



# **Cost of capital premium and net customer benefit**

**A REPORT PREPARED FOR SUTTON AND EAST SURREY WATER**

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# Cost of capital premium and net customer benefit

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## Cost of capital premium and net customer benefit

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## Executive Summary

This paper addresses Ofwat's question as to whether the WACC premium for SESW provides a net benefit to customers. The premium on the cost of capital derives from the higher degree of operational leverage, compared to WaSCs. This driver of the premium is fundamental to understanding why the SESW premium compared to a WaSC WACC is in its customers' interest.

### *SESW WACC premium is justified by its higher operational leverage*

Operational leverage is measured as the scale of the Regulatory Capital Value (RCV) in relation to the scale of the business in terms of revenue and operating expenditure. A company with a higher operational gearing faces higher opex and revenue risks proportionate to the size of the RCV. This can be directly translated into a higher cost of capital through a higher asset beta. SESW has a materially higher level of operational leverage, in terms of revenue, opex and totex to RCV compared to the WaSCs. This factor will also contribute to the higher cost of debt observed by SESW.

SESW's high operational leverage also has a direct consequence on the RoRE range. If SESW's totex and ODI upside and downside risks are consistent with Ofwat's guidance when applied to a typical WaSC, its resulting RoRE range would be significantly higher than that of WaSCs.

### *SESW WACC premium based on CC methodology*

The operational leverage issue was considered by the Competition Commission in the 2010 Bristol Water inquiry. The approach adopted by the Commission was to scale up the industry asset beta by the ratio of cashflow after operating expenditure to revenue. Consistent with this method, we consider that a company specific adjustment to the cost of equity of 0.8% to 0.9% is appropriate for SESW. This translates the 0.5% premium on the WACC taking account of the market evidence on the cost of debt premium.

### *Customer benefits outweigh the impact of the WACC premium*

A SESW WACC premium of 0.5% will impact customer bills by just under £4 per year. However, this does not mean that customers' bills are higher than they would otherwise be. The analysis in this paper shows a clear link between the WACC premium and customer benefit.

First, the WACC premium for SESW reflects its specific characteristics and, in particular, its low RCV per customer. If SESW had an operational leverage identical to the average WaSC then its RCV per customer would be £1,310 instead of the actual level of £760. The SESW WACC premium adds £4 per annum to a bill but its customers are still saving around £17 as a result of the lower RCV per customer.

Second, the only way to remove the justification for the WACC premium would be for operational leverage differential to be removed by the merger of SESW with a WaSC. This would reduce the need for the WACC premium as the low RCV per customer would be spread over a much larger customer base.

However, such a hypothetical merger would also result in significant customer detriment from the loss of an independent benchmark company. Using the Competition Commission analysis used in merger cases we estimate that the loss of the comparator in the operating cost modelling could be nearly £20m in NPV terms. This underestimates the true impact because it does not allow for the many other ways in which Ofwat and the industry uses comparator information to improve performance.

Third, if Ofwat did not allow the premium then this would increase the risk that the company would not be able to raise finance efficiently. In the event of a material shock SESW could find itself in the position where it needed to scale back its operational investment in order finance its operational activities. SESW's customers today and in future, and the local environment, would suffer if the business is unable to invest in its AMP6 programme.

### *Is the customer benefit test the appropriate test?*

It can be argued that the question and the test posed by Ofwat is not the appropriate test for a company specific WACC premium. All previous regulatory decisions have accepted that WoCs face higher systematic risks than WaSCs and are therefore given higher allowed cost of capital. The premium to the cost of capital has included an uplift to both the cost of debt and the cost of equity.

The net customer benefit test has not been applied before by either Ofwat or the Competition Commission. To not allow a premium that is caused by the underlying characteristics of the company and due to factors that are outside of management control would represent a significant departure from regulatory practice and Competition Commission precedents.

# 1 Introduction and background

In its business plan submission SESW identified that it faced a premium on the cost of capital of 0.5% over water and sewerage companies (WaSCs). The most significant factor behind the premium is the higher level of operational gearing faced by SESW, supported by the evidence on higher debt costs compared to the WaSCs.

In January 2014 Ofwat published the risk and reward guidance for PR14. In this document, Ofwat explicitly asks water-only companies (WoCs) to justify the WACC premium that they have historically been granted and have proposed again for PR14. Specifically, Ofwat asks the WoCs to demonstrate the customer benefit of such premium compared to the WACC applied to the WaSCs.

The aim of this paper is to address this question posed by Ofwat by identifying the underlying reason for the WACC premium and demonstrating the benefit to SESW customers associated with the premium.

The remainder of this paper is organised as follows:

- section 2 explains the source of the SESW WACC premium and summarises the regulatory precedents for the WACC premium;
- section 3.3 considers the evidence on the cost of debt premium and estimates the scale of the premium; and
- section 4 demonstrates the customer benefit of the SESW WACC premium.





## 2 Source of the SESW premium

The appropriate cost of capital premium for SESW compared to the WaSCs derives from the characteristics of the business (such as operational leverage) and not the size of the business. Understanding this concept is crucial to understanding why the SESW premium is both justified and in its customers' interest.

### 2.1 Characteristics of SESW

The main characteristic of the company that underpins the case for the WACC premium is the level of operational leverage.

