

- 1) WICS (2009), 'Staff paper 6: allowed for operating costs', June, on the allowed for operating costs over the SRC 2010–15;
- 2) Scottish Water's regulatory accounts for 2007–08;
- 3) Business Stream (2008), 'Quarterly Finance Report for WICS—March 2008'.

Table A9.1 shows the percentage of total OPEX (excluding bad debt) related to the non-household retail business unit based on the Scotland separation in 2007–08.

Table A9.1 The percentage allocation of costs from Scotland

| | | Source |
|--|--------|--|
| Total vertically integrated baseline OPEX for water and wastewater | £285m | WICS (2009), 'Staff paper 6: allowed for operating costs', June, p. 8 |
| Remove atypical bad debt savings allowed in the baseline | (£9m) | Ibid., p. 8 |
| Remove household bad debt costs | (£15m) | Scottish Water regulatory accounts, tables M18w (M18.39) & M18ww (M18.40) |
| Remove non-household bad debt costs | (£6m) | Business Stream Q4 annual report and accounts for 2007–08, p. 4. It is the sum of bad debt costs and the cost of third-party debt recovery |
| OPEX for the vertically integrated business | £249m | Sum of the above |
| OPEX for the non-household retail business unit (excluding bad debt costs) | £9m | WICS (2009), op. cit., p. 8 (£15m) minus non-household bad debt costs from Business Stream (2008), op. cit. (£6m) |
| Non-household retail OPEX as a percentage of total OPEX | 3.5% | OPEX for the non-household retail business unit divided by OPEX for the vertically integrated business |

Source: Oxera analysis.

An alternative to capital maintenance expenditure is also calculated based on the approach used in Scotland. Capital maintenance expenditure is based on the net book value of non-household retail assets divided by an assumption for the average life of the non-household retail assets—ie, five years.²⁹ The net book value of non-household retail assets is taken from table 25C of the June Return in 2010–11.

²⁹ WICS (2005), 'Strategic Review of Charges 2006-10: final determination', November, p. 367.

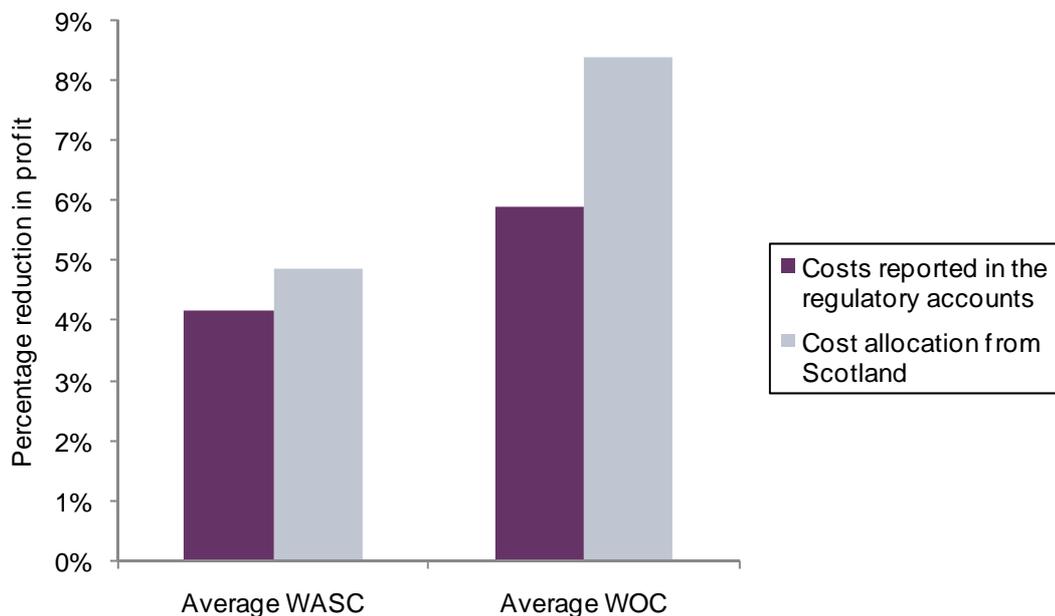
A10 Sensitivity analysis based on Scotland

As a sensitivity, this appendix shows the percentage reduction in pre-competition profit arising from a loss of public sector and multi-site customers using the allocation of costs from Scotland in 2007/08—ie, in the year prior to market opening.³⁰

A10.1 Estimate of OPEX for non-household retail

Based on the percentage of costs allocated to retail in Scotland, Oxera's analysis suggests that the loss of public sector and multi-site customers could cut profits of the typical WASC by close to 5%. For the typical WOC this increases to 8%, reflecting the importance of non-household retail OPEX relative to RCV for the WOCs. This impact on profit is evident in Figure A10.1.