In the context of the water industry operational leverage (gearing) is measured as the scale of the Regulatory Capital Value (RCV) in relation to the scale of the business in terms of customers, revenue and operating expenditure (opex). A company with a higher operational gearing faces higher opex and revenue risks as a proportion to their RCVs. For the same scale of opex or revenue shock, the company with a higher operational gearing would sustain a higher shock on its return on capital and hence return on equity, compared with a company with a lower operational gearing. This can be directly translated into higher systematic risk into the CAPM framework in the form of a higher asset beta.<sup>1</sup>

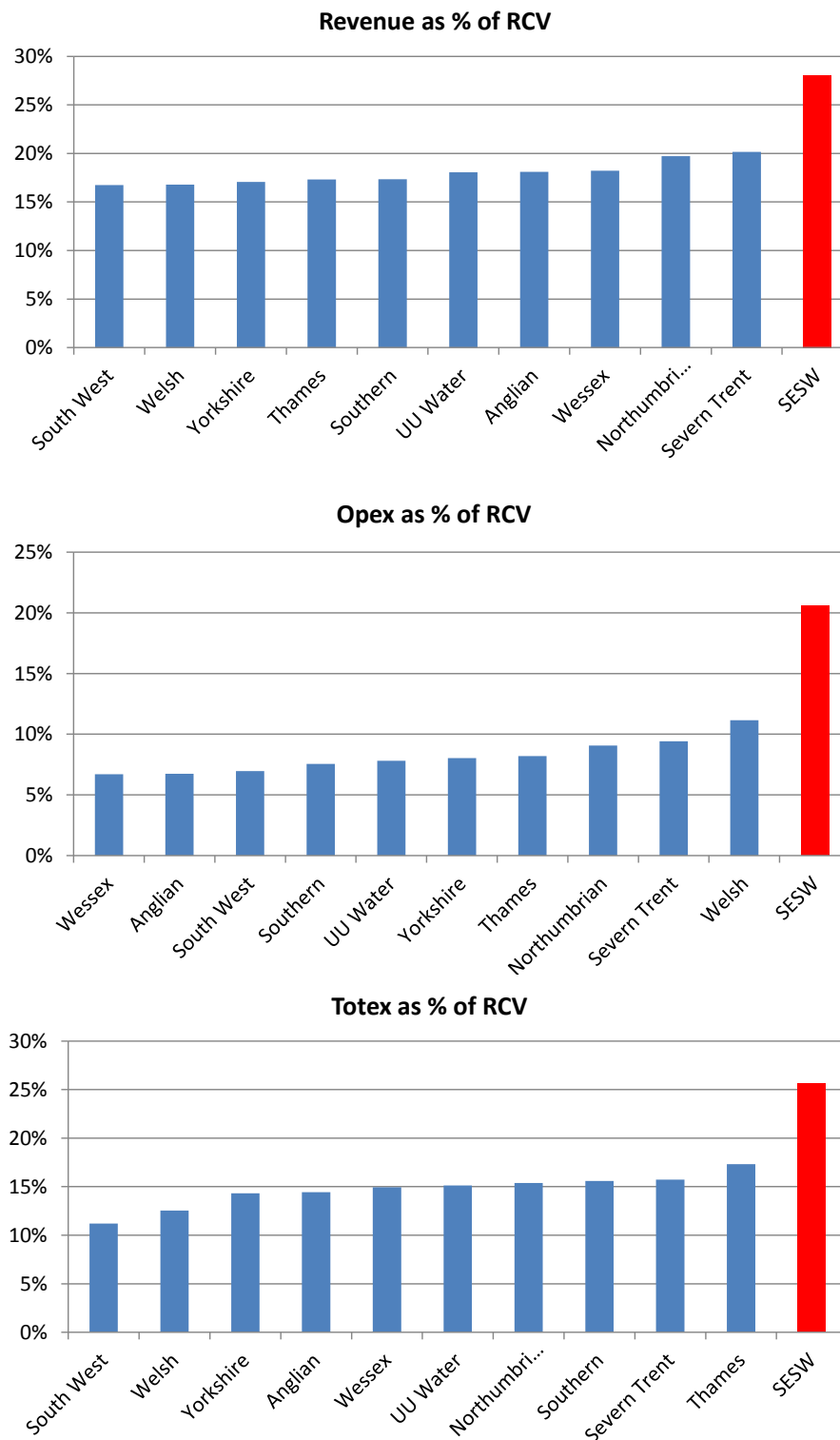
**Figure 1** shows the ratios of revenue to RCV, opex to RCV and totex to RCV<sup>2</sup>. The Figures show that SESW has a materially higher level of operational gearing, in terms of these metrics compared to the average for the WaSCs.

It is worth noting that these differences in operational gearing arise from the situation at the time of privatisation of the WaSCs and the underlying characteristics of the company. As a result the differences are outside of the control of the company's management. It is not a risk that can be mitigated through management action and therefore it is consistent with regulatory principle to make an appropriate allowance for this risk.

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<sup>1</sup> This concept is already widely accepted by UK regulators. See Competition Commission Bristol Water determination 2010 and CAA NATS 2010 determination.

<sup>2</sup> The revenue and opex ratios are based on 2011 and 2012 regulatory accounts data, and the totex ratio is based on projected data for operating and capital expenditure from the PR09 Final Determination.

**Figure 1.** Evidence on operational gearing – revenue, opex and totex measures

Source: Frontier calculations

Source of the SESW premium

In order to understand the importance of operational gearing it is useful to consider how it influences the return on RCV in the face of cost and revenue shocks.

**Table 1** shows the impact of a 5% adverse cost shock. This would reduce the return on the RCV for an average WaSC by 0.41% but the impact on SESW would be over twice as high at 1.03%.

**Table 1.** Impact of cost shock on the RCV

| £mn                                    | WaSC average  | SESW          |
|--|---------------|---------------|
| <b>RCV</b>                             | 5,277         | 194           |
| <b>Operating costs<sup>3</sup></b>     | 433           | 39.9          |
| <b>Impact of 5% adverse cost shock</b> | -21.7         | -2.0          |
| <b>Impact as % of RCV</b>              | <b>-0.41%</b> | <b>-1.03%</b> |

Source: Frontier calculations

A similar pattern also applies to revenue shocks. Therefore the impact of the higher operational gearing for SESW is to increase significantly the exposure of returns on RCV to revenue and costs shocks.

## 2.2 RoRE range

SESW's high operational gearing also has a direct consequence on the RoRE range. According to Ofwat's guidance, the RoRE range measures the level of riskiness of the business using profit as a percentage of regulated equity. The percentage variations in the revenue and cost figures then can be translated into a percentage variation in return on regulated equity.

Given a certain level of variation in the percentage of revenue or cost figures, the lower the RCV (denominator) the higher the resulting RoRE range. This implies that the optimal percentage of variations in revenue and cost identified by Ofwat would lead to different levels of RoRE range according to different levels of RCV.

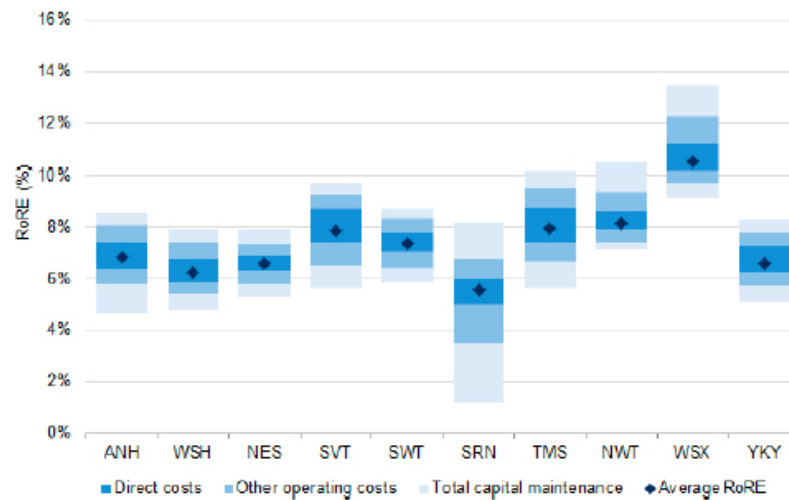
Ofwat's own analysis shows this logic very clearly. **Figure 2** below is an extract from the Ofwat guidance on risk and rewards, page 43. It shows the impact of cost performance on RoRE ranges for WaSCs and WoCs separately, for the last decade or so.

<sup>3</sup> Cost data based on average for 2010/11 and 2011/12, based on published Regulatory Accounts.

The clear difference between the upper and lower charts is that the WoCs have higher RoRE ranges than the WaSCs arising from cost risk. This evidence demonstrates that in the past the equity investors of WoCs have always faced higher operating risks than the equity investors of WaSCs. Given that this reflects the underlying characteristics of the WoCs in terms of operational gearing this analysis remains highly relevant looking forward.

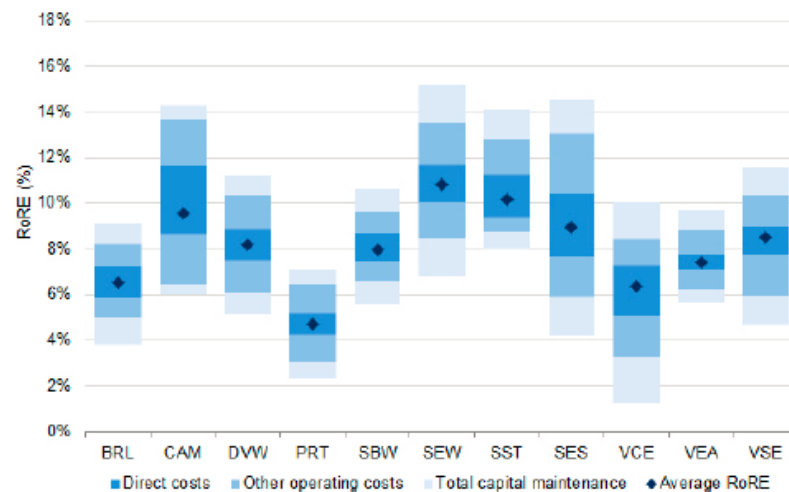
**Figure 2.** Ofwat assessment of cost risk WaSCs and WoCs

**Figure 11** Impact of cost risk on RoRE (WaSCs)



Source: Company accounts.

**Figure12** Impact of cost risk (WoCs)



Source: Company accounts.

Source: Ofwat

Source of the SESW premium

In Ofwat's guidance on RoRE ranges, it stated that the optimal RoRE range should be from  $\pm 3.5\%$  to  $\pm 4.5\%$ , with totex risk taking up  $\pm 2\%$ , ODI risk  $\pm 1\%$  to  $\pm 2\%$ , and the rest comprised of the SIM and financing risks.

To illustrate the impact of SESW's higher operational gearing we have considered the impact of Ofwat's guidance on the company.

- For cost performance risk we have calculated what percentage change in totex for a typical WaSC would give a RoRE range of  $\pm 2\%$ .
- For ODIs we have calculated what ODI penalties and rewards as a percentage of revenue for a typical WASC would have a RoRE range of  $\pm 1.5\%$

If SESW's totex and ODI upside and downside risks are consistent with Ofwat's guidance when applied to a typical WaSC, its resulting RoRE range would be significantly higher than that of WaSCs. **Figure 3** below illustrates the extent of this issue.