Figure A10.1 Percentage reduction in profit (%)



Source: Oxera analysis.

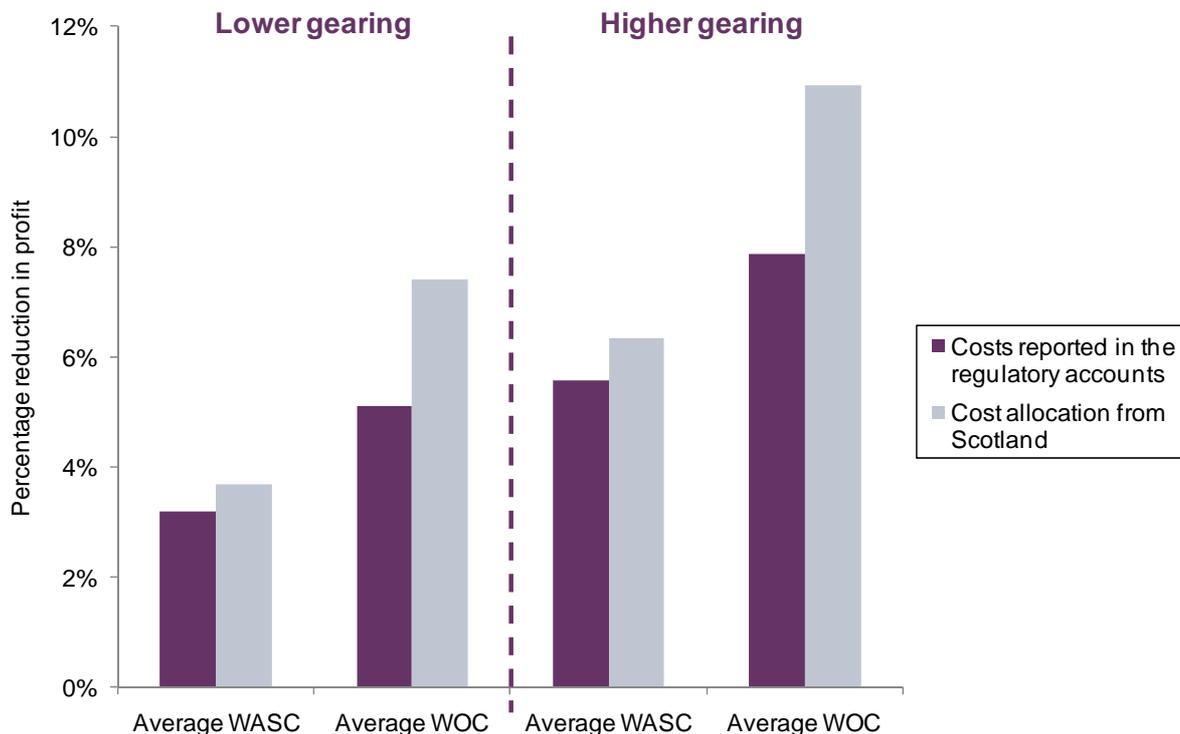
Oxera has further analysed the impact on profit based on the level of gearing (ie, as measured by debt to RCV).³¹ The analysis shows that companies with higher gearing (defined as 80% and above) are likely to experience a larger proportionate impact on profits on average.

³⁰ See Appendix 9 for the allocation of costs.

³¹ Gearing is measured from the regulatory accounts for the companies and is calculated as net debt—ie, defined as total borrowing minus cash and short-term deposits—divided by the RCV. The RCV is taken from Ofwat (2009), 'Future water and sewerage charges: final determinations', November.

A10.2 Estimate of OPEX for non-household retail based on the cost allocation in Scotland

Figure A10.2 Percentage reduction in profit according to level of gearing (%)



Source: Oxera analysis.

Figure A10.2 shows that the impact from the loss of public sector and multi-site customers is likely to be most material for the highly geared WOCs—ie, the typical highly geared WOC experiences a reduction in pre-competition profit of around 11% on average. The typical highly geared WASC, on the other hand, experiences a reduction in profit of around 6% on average. This is based on the allocation of costs to retail in Scotland in 2007/08.

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