**Figure 3.** Comparison of RoRE range for WaSCs and SESW under Ofwat's guidance



Source: For illustration purposes only. WACC is assumed to be 3.7%. For the average WaSC, totex risk is assumed to be  $\pm 2\%$ , and ODI risk is assumed to be  $\pm 1.5\%$ .

In this illustration, we assume that the average WaSC has ODI and totex risk ranges consistent with Ofwat's guidance, resulting in a RoRE range of 2.2% to 9.2%. However, if SESW follows the same ODI risk in terms of percentage of revenue and the same totex risk in terms of percentage of totex, the totex and ODI ranges would be  $\pm 3.4\%$  and  $\pm 2.3\%$  respectively. The resulting RoRE range

Source of the SESW premium

would be 0.0% to 11.4%. The lower end of this range is materially lower than Ofwat's estimate of the cost of debt (2.75%), which is considered a reasonable benchmark for the bottom of the RoRE range.

There is a positive relationship between a higher RoRE and a higher WACC. This may not be a simple one-for-one relationship as it would need to take account of factors such as the extent of management control over risk and whether the risks were diversifiable. Nevertheless, the differences in RoRE range shown in **Figure 3** are consistent with Ofwat's guidance on risk and ODI implying a WACC premium for SESW.

If it were considered appropriate for SESW to have the same RoRE range as the WaSCs, however, both the ODI design and the totex sharing rate would have to be adjusted.

It would be possible to adjust the ODIs for SESW to be consistent with Ofwat's guidance. This would result in penalties and rewards for SESW that are smaller than the WaSCs in terms of impact on revenue but are equivalent in terms of potential impact on equity investors.

However, a similar option is unlikely to be possible for the cost incentive. Given that the underlying nature of cost risk will be comparable between SESW and WaSCs the only option to reduce the scale of the impact is to change the cost sharing rate. Adjusting the totex sharing rate would imply that the customers would bear more cost risks than the current assumed percentage of 50%. This is potentially detrimental to customers as it diminishes the company's incentives to strive for efficiencies as the gain is now less than before and some of the cost saving measures would no longer be worth it. Adjusting the totex sharing rate to achieve a lower RoRE range is therefore undesirable from a customer perspective.

As a result, even with the same ODI RoRE risk as a WaSC, SESW would have a wider RoRE range arising from its greater exposure to totex risk. The conclusion is that Ofwat's own guidance on RoRE supports the case for a SESW WACC premium when the underlying assumptions are applied specifically to the company.

## 2.3 Regulatory precedent supports the premium

This section summarises the previous regulatory decisions on the differential in the cost of capital between WaSCs and WoCs, particularly the decisions in previous Ofwat price controls and the CC's determination on Bristol Water in 2010.

All of these decisions have accepted that WoCs face higher risks than WaSCs and are therefore given higher allowed cost of capital. The premium to the cost of capital has included an uplift to both the cost of debt and the cost of equity.

### Source of the SESW premium

Focusing on the cost of equity, at PR04, Ofwat allowed for a small company premium on the cost of equity for the WoCs. The premium depended on size and ranged from 0.5% to 1.5%.

At PR09 Ofwat's conclusions on the cost of equity for WoCs were as follows:

- Ofwat did not consider there to be robust evidence for a premium based on the illiquidity of trading equity for smaller companies.
- Ofwat considered that it was *“more relevant to consider the cost of equity for the small companies in respect of their exposure to systematic risks as this is consistent with the CAPM approach”*<sup>4</sup>. However, having reviewed the evidence on systematic risk factors Ofwat concluded that the evidence was not sufficient to justify a different approach to systematic risk for WoCs.
- Ofwat recognised that the WoCs were subject to greater exposure to specific risk factors and that this was supported by the assessment of credit rating agencies. Ofwat concluded that it was appropriate to reflect this greater risk through the assumption on gearing.

As a result, Ofwat applied a gearing assumption of 52.5% to the WoCs, compared to 57.5% for the larger WaSCs. With the cost of equity unchanged at 7.1% this is equivalent to applying a premium to the cost of equity. Using Ofwat's assumptions on the asset and equity beta for the WaSCs, we can estimate that the lower level of gearing for WoCs was equivalent to a premium on the cost of equity at the same level of gearing of 0.6%.

The issue was also considered by the Competition Commission in the Bristol Water decision in 2010. The Competition Commission concluded that a premium to the cost of equity for Bristol Water was appropriate. This was based not on the relative size of Bristol Water but on the fact that it was more exposed to systematic cost and revenue shocks because profit was a smaller proportion of revenue. This is the operational leverage issue identified above. The Competition Commission concluded:

*“We consider that the arguments for a higher cost of equity due to small size in itself are weak. We accept that unquoted water companies are bought and sold from time to time and that the transaction costs involved would be higher for WoCs. We consider that the impact on cost of equity would be small. However, we see merit in the argument that WoCs, including Bristol Water, have higher systematic risk than the WaSCs and therefore increase Bristol Water's asset beta by 18 per cent (see paragraph 129).”*<sup>5</sup>

<sup>4</sup> Ofwat, Future water and sewerage charges 2010-15: final determinations, page 133, November 2009.

<sup>5</sup> Competition Commission, *Bristol Water plc*, Appendix N, page 38, August 2010.

The Commission's analysis resulted in an 18% uplift for Bristol Water's asset beta relative to the WaSCs. At the Commission's chosen gearing level of 60% this resulted in a premium to the cost of equity of 0.8%.

**Table 2** below summarises the premium in cost of equity allowed in these decisions.

**Table 2.** Premium in WACC – regulatory precedent

|                           | Regulator              | Premium in cost of equity (implied) |
|---------------------------|------------------------|-------------------------------------|
| <b>PR04</b>               | Ofwat                  | 0.5% - 1.5%                         |
| <b>PR09</b>               | Ofwat                  | 0.6%                                |
| <b>Bristol Water 2010</b> | Competition Commission | 0.8%                                |

Source: Regulatory publications

Source of the SESW premium



### 3 Cost of debt evidence and scale of the WACC premium

This section addresses two issues. First, the evidence for a cost of debt premium for SESW relative to the WaSCs. Second, the estimate of the overall premium on the WACC, taking account of the data on the cost of debt and the cost of equity.

#### 3.1 Risk factors affecting the cost of debt

The risk factors affecting SESW, outlined above, are also relevant to the assessment of the cost of debt. There are three factors that indicate a higher degree of risk for debt investors compared to the water and sewerage companies.

- A higher degree of operational leverage (as shown by the size of revenue or costs relative to the regulated asset base). The high level of operational leverage increases the impact of cost or revenue risk on investor returns.
- The direct impact of smaller size on credit risk. This is demonstrated by the assessment of credit rating agencies of water only companies relative to the larger WaSCs.
- The additional transaction costs, including the costs of carry, that SESW faces as a smaller company. The smaller issuance size relative to WaSCs, and the less frequent issuance, will result in higher transaction and carry costs.

The following section considers the market evidence on the scale of the debt premium for SESW.

#### 3.2 Evidence on SESW debt premium

The majority of SESW's debt financing for the PR14 period will comprise the index linked bond issued in 2000. The coupon on the bond is 2.874%, although the effective interest rate is higher than this once the costs of issuance and credit insurance are included. The real interest rate including the fees and issuance costs is 3.3%<sup>6</sup>.

To arrive at an appropriate figure for the notional cost of debt it would also be appropriate to adjust for the level of gearing. SESW's actual debt costs are based

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<sup>6</sup> According to data provided by SESW the total fees including the cost of credit insurance amounted to £13m on the £100m debt issue. Therefore the implied real cost of debt is  $2.874 / (100 - 13) = 3.3\%$ .

on a gearing level closer to 80%. It is possible that the premium would be somewhat lower at the notional gearing level of 60%. With the credit insurance in place the bond issue had an AAA rating and real cost of debt of around 3.0% (i.e. the 2.87% coupon plus a typical allowance for issuance costs of between 10 bps and 20 bps). At 60% or 62.5% gearing the cost of credit insurance would have been lower.

We have assumed that the impact of the lower gearing would reduce the cost of debt of SESW to 3.2%. This can be combined with the evidence from the Oxera report commissioned by a group of the water only companies (including SESW)<sup>7</sup>. This estimated a range for the cost of debt of 3.0% to 3.6%, with a midpoint of 3.3%.

Therefore this would indicate that a figure of 3.25% for the cost of debt is suitable for SESW. This is below the mid-point of the Oxera range, reflecting the fact that SESW is more reliant on bond finance than bank finance. It is also broadly consistent with SESW's actual cost of debt.

Taking Ofwat's figure for the industry cost of debt of 2.75% implies a company specific cost of debt premium of 0.5%. This is similar to Ofwat's decision at PR09 when an allowance of 0.4% compared to the WaSCs was allowed.

### 3.3 Scale of the SESW WACC premium

In this section, we quantify the risk premium in the cost of equity due to SESW specific risk factors. As outlined in the previous section we focus on the risks associated with SESW operational gearing.

The operational gearing issue was considered by the Competition Commission in the 2010 Bristol Water inquiry. The approach adopted by the Commission was to scale up the industry asset beta by the ratio of cashflow after operating expenditure to revenue. This calculation resulted in an 18% uplift to the industry asset beta for Bristol Water.

Using the same method and data as the Competition Commission did, we find that the appropriate uplift on asset beta for SESW is also 18%. SESW has very similar metrics for operating leverage as Bristol Water. **Table 3** shows the impact on the cost of equity of applying the 18% uplift to asset beta range of 0.40 to 0.45 (equivalent to an equity beta range of 0.88 to 0.99 at 60% gearing). This indicates a company specific premium of 0.8% to 0.9%. It also shows that the calculation of the premium is essentially the same when applied to Ofwat's assumed parameters for the cost of equity calculation.

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<sup>7</sup> Oxera, *What is the evidence on required returns for water-only companies at PR14?*, October 2013.

These estimates compare to the premia allowed by Ofwat of 0.5% in 2004, 0.6% in 2009 and the allowance of 0.8% allowed by the Competition Commission for Bristol Water.

**Table 3.** Calculation of cost of equity premium

|     |  | Frontier WACC estimate |       | Ofwat WACC estimate |
|-----|--|------------------------|-------|---------------------|
|     |  | Low                    | High  |                     |
| (1) | Equity risk premium (ERP)                                    | 5.25%                  | 5.25% | 5.5%                |
| (2) | Equity beta – WaSC   | 0.88                   | 0.88  | 0.8                 |
| (3) | Equity beta – SESW (including 18% uplift)                    | 1.04                   | 1.17  | 0.94                |
| (4) | Difference in equity beta [(3) – (2)]                        | 0.16                   | 0.18  | 0.14                |
| (5) | Impact on cost of equity (beta difference x ERP) [(4) x (1)] | 0.83%                  | 0.94% | 0.79%               |

Source: Frontier calculations

Together with the cost of debt premium of 0.5%, this gives a weighted average company premium of between 0.62% and 0.66%. This is slightly higher than the WACC premium of 0.5% included by SESW in its business plan.



## 4 Customer benefits of WoCs and the SESW WACC premium

### 4.1 Introduction

In this section we consider the implications of the WACC premium for SESW on customers and address Ofwat's question of whether the premium provides a benefit to customers.

The section is structured as follows:

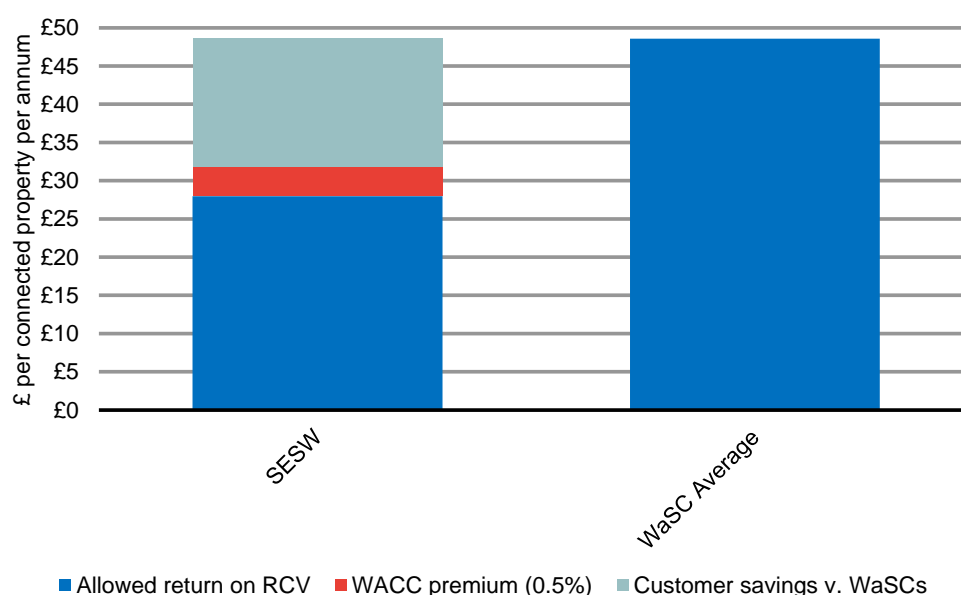
- first, we consider the relationship between the WACC premium and the amount that customers pay through their bills to compensate for risk;
- second, we outline the benefit to customers of an independent SESW; and
- third, we highlight the potential detriment to customers that could arise if SESW was not able to finance its activities properly.

### 4.2 Relationship with customer bills

In this part we demonstrate that SESW's WACC premium does not mean that customers' bills are higher than they would otherwise be. The question posed by Ofwat could be interpreted as comparing what SESW customers pay with the premium with what they would pay with everything else being equal save for the premium. This comparison uses the wrong counterfactual, as without the premium, everything else would not be equal.

The appropriate counterfactual to ask is how much SESW's customers would pay if SESW were in the same position as a typical WaSC, as that would be the condition for not needing the WACC premium. This section explores this proposition and examines whether SESW customers are paying more with a WACC premium.

The WACC premium is the extra amount investors need to be compensated for the higher operational gearing of SESW over the average WaSC. This would translate into higher allowed revenue by the amount of the RCV multiplied by the WACC premium. Taking SESW's RCV at 2012 and the assumed 0.5% WACC premium that SESW identified and its total number of customers in 2012, one can calculate the per customer impact of the estimated WACC premium. **Figure 4** below puts this amount into perspective relative to the total allowed return on RCV that customers pay per annum.

**Figure 4.** Allowed return on RCV per customer

Source: RCV figures as of 2012, WACC assumed to be 3.7%, and total customer numbers are the sum of water customers and wastewater customers excluding non-households, as of 2011-12 taken from Ofwat.

On an annual basis, SESW customers pay just under £28 for the return on RCV assuming a wholesale WACC of 3.7% as per Ofwat's guidance. The 0.5% WACC premium would add £3.78 extra on top of that, making a total of £31.74 per customer. These figures are based on household customers only and therefore will slightly overstate the results for each company. However, this does not affect the conclusions of the analysis.

We calculate the equivalent figure for the average WaSC, while using the sum of water and wastewater customers as the total number of customers. We make an implicit assumption that the RCV is allocated to the two services according to the number of customers. We have considered alternative methods for allocating the RCV between services (such as revenue share or revenue net of opex). The overall results were not sensitive to the allocation method used.

The average WaSC customer is paying £48.57 as a return on RCV. Even with the WACC premium, SESW customers are saving £16.83 per year relative to WaSCs. This benefit is due to the fact that SESW has a lower RCV per customer than the WaSCs.

The implication is that the customer benefit should be assessed by considering the total return being paid by customers (i.e. the WACC multiplied by the RCV). It would be wrong to describe the SESW WACC premium as a dis-benefit to customers when it is caused by the lower RCV of the company.

## Customer benefits of WoCs and the SESW WACC premium

### 4.3 Value of SESW as an independent benchmark

#### *Only way to remove case for SESW WACC premium is merger with a WaSC*

The SESW WACC premium is justified in terms of the underlying characteristics of SESW. The only realistic way to avoid the need for the premium would be if SESW was to merge with one of the WaSCs. This would reduce the need for the WACC premium for SESW customers as the combined RCV would reduce the operational gearing of SESW.

In this ‘thought experiment’ where the tariffs would be smoothed across the two companies the impact on SESW customers would arise from a lower WACC and a higher RCV per customer. The overall impact would be an increase in the customer bill for SESW customers, potentially offset by a slight reduction in the average bill for the WaSC customer<sup>8</sup>.

This hypothetical scenario does not alter the conclusion that the WACC premium is in the interest of SESW’s customers since they would be worse-off as a result of such a merger. However this type of argument could be made to address Ofwat’s question from the perspective of the wider England and Wales customer base.

#### *Merger would result in loss of an independent benchmark*

In this ‘thought experiment’ it is also necessary to consider the wider customer benefits arising from the existence of the WoCs as independent companies. This question has been considered a number of times by the Competition Commission in the context of proposed water mergers. The most recent case was the merger of South Staffordshire Water and Cambridge Water in 2012.

In these cases the Commission considers the benefits to customers that arise from Ofwat having access to additional comparator information that would be lost if the merger went ahead. The existence of comparators can be valuable to Ofwat (and therefore to customers) in a number of respects.

- **Precision of models for estimating opex, capex or totex efficiency.** Ofwat uses benchmarking models to assess the relative efficiency of companies’ expenditure. A greater number of comparators results in more precise estimates and higher efficiency targets.

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<sup>8</sup> There may also be an impact on the WaSC as the averaging of the operational gearing across the two companies would result in a higher WACC and a lower RCV per customer for the WaSC. However the impact may not be material given the larger size of the WaSC compared to SESW.

- **Potential loss of a frontier comparator.** A merger can result in the loss of a comparator that is, or could be, a frontier company in the efficiency modelling that is used to set the benchmark for the rest of the industry.
- **Loss of a comparator for quality of service.** Ofwat uses league tables and rankings (e.g. SIM) to incentivise quality of service. The loss of a comparator could reduce the effectiveness of these assessments.

Ofwat has recognised the importance of these considerations in its submissions to the Competition Commission<sup>9</sup>:

*“5.1 Ofwat’s view is that prima facie, every merger results in prejudice because comparators are embedded throughout all of its processes. It told us that the reduction in the number of comparators resulting from a merger was a permanent one, therefore the impact of the loss of a comparator increased over time. [ ...]*

*5.2 Ofwat emphasized the importance of independent management to the value of comparators. It told us that independent management and ownership diversity drove different company approaches, including: (a) how companies managed and controlled the issue of risk;*

*(b) the approach each company adopted in its business plan to a price review;*

*(c) the focus each company had on delivering services to customers;*

*(d) the adoption of innovative approaches; and*

*(e) the approaches companies took to compliance and assurance in the reporting of regulatory information.*

*5.3 It considered that the impact of mergers between smaller companies on Ofwat’s quantitative assessment tended to be smaller, as they could not be used as benchmarks and tended to impact on a smaller number of customers. However, smaller companies provided very valuable comparators for qualitative assessments, where what mattered was the range of performance and differences in management and ownership.”*

The Commission concluded that a merger would damage Ofwat’s ability to benchmark costs and that this would remain the case even with the proposed reforms to the regulatory process introduced in PR14.

*“5.116 The broad themes of Ofwat’s proposed changes to the regulatory framework suggest that the reliance that Ofwat placed on comparisons might become smaller going forward. There has been significant convergence in water companies’ relative efficiency, suggesting that the benefits of Ofwat’s relative efficiency assessment may have shrunk over time. There is also a chance that Ofwat will use more robust econometric techniques in PR14, which will reduce the magnitude of any adverse impact associated with the loss of an observation.*

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<sup>9</sup> Competition Commission, *South Staffordshire Plc/ Cambridge Water PLC merger inquiry*, May 2012.



*5.117 Notwithstanding this, we concluded that Ofwat would be highly likely to continue to set prices covering the vast majority of water companies' activities in PR14, and expected comparative competition to continue to play an important role in this process for the foreseeable future. Although there has been convergence in companies' relative efficiency, comparative techniques have had a substantial impact on customers' bills in AMP5, and we considered that this was likely to continue to be the case in the future. Given this, and recognizing that the range of techniques available to Ofwat to undertake such comparisons is limited, we expect the possible adverse impacts of the merger between SST and CAM that we have identified in our assessment of the impact of the merger in the context of the models used by Ofwat in PR09 to continue to be relevant going forward."*

The Commission estimated the impact of the loss of the comparator in two categories; the loss of precision in the benchmarking models and the probability of setting the frontier company.

- **Impact on precision.** The Commission estimated that the NPV impact of the merger on customers would be £6.2m to £7.8m arising from the loss of precision in the models.
- **Impact on benchmark.** An estimated reduction in the probability of forming the benchmark of 2.1% at PR14 translated into an NPV cost of £2.2m.

Using the analysis employed by the Competition Commission we can estimate the potential customer detriment arising from the merger of SESW to a WaSC through its effect on Ofwat's benchmarking models. This is shown in **Table 4**. The NPV of customer detriment (over 30 years) includes both the impact of loss of precision and the reduced likelihood of the merger company forming the benchmark. The Table shows that the detriment increases as the impact of likelihood of forming the benchmark falls. If the merged company is 10% less likely to form the benchmark than either of the two companies independently then the total estimated detriment, on the Commission's figures, would be between £16.9m and £18.5m.

**Table 4.** Customer detriment from merger of SESW to a WaSC

|  | Reduction in probability of forming benchmark |        |        |        |        |
|--|---|--------|--------|--------|--------|
|  | 2%  | 4%     | 6%     | 8%     | 10%    |
| <b>NPV of customer detriment - low</b> | £8.3m   | £10.5m | £12.6m | £14.7m | £16.9m |
| <b>NPV of customer detriment - low</b> | £9.9m   | £12.1m | £14.2m | £16.3m | £18.5m |

Source: Competition Commission, Frontier calculations

Detriment expressed in 2011 prices.

This modelling only relates to the set of operating expenditure models employed by Ofwat at PR09. It is likely that the impact of a loss of a comparator on Ofwat's models of total expenditure to be used at PR14 would be greater.

Another illustration of the potential impact of a loss of a comparator comes from the analysis undertaken in the inquiry into the merger of Southern Water and Vivendi Water in 2002<sup>10</sup>. Ofwat's analysis for this merger showed that the detriment of losing Southern Water as an efficient benchmark company for water services would be between £330 million and £1,330 million in NPV terms. This is substantially higher than the figures set out in Table 4 above. The Commission concluded that the merger would prejudice Ofwat's ability to make comparisons between companies and required remedies involving the disposal of Vivendi Water's holdings in other water companies.

### *Other impacts of a loss of comparator on regulatory benchmarking*

The loss of SESW as an independent company would also affect Ofwat's ability to make comparisons in a number of other areas. These areas are more difficult to quantify but could be significant. In its submissions to the Commission in the South Staffordshire / Cambridge merger Ofwat identified the following areas where comparisons were important:

- customer service quality – including SIM scores;
- tariff design;
- water efficiency;
- catchment management;

<sup>10</sup> Competition Commission, *Vivendi Water UK PLC and First Aqua (JVCo) Ltd: A report on the proposed merger*, November 2002.

- ▣ climate change mitigation and adaptation
- ▣ service to customers with special needs
- ▣ management of bad debt;
- ▣ accounting separation;
- ▣ drought provisions; and
- ▣ leakage management.

Individual companies can innovate and establish best practice across all of the above (and many other areas) and Ofwat encourages the adoption of best practice. The loss of a comparator reduces the potential for innovation and comparison.

In terms of customer service Ofwat has previously identified that WoCs perform very well in this area and play an important role in setting benchmarks for the whole industry. In the South Staffordshire / Cambridge inquiry the Competition Commission noted:

*“5.152 We found that Ofwat’s use of league tables to incentivize the provision of good quality service was effective in driving improvements in industry performance. Although the range of indicators across which such comparisons were carried out was declining, we expected that such comparisons would continue to be used by Ofwat in the future.*

*5.153 Both SST and CAM performed well against such measures, but the range of evidence examined showed that CAM delivered a higher level of service than SST. We found evidence that at least some water companies directly compared themselves against CAM. The concerns expressed by Ofwat and some WoCs also suggested that the loss of a WoC could potentially be more detrimental to comparisons of service quality than might be inferred from its size. **We noted that WoCs generally provided a better level of service than WaSCs.***

*5.154 We considered that as a result of the merger, CAM’s distinctive approach to customer service was likely to be lost and that the merger would therefore have a negative impact on the diversity of approaches to customer service available to Ofwat for comparative purposes.” [emphasis added]*

## 4.4 Impact of failing to allow for premium

Not allowing for a WACC premium for SESW increases the risk of under-investment. It could also conflict with Ofwat’s financing duty.

In section 2 we showed that the WACC premium for SESW was justified in terms of the greater exposure to risk. Failure to include a premium would mean that the allowed WACC would not fully reflect the risks of the business. This could have a number of consequences that are detrimental to customers.

**Customer benefits of WoCs and the SESW  
WACC premium**

- It would increase the probability that the company faces a material cost shock. In these circumstances SESW could find itself unable to raise new finance on reasonable terms. If this happened the company would have to reduce its investment programme in order to limit its financing needs. SESW's customers today and in future, and the local environment, would suffer if the business is unable to invest in its AMP6 programmes.
- The company may be required to consider a merger in order to resolve its financing difficulties, even if the merger had no operational or service quality rationale.

## 4.5 Summary on net benefit

The analysis above has shown a clear link between the WACC premium and customer benefit. The main findings are as follows.

First, the WACC premium for SESW reflects its specific characteristics and, in particular, its lower RCV per customer. If SESW had an operational gearing identical to the WaSCs then its RCV per customer would increase from £760 to £1,310. A SESW WACC premium would add £4 per year to a SESW bill but its customers are still saving around £17 as a result of the low RCV per customer.

Second, the only way to remove the justification for the WACC premium would be for SESW to merge with a WaSC. This would reduce the need for the WACC premium as the low RCV per customer would be spread over a much larger customer base. However, such a hypothetical merger would also result in significant customer detriment from the loss of an independent benchmark company. Using the Competition Commission analysis used in merger cases the loss of the comparator in the operating cost modelling could be nearly £20m in NPV terms, before allowing for the many other ways in which Ofwat uses comparator information to improve performance.

Third, Ofwat should not separate the WACC premium from the underlying characteristics of the company. If Ofwat did not allow the premium then this would increase the risk that the company would not be able to raise finance efficiently and find itself in the position where it needed to scale back investment. This would also result in detriment to customers.

Although this section has addressed the question as posed by Ofwat, it can also be argued that the question is misconceived. Section 2 summarised the regulatory precedent on the WACC premium in the water industry and the net customer benefit test has not been applied before by either Ofwat or the Competition Commission. Both these authorities have previously interpreted the financing duty in the Act to the company as it is, with its underlying characteristics and structure (albeit assuming that is operated efficiently).

## Customer benefits of WoCs and the SESW WACC premium

To not allow a premium that is caused by the underlying characteristics of the company and due to factors that are outside of management control would represent a significant departure from regulatory practice in the sector.



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